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FULL ASSESSMENT OF THE AMOUNT OF FUNDS NEEDED FOR THE IMPLEMENTATION OF THE CONVENTION FOR THE SIXTH REPLENISHMENT PERIOD OF THE TRUST FUND OF THE GLOBAL ENVIRONMENT FACILITY:

An Assessment by the CBD Expert Team Members

Note by the Executive Secretary

INTRODUCTION

1. The Executive Secretary is circulating herewith, for the information of participants in the eleventh meeting of the Conference of the Parties, the report from the Expert Team on the full assessment of the amount needed for implementation of the Convention by developing countries and countries with economies in transition for the sixth replenishment period of the trust fund of the Global Environment Facility prepared pursuant to decision X/26 of the Conference of the Parties. A short summary of this draft has already been circulated in the note by the Executive Secretary on the guidance to the Financial Mechanism (UNEP/CBD/COP/11/15/Rev.2). The document is a revised version as requested by the fourth meeting of the Ad Hoc Open-Ended Working Group on Review of Implementation of the Convention, in its recommendation 4/3 on the financial mechanism: review of GEF-5 and needs for GEF-6.

2. The document is being circulated in the form and language in which it was provided by the Expert Team.

* UNEP/CBD/COP/11/1.

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FULL ASSESSMENT OF THE AMOUNT OF FUNDS NEEDED FOR THE IMPLEMENTATION OF THE CONVENTION FOR THE SIXTH REPLENISHMENT PERIOD OF THE TRUST FUND OF THE GLOBAL ENVIRONMENT FACILITY

An Assessment by the CBD Expert Team Members

Revised Version
20 September 2012

Members of the Expert Team

Representing Developing countries
Dr Pedro Leitão, Executive Director FUNBIO, Rio de Janeiro, Brazil
pedro.leitao@arapyau.org.br
Professor Appukuttan Nair Damodaran, Professor, Indian Institute of Management, Bangalore, India.
damodaran@IIMB.ERNET.IN

Representing Developed countries
Ms Maria Schultz: Director, The Resilience and Development Programme (SwedBio), Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden
maria.schultz@stockholmresilience.su.se
Dr Gilles Kleitz, Project Manager Biodiversity - Natural Resources DTO – ENE, Agence Française de Développement, Paris, France.
kleitzg@afd.fr

Representing International NGOs:
Mr Günter Mitlacher, GEF NGO Network Regional Focal Point Europe
Director Biological Diversity, International Biodiversity Policy, CBD Focal Point, WWF Germany.
Berlin, Germany.
guenter.mitlacher@wwf.de

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The GEF Implementing Agencies, NGO community, and other institutions have been invited to comment on the draft report at WGRI-4 and useful comments have been provided by Joji Carino and other representatives from the International Indigenous Forum on Biodiversity (IFFB), Faizal Parish, Central Focal Point of the GEF NGO Network, Benjamin Simmons of UNEP-TEEB Office, Borja Heredia of UNEP-CMS Secretariat, Jerry Harrison from UNEP-WCMC, Michael Verdone from IUCN, and also to staff in the SwedBio team such as Pernilla Malmer and Håkan Berg.

At WGRI-4, CBD Party Delegates were invited to provide comments on the draft report. The Expert Team wishes to thank the delegations of Australia, China, Ethiopia, Jordan, Norway, South Africa, Thailand, and Tunisia for their verbally expressed views on the preliminary report, and Canada and the European Union for their written submissions, which assisted the Expert Team in improving the assessment. An informal exchange of views on the assessment took place with GEF Council member John Scott from Canada and Stefan Schwager from Switzerland on the draft report, which was highly appreciated.

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Ultimately, the Expert Team would like to thank the Executive Secretary Braulio Diaz for his backup of the GEF-6 funding needs assessment and the work of the entire Expert Team.

Executive Summary

I. Mandate and Methodology

1. Mandate by CBD COP 10

1. At its tenth meeting, the Conference of Parties adopted the terms of reference for a full assessment of the amount of funds that are necessary to assist developing countries and countries with economies in transition, in accordance with the guidance provided by the Conference of the Parties, in fulfilling their commitments under the Convention for the sixth replenishment period of the GEF Trust Fund, as contained in the annex to decision X/26. The sixth replenishment of GEF is expected to cover the period July 2014-June 2018, and discussions leading to an agreement by the GEF Assembly are expected to commence in late 2012.

2. The fourth meeting of the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention (WGRI-4), that took place in Montreal on 7-11 May, 2012, considered the expert team's preliminary assessment report that was presented as an Information Document (UNEP/CBD/WG-RI/4/INF/10) and the draft summary of the report as an annex to the official document: *The Financial Mechanism: Review of GEF-5 and Needs for GEF-6* (UNEP/CBD/WG-RI/4/7) and made recommendations for the review of the assessment.

3. At the WGRI-4 session the following Parties expressed their views verbally on the preliminary report: Australia, China, Ethiopia, Jordan, Norway, South Africa, Thailand, and Tunisia. Canada and the European Union provided their official written submissions to the CBD Secretariat as well. The submissions contained specific comments regarding approach, existing funding, the application of GEF's rules on eligibility and incremental reasoning, co-financing, overlap and synergies of targets among others. All comments were considered by the Expert Team while finalizing the study.

4. The Conference of the Parties at its eleventh meeting, is to determine and transmit to the Global Environment Facility the assessment of the amount of funds that are necessary to assist developing countries and countries with economies in transition, in accordance with the guidance provided by the Conference of the Parties, in fulfilling their commitments under the Convention over the sixth GEF replenishment cycle, for consideration by the Global Environment Facility, so that the Facility will in its regular report to the Conference of Parties indicate how it has responded during the replenishment cycle to the previous assessment by the Conference of the Parties.

2. Terms of reference, methodology and process

5. In accordance with the terms of reference (decision X/26), a team of five experts were appointed based on nominations received from Parties and discussion at the meeting of the COP Bureau. The five experts represent a broad expertise in financing biodiversity activities and are divided equally between developed and developing countries in addition to an NGO representative.

6. Five expert meetings were held, in Montreal (2 meetings), Tokyo, Quito, and Cambridge supported by the Secretariat staff and joined by representatives of the GEF Secretariat. In between consultations were held on a regular basis using electronic means.

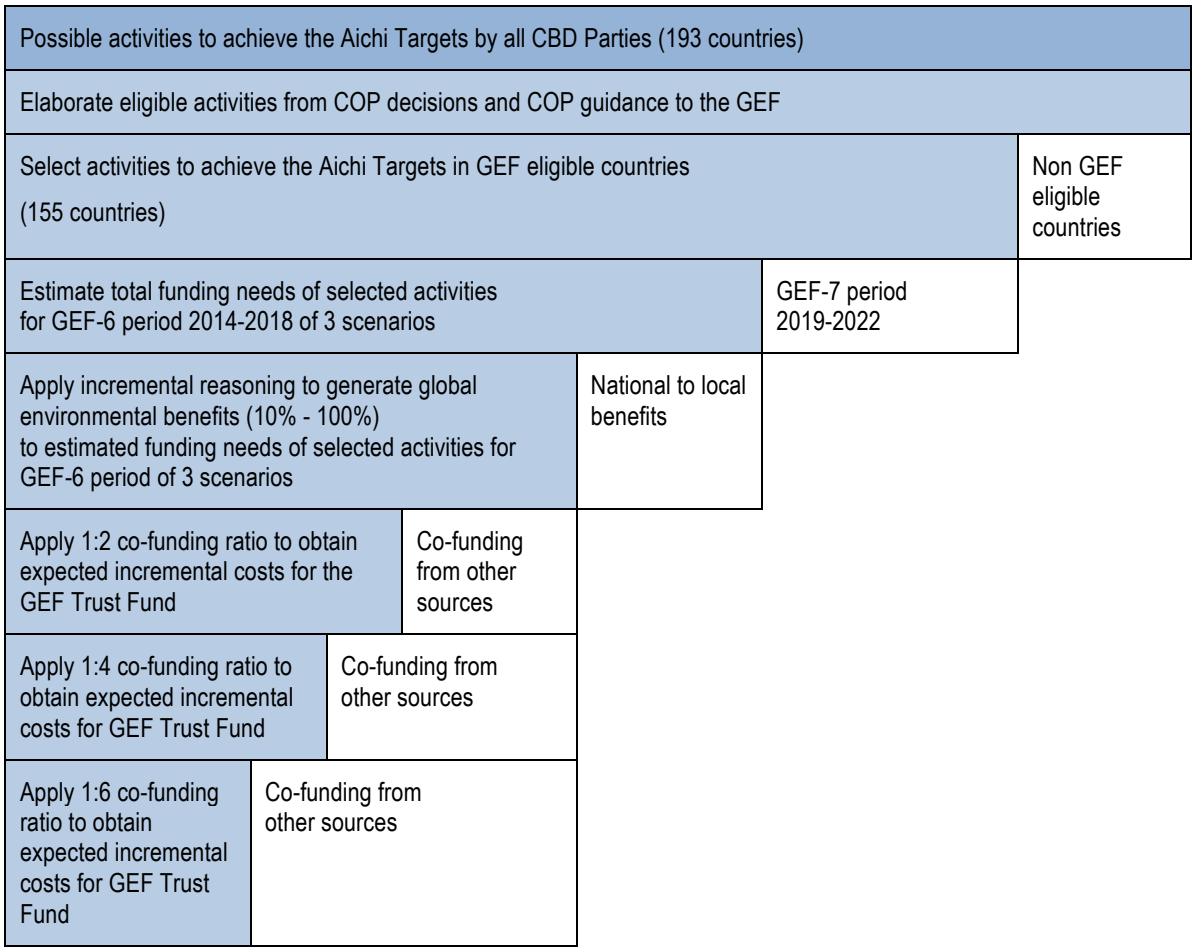
7. The assessment was conducted by the Expert Team without any monetary compensation for the time they allocated for the assessment. The experts and their organizations contributed their time to the assessment without any charge to the Convention on Biological Diversity.

8. The GEF's incremental reasoning rule was applied throughout the assessment. GEF's mandate is to finance the agreed incremental costs of projects related to the provision of global environmental benefits. In practice, the GEF as a *facility* seeks to leverage the maximum amount possible. The ratio of the GEF Trust Fund to co-financing

has historically ranged from 1:2 to as high as 1:10 in the biodiversity focal area with an average amount of 1:4 currently. This ratio is partly driven by possible negotiations among participants involved. GEF's strategies have also be taken into account, when developing funding proposals.

9. The methodology the Expert Team used was guided by the terms of reference (decision X/26). A step-wise approach was applied to the 20 Aichi Targets and Biosafety by identifying the relevant COP decisions and guidance, selecting the activities depending on their *strategic importance* to achieve the Target. Activities were identified as essential to be *publicly funded* taking into account national responsibilities and obligations according to CBD provisions as well as excluding activities with direct economic returns and potential private sector engagement. GEF-eligibility of selected activities, and estimates of funding needs through the use of information from literature, examples of funding from similar GEF projects, and expert opinion were justified. To enable selection of the most viable option, a *range of funding estimates* – so called scenarios based on levels of ambition - was generated for each activity by taking into account *absorptive and delivery capacities* of GEF–eligible countries for the results. Based on GEF's incremental reasoning rule, a percentage was determined to justify the achievement of global environmental benefits with the selected activity. The total estimates for each Target were then summarized. Finally, *three co-financing ratios* were applied to present options on the amount that would be required for the GEF-6 replenishment of the GEF Trust Fund to cover expected incremental costs.

Methodological steps to arrive at incremental costs for the GEF Trust Fund



10. According to the terms of reference (decision X/26), a questionnaire seeking information on country-specific financial needs in addition to the Target-by-Target survey was developed and circulated to Parties with Notification SCBD/ITS/RS/ESE/fb/77838 on 7th October 2011. All GEF-eligible Parties were asked what proportion of their total funding needs they *expected from the GEF* or other external and domestic sources and from which sources they expected to get the funds. At the WGRI-4 meeting in Montreal, 7-20 May 2012, all eligible countries have been reminded and encouraged to participate. Ultimately, nine countries completed the questionnaire as of 7 September 2012: Ecuador, Madagascar, India, Bangladesh, Grenada, Federated States of Micronesia, Myanmar, Colombia, and Brazil. Some of the responses were, however, not complete or presented with some format change. Since the number of responses was not statistically representative, the responses could not form the basis from a country-level perspective to better estimate the GEF-6 funding needs. In the follow-up to this report more countries are requested to submit their completed questionnaire to help understand their country specific funding needs and gaps in order to broaden the evidence for guiding the GEF-6 replenishment process.

11. In parallel to the GEF-6 funding needs assessment the Government of the United Kingdom and India co-sponsored a High-Level Panel global assessment of the resources required to implement the Strategic Plan for Biodiversity 2011-2020 and achieve the Aichi Biodiversity Targets. The Expert Team members worked closely together with the High Level Panel cluster groups to ensure consistency between the two assessments. The Panel cluster groups were informed about the preliminary results of the GEF-6 financial needs assessment. Similarly, the results from the High-level Panel global assessment somehow complemented the results from the GEF-6 funding needs assessment where gaps of information and data were identified. Hence, the two studies have a supplementary and complementary relationship in their assessment of funds needed to implement the Strategic Plan at different levels - the GEF-6 assessment focuses on *incremental costs of GEF eligible activities in GEF eligible countries* while the High-Level Panel assessment concentrates on *total global costs* to achieve the Aichi Targets.

3. Challenges and Limitations of the Assessment

12. The present GEF-6 funding needs assessment was the first exercise of this kind ever to be made and faced a lot of challenges and uncertainties. Prior to taking up the assessment exercise, the Expert Team attempted to gauge the scope of the exercise in the light of the Strategic Plan and the Aichi Targets. Historically the GEF has financed projects, which largely fall under "traditional" conservation programmes. Recently the GEF has also supported more projects to mainstream biodiversity into other sectors and to address drivers. However, fewer projects related to enabling activities such as awareness raising, certification schemes, capacity building that support improved enabling environments are funded by the GEF.

13. For this reason and with a view to successfully supporting the implementation of the Strategic Plan and the Aichi Targets through the GEF, this assessment also considers activities that not only fall under GEF's "traditional" funding scheme, but also extend beyond its current funding portfolio. The latter includes activities related to national accounting, production and consumption patterns, and large-scale ecosystem restoration that are essential in the contribution to protect and sustainable use global public goods. Thus, this assessment takes upon the challenge of focusing on strategic activities that enable the achievement of the Aichi Targets, and by that also wishes to look beyond the GEF'S present funding practice and programming. The Expert Team's broad approach in conducting the assessment was welcomed by several Parties at the WGRI-4 meeting in Montreal.

14. While Parties will examine the study, the following limitations must be taken into account:

1) <u>On the guidance from COP decisions</u>:
    a) The guidance from COP decisions is very complex and many suitable activities could have been identified and selected for GEF funding. However, it was decided that only strategic activities which

contribute to the achievement of a given Target should be focused on, while still recognizing that other activities are also necessary and suitable to fully achieve this Target.

b) The complex overlap of Aichi Targets had to be taken into consideration in order to avoid double estimation of funding needs; hence, activities were selected so as to minimize overlap as much as possible.

2) On data and knowledge:

- Data and knowledge gaps were recognized during the study, but they could not be filled within the given timeframe. Gaps in measures or activities that have previously been funded by Parties, the GEF, other organisations and institutions since 2010 to reach a certain level of achievement under each Target could not clearly be identified. This made it difficult to assess the remaining funding gap.
- The estimates of funding needs were based on literature, examples, and experience from the GEF and other funding institutions. Given limited time, capacity, and resources, further research will be needed to adjust assumptions for funding estimates. It is expected that results from the High-level Panel global assessment will provide additional and complementary information that can also serve the GEF-6 assessment.
- Data gaps were encountered in assessing the varying needs and cost structures of different countries to implement selected activities; hence, assumptions on average costs were taken into account.

3) On GEF rules and GEF-6 timeframe:

a) Activities that should have happened under GEF-5 to achieve a certain Target may not have been started or completed yet. Hence, some activities will have to start or continue during the GEF-6 period.

b) Some activities considered to start under GEF-6 are expected to continue under GEF-7 to facilitate the achievement of the Targets by 2020.

c) GEF's rule on incremental reasoning and agreed incremental costs can be ambiguous, because the attempt of generating global environmental benefits and the issue of co-financing of a given project often appeared mixed and partly driven by possible negotiations between GEF-eligible countries, implementing agencies, and the GEF Secretariat. Hence, the two issues were separated in the step-wise approach to be more transparent.

4) On country-specific circumstances:

a) Due to limited time and resources, it was not possible to sufficiently conduct an in-depth analysis of national reports, NBSAPs, and other studies to obtain additional information on country-specific funding needs.

b) Due to the lack of information, it was very difficult to examine the readiness and absorptive capacity of eligible countries to implement the selected activities.

c) Given GEF's policy that the application of GEF funds is basically country-driven, the number of countries that may implement the selected activity may vary from activity to activity. Hence, many uncertainties are implied in how countries will take up the proposed activities and thus contribute to the achievement of the Target.

15. Given these limitations, the study cannot provide a comprehensive or precise assessment of the incremental costs to be needed for the GEF-6 replenishment. Instead, the aim is to adopt a pragmatic approach designed to provide a plausible, transparent, and replicable attempt including scenarios of the likely scale of funding needs for the GEF-6 replenishment period.

II. Results of the assessment

1. Target-by-Target Assessment

16. The Target-by-Target funding needs assessment followed the structure below for the assessment of each of the 20 Targets and biosafety guided by the terms of reference and the methodological framework.

1. Aichi Target and Technical Rationale:

Section 1 explains the various components of the Target, justifies its importance for biodiversity, describes ways in which implementing the Target could possibly contribute to the reduction of biodiversity losses and the Convention's three objectives. The text is taken from the CBD website.

2. Reference to Relevant COP Decisions and GEF Guidance:

For each of the Targets, the relevant *CBD Articles, COP decisions, GEF guidance by COPs, and possible milestones* are referenced to help capture the context and identity activities for implementation of the Target. The references are taken from the CBD website.

***3. Activities, Funding Needs and Incremental Reasoning*:**

Section 3.1 presents the *activities* selected for a particular Target and the corresponding *scope* and *estimates of the funding needs* per activity by considering different *levels of ambition*.

As an introduction to each Target assessment the following questions have been addressed:

- Has the GEF already provided funding for activities of this nature?
- Are the activities related to several targets?
- What has already been undertaken in eligible countries (baseline)?
- What is the gap to achieve the target by 2020?
- Are there other fora, institutions, organizations that may have the mandate to fund the activities instead?

Following that brief, and due to time constraints and limited capacity of the Expert Team not at all comprehensive analysis, the *activities* for the GEF-6 needs assessment are selected. The derived activities consist of those that are considered to:

a) Reflect the mandate and framework of the GEF-6 needs assessment and the COP guidance to the GEF,
b) Require priority and strategic action to achieve the Aichi Targets by 2020 with GEF Trust Fund support,
b) Achieve global environmental benefits supplemented by national, regional, and local benefits in eligible countries.

All selected activities in this chapter are considered to be eligible for GEF Trust Fund support in principle, even if some of them haven't been funded previously by the GEF Trust Fund.

Then the *scope* of the selected activity is illustrated and explained in detail.

Funding estimates per activity are given relating to the amount of financial resources that the selected activity would require on average. All amounts are expressed in US$ at 2012 prices. The estimates are generated from GEF projects, experiences, experts, literature, and other public sources. The attempt was to propose realistic and evidence-based estimates while recognizing that average estimates might not fit every eligible country, task or project. The estimates largely cover costs of biodiversity action, what means the resources required to undertake the selected activities. This includes inter alia the expenditure on labour, materials, equipment and energy used in delivering biodiversity conservation activities. However, administrative and transaction costs, and opportunity costs may also be included depending on the project.

Levels of ambition are "*what if*" conditions; i.e. *what* funding is required for X number of countries, Y number of projects *if* the following criteria are considered:

- What are the absorptive, institutional, and technical capacities of eligible countries?
- How many eligible countries need to carry out the activity and may be ready to do so?

- How many projects are achievable to start within the GEF-6 timeframe?

While level 1 illustrates the minimum that would be required to make progress towards 2020, level 3 describes the maximum amount postulated in the present assessment to make significant progress to contribute to the achievement of the Target by 2020.

Section 3.2 refers to the *incremental reasoning* policy of the GEF. The approach is applied and justified for each activity that takes into account the possible or potential global benefits that the selected activity could generate. The amount of funding needs is presented before and after applying incremental reasoning without recognition of co-financing opportunities. For example, if the total funding estimates for Activity X is $100 million US and the incremental reasoning percentage is set at 50%, then the amount that would be required for GEF-6 would be $50 million US after accounting for incremental reasoning without any co-financing. The attempt of co-financing with 3 options and ultimately the expected incremental costs for the GEF's Trust Fund period 2014-2018 is presented in another chapter (II.4.3).

4. Estimates of Funding Needs for the GEF-6 Period:

The total funding estimates for the Target are presented by summing up the amount over the activities. This approach ends up with 3 scenarios per Target with both

a) Estimated total needs for the 2014 – 2018 period **before** applying incremental reasoning,
b) Estimated funding needs for the GEF-6 period **after** applying incremental reasoning.

Hence, out of the suggested total amount for the GEF-6 period after applying incremental reasoning, not all of it is expected to be provided by the GEF Trust Fund, but from the entire "biodiversity conservation funding facility" that includes the implementing agencies and national institutions, and additionally leveraged funding from bilateral agencies, private sector, foundations, NGOs, or other sources. The attempt of co-financing is presented in chapter II.4.3.

5. Indicators and Baseline Information:

These refer to the types of data that will help measure the extent of achievement of the various activities related to each Aichi Target. This section is taken from the CBD Website (http://www.cbd.int/sp/targets/rationale/).

17. The funding needs assessment results that over the four-year GEF-6 period (2014 – 2018) *total funding needs* of between approximately US$74 billion and US$191 billion are counted to contribute to achieve the Aichi Biodiversity Targets in GEF eligible countries. These figures focus on the estimated funding needs prior to taking into account GEF's incremental reasoning and any co-financing. The breakdown by the three scenarios is presented in **Table 1, column on the left**.

18. Further, the assessment estimates that over the four-year GEF-6 period (2014-2018) the amounts needed will range between approximately US$35 billion and US$87 billion after applying incremental reasoning percentages between 10% and 100% according to global environmental benefits that the activities will potentially generate. The results by the three scenarios are also presented in **Table 1, column in the middle**.

19. To calculate the amount needed for the GEF-6 replenishment during the period 2014-2018 the Expert Team applied *three co-financing ratios* (1:2, 1:4, and 1:6) to present options on the amount that may be required of the GEF Trust Fund to cover expected incremental costs. These amounts indicate GEF Trust Fund's share that is expected for the sixth replenishment to leverage additional co-financing to ultimately meet the total funding needs respectively, depending upon a number of factors as elaborated in the methodology. GEF's current average co-financing ratio for the Biodiversity Focal Area is 1:4. Given the fact that the co-financing ratio is subject to possible negotiations and hence cannot be predicted a lower (1:2) and higher (1:6) co-financing ratio is presented alternatively. The 9 options are found in **Table 1, column on the right**.

Table 1: Options on the Estimated Amount Required for the GEF-6 Replenishment Period

Estimated Amount Needed for the GEF-6 period 2014-2018 *before* applying incremental reasoning	Estimated Amount Needed for the GEF-6 period 2014-2018 *after* applying incremental reasoning	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs		
		Applied co-financing ratios		
		1:2	1:4	1:6
Scenario 1: US$ 74 billion	Scenario 1: US$ 35 billion	US$ 11 billion	US$ 7 billion	US$ 5 billion
Scenario 2: US$131 billion	Scenario 2: US$ 60 billion	US$ 20 billion	US$ 12 billion	US$ 8 billion
Scenario 3: US$191 billion	Scenario 3: US$ 87 billion	US$ 29 billion	US$ 17 billion	US$ 12 billion

20. Aggregated by the CBD's Strategic Goals, **Table 2** presents the estimated amounts before and after applying incremental reasoning.

Table 2: Estimated Amounts Required Before and After Applying Incremental Reasoning According to the CBD's Strategic Goals and by Scenario

GOAL AND TARGETS	Estimated Total Amounts for GEF-eligible activities in GEF-6 (in Million US$)			Estimated Amounts for GEF-eligible Activities in GEF-6 after applying Incremental Reasoning (IR) (in Million US$)			
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3	IR %
GOAL A: Mainstreaming Biodiversity (T 1-4)	138,00	283,00	428,00	69,00	141,50	214,00	50%
GOAL B: Reduction of Pressure on BD (T 5-10)	22.487,00	43.849,00	66.211,00	7.503,70	14.361,90	21.729,10	10-80%
GOAL C: Safeguarding Ecosystems (T 11-13)	39.115,00	63.230,00	88.345,00	23.107,50	36.215,00	50.322,50	50-100%
GOAL D: Enhancing the Benefits to All (T 14-16)	12.120,00	24.200,00	36.280,00	4.854,00	9.692,00	14.530,00	40-50%
GOAL E: Enhancing Implementation (T 17-20)	46,50	91,00	141,50	46,00	91,00	141,50	100%
BIOSAFETY	170,00	170,00	170,00	136,00	136,00	136,00	80%
Total	**74.076,50**	**131.823,00**	**191.575,50**	**35.716,20**	**60.592,40**	**87.073,10**	

21. **Table 3** presents expected incremental costs for all Targets and Biosafety. It summarizes amounts after applying incremental reasoning and the 1:4 co-financing ratio assuming that GEF's current co-financing ratio is also achieved in the future.

Table 3: Estimated Amounts Required for each Aichi Target and Biosafety during the GEF-6 Replenishment Period for all Scenarios and 1:4 Co-financing Ratio

TARGETS	GEF Trust Fund Share per Aichi Target & Biosafety for GEF-6 Replenishment 2014-2018 After Applying Incremental Reasoning & 1:4 Co-Financing Ratio (= Expected Incremental Costs per Target in Million US $)					
	Scenario 1	1:4	Scenario 2	1:4	Scenario 3	1:4
Target 1: Awareness	12,00	2,40	24,00	4,80	36,00	7,20
Target 2: Biodiversity Values	3,50	0,70	10,50	2,10	17,50	3,50
Target 3: Incentive Measures	50,00	10,00	100,00	20,00	150,00	30,00
Target 4: Production/consumption	3,50	0,70	7,00	1,40	10,50	2,10
Target 5: Habitat Loss	1.255,20	251,00	1.883,40	376,70	3.111,60	622,30
Target 6: Marine Resources	1.012,50	202,50	2.025,50	405,10	3.037,50	607,50
Target 7: Agriculture, forestry etc.	5.100,00	1.020,00	10.200,00	2.040,00	15.300,00	3.060,00
Target 8: Pollution	0,00	0,00	0,00	0,00	0,00	0,00
Target 9: Invasive Alien Species	40,00	8,00	80,00	16,00	120,00	24,00
Target 10: Coral Reefs	96,00		128,00	25,60	160,00	32,00
Target 11: Protected Areas						
Terrestrial PAs	6.000,00	1.200,00	7.000,00	1.400,00	8.000,00	1.600,00
Marine PA (0-200 nm)	10.000,00	2.000,00	20.000,00	4.000,00	30.000,00	6.000,00
Marine PA in ABNJ	7.000,00	1.400,00	9.000,00	1.800,00	12.000,00	2.400,00
Target 12: Threatened Species	100,00	20,00	200,00	40,00	300,00	60,00
Target 13: Genetic Diversity	7,50	1,50	15,00	3,00	22,50	4,50
Target 14: Ecosystem Services	30,00	6,00	60,00	12,00	90,00	18,00
Target 15: Ecosystem Resilience	4.824,00	964,80	9.632,00	1.926,40	14.440,00	2.888,00
Target 16: ABS	0,00	0,00	0,00	0,00	0,00	0,00
Target 17: NBSAPs	25,00	5,00	50,00	10,00	75,00	15,00
Target 18: Traditional Knowledge	12,50	2,50	25,00	5,00	37,50	7,50
Target 19: Knowledge, Science	3,00	0,60	6,00	1,20	9,00	1,80
Target 20: Resource Mobilization	6,00	1,20	10,00	2,00	20,00	4,00
BIOSAFETY	136,00	27,20	136,00	27,20	136,00	27,20
Total	**35.716,70**	**7.124,10**	**60.592,40**	**12.118,50**	**87.073,10**	**17.414,60**

2. Conclusions

22. The assessment indicates that there are significant differences in the relative scale of funding required to implement the various activities during the 2014-2018 period:

***a) Very high amount required for Strategic Goal C*:**
Activities associated with conservation work to enhance the establishment of more terrestrial, coastal, and marine protected areas (Target 11) and to support species conservation (Target 12) will require significant amounts of funding.

***b) High amount required for Strategic Goals B and D*:**
Activities specifically aimed at addressing the drivers of biodiversity loss and ecosystem restoration will also require high funding amounts. However, this very much depends on the absorptive capacities of GEF-eligible countries. Implementing these activities will significantly contribute to mainstreaming biodiversity into other sectors. Thus, activities may not only deliver on biodiversity objectives, but can also have major positive impacts on other key policy goals (i.e. water security, climate change mitigation and adaptation, etc) while also securing livelihoods, reducing or avoiding future poverty, and supporting sustainable development.

***c) Low amount required for Strategic Goals A and E, and Biosafety*:**
Activities related to improving and creating the necessary enabling conditions and capacities are likely to be much less resource-intensive. This may include, for instance, the integration of biodiversity values into strategic plans and national accounting systems and the promotion of incentive measures and sustainable production and consumption. Additionally, activities recognizing Traditional Knowledge, fostering good governance, and improving conditions for participation in science and research, and Biosafety fall under this group. Activities on raising awareness amongst key stakeholders and the wider public may require higher amounts if CEPA programmes are to be implemented with GEF support.

23. The break-down of the amounts required to implement activities for Strategic Goals A-E and Biosafety for Scenario 1, 2, and 3 and the break-down by Targets is presented in additional tables in the full report.

24. Based on the results of the needs assessment, the following conclusions can be drawn regarding the funds needed for the 6th replenishment of the GEF Trust Fund:

1. To implement selected activities, the total amount required to cover expected incremental costs for the GEF-6 period 2014-2018 is likely to **range between $ 7 billion US to $ 17 billion US.** This assumes that the GEF's current co-financing ratio of **1:4** will be achieved during that period.
2. Expected incremental costs for implementing selected activities under Strategic Goal C: *Safeguarding Ecosystems* will likely cover **approximately 60%** of the funds needed**.**
3. Expected incremental costs for implementing selected activities under Strategic Goal B: *Reduction of Pressure on Biodiversity* will likely absorb **approximately 25%** of the funds needed**.**
4. Expected Incremental Costs for implementing selected activities under Strategic Goal D: *Enhancing the Benefits to All* will likely require **approximately 15%** of the funds needed**.**
5. Expected Incremental Costs for implementing selected activities under Strategic Goal A: *Mainstreaming Biodiversity*, Strategic Goal E: *Enhancing Implementation* and *Biosafety* will likely not account for more than **1%** of the total amount required for the GEF-6 period, but investing in these important prerequisites is essential for achieving all Targets and thus may potentially save future funding of other Target activities.
6. The highest amounts will be required by activities to implement **Target 11** on improving protected area systems, followed by activities of **Target 7** on sustainable agriculture and forestry, and on **Target 15** with activities of ecosystem resilience and restoration.

III. Funding Needs versus Availability of Funds

25. According to the terms of reference (decision X/26) the study should also assess the *available* funding. Information was collected on available funding from various public sources for biodiversity, such as:

a) Available GEF funding for biodiversity comprised of GEF's Trust Fund and co-financing allocations during the different replenishment periods from the Pilot Phase (1991-1994) to GEF-5 (2010-2014.
b) Available funding for biodiversity from OECD countries' bilateral aid commitments.
c) Biodiversity funding from other sectors.
d) Domestic biodiversity funding in developing countries.

26. In terms of the GEF the amount available for biodiversity relevant funds in GEF-5 is comprised of several elements. Additional financing that has not yet been included in the US$ 1.2 billion sum for the Biodiversity Focal Area and may contribute to the 20 Aichi Targets are amounts allocated for Sustainable Forest Management / REDD + (US$ 0.13 billion), partial instalments for the International Waters and Land Degradation focal areas, and the LDCF and the SCCF. Based on the numbers from the GEF Secretariat's report to COP 11 for the period of July 1, 2010 to June 30, 2012 (UNEP/CBD/COP/11/8), it can be expected that an additional 30% could be provided for biodiversity from these areas through project expenditures. This means that the amount available for biodiversity during GEF-5 increases to approximately US$ 1.6 billion. **Table 4** presents the calculated increase in funding needs from GEF-5 to GEF-6 according to the three scenarios and co-financing ratios respectively.

27. Based on the available amounts in GEF-5, the increase ranges from 3-fold with Scenario 1 and a 1:6 co-financing ratio to 18-fold under Scenario 3 and a 1:2 co-financing ratio. Under Scenario 2 and with a likely 1:4 co-financing ratio, there is a 7.5 fold increase.

28. In the history of the GEF, the average percentage change from replenishment to replenishment has been 27.7%. The change was even greater between GEF-4 to GEF-5 with a 35% increase. Considering the GEF Trust Fund's historical average growth rate from replenishment to replenishment, even the lowest scenario in the needs assessment indicates needs for much higher growth rate in funding for GEF-6.

Table 4: Required and Available Amounts from the GEF and calculated increase from GEF-5 to GEF-6

Scenario For GEF-6 Period 2014-2018	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs			Available Amount of the GEF Trust Fund in GEF-5 period 2010-2014 to cover Incremental Costs	Calculated Increase from GEF-5 to GEF-6 based on available Amounts in GEF-5		
	applied co-financing ratio			Biodiversity Focal Area US$ 1.2 bn	according to co-financing ratio		
	1:2	1:4	1:6	Expected contributions from other GEF Focal Areas and Funds: ~ US$ 0.4 bn	1:2	1:4	1:6
Scenario 1	US$11 bn	US$7 bn	US$5 bn	US$ 1.6 bn	~ 7 fold	~4.5 fold	~ 3 fold
Scenario 2	US$20 bn	US$12 bn	US$8 bn	US$ 1.6 bn	~12.5fold	~7.5 fold	~ 5 fold
Scenario 3	US$29 bn	US$17 bn	US$12 bn	US$ 1.6 bn	~ 18 fold	~11 fold	~ 7.5 fold

29. For the selected activities to be implemented, it is necessary to also review the prospects for co-financing. However, the data on possible co-financing amounts is very limited and reliable figures are lacking. Time series data on co-financing amounts by source are not readily available to evaluate and predict future possible sources of funding and amounts. **Table 5** shows the calculated co-financing needed to match the expected amounts of incremental costs covered by the GEF Trust Fund in GEF-6 according to the nine scenarios.

Table 5: Calculated Co-financing Needed to Match Expected Amount of Incremental Cost Coverage by the GEF-6 Trust Fund

Scenario For GEF-6 Period 2014-2018	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs			Calculated Co-financing Needs in GEF-6 period*		
	Applied co-financing ratio			Applied co-financing ratio		
	1:2	1:4	1:6	1:2	1:4	1:6
Scenario 1	US$ 11 bn	US$ 7 bn	US$ 5 bn	US$ 22 bn	US$ 28 bn	US$ 30 bn
Scenario 2	US$ 20 bn	US$ 12 bn	US$ 8 bn	US$ 40 bn	US$ 48 bn	US$ 48 bn
Scenario 3	US$ 29 bn	US$ 17 bn	US$ 12 bn	US$ 58 bn	US$ 68 bn	US$ 72 bn
* rounding errors might occur						

30. Amounts that can be interpreted as co-financing from other sources include *inter alia* bilateral ODA of OECD countries, philanthropy, funding from other sectors, and private sector financing. However, limited data is available on the various funding sources.

31. Potentially more co-financing could be available from other sectors, such as agriculture, forestry, fisheries, and development. In the case study from India, it was demonstrated that there is great potential for leveraging funds from development sectors for biodiversity conservation with imaginative re-tuning of development programmes to deliver on biodiversity conservation. In such an eventuality the possibility of obtaining additional funds from new co-financing sources could be helpful in achieving multiple benefits and supporting the implementation of several Aichi Targets during the GEF-6 period.

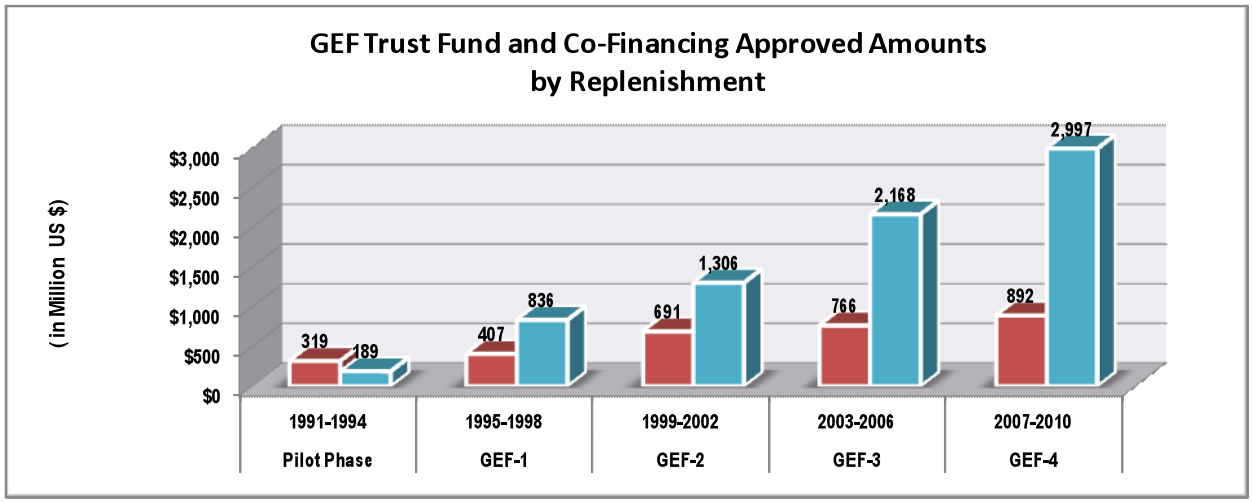
32. Overall GEF's funds for biodiversity during replenishments grew from $319 million US during the Pilot Phase to $892 million US during GEF-4, which represents a 179.6% change in the approved amount **(Figure 1)**. Co-financing grew from $189 million US during the Pilot Phase to $2.997 billion US during GEF-4, a percentage change of 1,485.3% **(Figure 1)**.

33. In order to effectively implement the Trust Fund's resources and to achieve maximum impact in the delivery of global biodiversity benefits, the GEF Secretariat is keen to reduce the incremental costs that the GEF Trust Fund finances by leveraging as much as possible from other sources. So far, this has been achieved quite successfully by increasing the co-financing rate for GEF projects.

34. GEF's co-financing ratio grew from 1:2 in GEF-1 to 1:3.4 in GEF-4 (see **Figure 1**). According to the GEF Secretariat's report to COP 11 about the ongoing funding in the focal area of biodiversity and other areas for the

period July 1, 2010 to June 30, 2012 of GEF-5 (UNEP/CBD/COP/11/8) an overall co-financing ratio of 1:5 was achieved for investments that have contributed to various objectives of the CBD and a co-financing ratio of 1:4.3 for biodiversity and biosafety objectives respectively.

Figure 1: GEF Trust Fund and co-financing approved amounts by replenishment



Source: Based on data obtained from the GEF Secretariat, October 2011.
Note: Annual Trust fund including agency fees coverage and co-financing from 1991-2010 were used to estimate the replenishment amounts.

IV. Reflections on the Funding Needs Assessment

35. Given the results of the assessment, the Expert Team is aware that some assumptions, choices, and hypothesis, as well as data quality can be criticised, as well as to some extent the overall approach and results. The GEF-6 funding needs assessment has indeed been a challenge to perform. However, the Expert Team is confident that this report constitutes an important first step in the current global efforts to assess funding needs, both for the GEF-6 replenishment and more broadly, to achieve the CBD's objectives by 2020.

36. For accurate backing of the "top-down" GEF-6 needs assessment, the Expert Team believes that a "bottom-up" assessment of global needs must also be conducted with appropriate sourcing and time frame, possibly prior to COP 12. All countries need to identify their needs and priorities, set goals and targets, and estimate the amount they need to achieve such goals following the guidance provided by the COP of the CBD. Parties also need to provide information on how much they can provide from domestic sources and need from external sources for which activities, in order to enable the CBD Secretariat to can more accurately aggregate and assess overall needs.

37. The Expert Team notes that this study appears adequate as such needs assessments are being developed under the CBD and that the overall approach has to be refined over time for potential future needs assessments. In the mean time, the Expert Team hopes that this study will provide a suitable basis for discussion at COP-11.

I. MANDATE AND METHODOLOGY OF THE ASSESSMENT

I.1 Mandate of the Funding Needs Assessment

I.1.1 Guidance by COP-10

The Conference of the Parties at its Tenth Meeting (COP-10) adopted with Decision X/26 the terms of reference for a full Assessment of the amount of funds needed for the implementation of the Convention for the sixth replenishment period of the Global Environment Facility Trust Fund (http://www.cbd.int/decision/cop/?id=12292). The Executive Secretary was requested to ensure completion of the assessment according to the terms of reference (ToR), in time for consideration by the fourth meeting of the Ad Hoc Open-ended Working Group on Review of Implementation (WGRI-4) of the Convention, and subsequently by the COP at its eleventh meeting (COP-11).

Parties were invited to expedite the development of country-specific resource mobilization strategies as part of their revised national biodiversity strategies and action plans (NBSAPs) in response to the Strategic Plan for Biodiversity 2011-2020. Developing country Parties and Parties with economies in transition were also requested to identify related national funding priorities and needs that could be considered eligible for funding under the financial mechanism specifically for the period July 2014-June 2018. COP-10 further decided to transmit the funding needs assessment, as determined by COP-11, for consideration to the Global Environment Facility (GEF). This way, the Facility will indicate in its regular report to the COP how it has responded to the funding needs assessment during the replenishment cycle (UNEP/CBD/COP/Dec/X/26).

Other decisions that are of importance to the present assessment are:

Resource Mobilization

- Decision X-2: Strategic *Plan for Biodiversity 2011-2020 and the Aichi Biodiversity 5 Goals and 20 Targets* (http://www.cbd.int/decision/cop/?id=12268).
- Decision X-3: *Strategy for Resource Mobilization in support of the achievement of the Convention's three objectives* (http://www.cbd.int/decision/cop/?id=12269).

Financial Mechanism

- Decision X-24: *Review of guidance to the financial mechanism* (http://www.cbd.int/decision/cop/?id=12290);
- Decision X-25: *Additional guidance to the financial mechanism* (http://www.cbd.int/decision/cop/?id=12291).

I.1.2 Terms of Reference for the Assessment

This chapter refers to the main provisions in conducting the assessment and provides explanations on their implementation.

Objective:

Decision X/26 identified the objective of the assessment as follows: *The objective of the work to be carried out under the present terms of reference is to enable the COP to make an assessment of the amount of funds that are necessary* ***to assist developing countries and countries with economies in transition****, in accordance with the guidance provided by the COP, in fulfilling their commitments under the Convention over the sixth GEF replenishment cycle, and determine the amount of resources needed, in accordance with Article 21, paragraph 1 and decision III/8.*

Hence, the assessment took into account the three objectives of the Convention, Strategic Plan of Action for Biodiversity 2011-2020 with the Aichi Goals and Targets (Decision X/2), Resource Mobilisation Strategy to achieve the targets by 2020 (Decision IX/11 and X/3), and Decisions X/24 and X/25 on the review and additional guidance to the financial mechanism (see I.1.1). The assessment only focused on measures to assist GEF-eligible countries.

Scope:

Decision X/26 identified the scope of the assessment as follows: *The assessment of funding needs for the implementation of the Convention should be* ***comprehensive and primarily directed towards assessing total funding needs required to meet agreed full incremental costs of measures developing country Parties and Parties with economy in transition****, in accordance with the guidance provided by the Conference of the Parties, shall implement to fulfil their obligations under the Convention for the period July 2014-June 2018.*

The funding needs for implementing the Convention from 2014-2018 would necessitate first the calculation of total needs to implement activities and measures to achieve the Strategic Plan and the Aichi Targets. Then, the estimation of the incrementality would need to address GEF's rules and guidelines on incremental reasoning to be able to arrive at the incremental costs presented as funding needs for the GEF-6 period, also taking into account GEF's co-funding arrangements and GEF's rules and guidelines with regards to eligible activities.

Methodology:

Decision X/26 also provided guidance on the methodology: *The funding needs assessment should take into account:*

1. *Article 20, paragraph 2, and Article 21, paragraph 1, of the Convention, and the Strategic Plan for Biodiversity 2011-2020;*
   Comment: These provisions were used as general guidance to the assessment (see I.1.1).

2. *Guidance to the financial mechanism from the Conference of the Parties which calls for future financial resources;*
   Comment: This GEF guidance was taken into account when describing activities and estimating funding needs for selected activities (see I.1.1 and II.2).

3. *All obligations under the Convention and relevant decisions adopted by the Conference of the Parties;*
   Comment: The obligations and relevant COP decisions were used as the basis to select appropriate activities to be included in the assessment (see II.2).

4. *The information communicated to the Conference of the Parties in the national reports submitted in accordance with Article 26 of the Convention;*
   Comment: Due to limited time and resources, it was not possible to sufficiently conduct a deeper analysis of national reports to obtain more information on country-specific situations.

5. *Rules and guidelines agreed by the GEF Council for determining eligibility for funding of projects;*
   Comment: GEF's policies, rules, and guidelines for determining the eligibility of project activities were taken into account while looking at previous activities and GEF projects (see I.1.4, I.2.1, and II.2).

6. *National strategies, plans or programmes developed in accordance with Article 6 of the Convention;*
   Comment: Due to limited time and resources for the assessment, a solid analysis of NBSAPs could not be conducted. The CBD Secretariat reported that country-specific financing needs assessments have not been finalized during the period of the GEF-6 needs assessment analysis.

7. *Information communicated to the COP from the GEF on the number of eligible programmes and projects that were submitted to the GEF, the number that were approved for funding, and the number that were turned down owing to lack of resources;*
   The GEF Secretariat provided relevant information on submitted, approved, and rejected projects from the previous GEF replenishment periods, which was used in comparing funding needs with availability of funds (see III).

8. *Experience gained by those concerned in the implementation of projects, and those responsible for conducting needs assessment reports under the United Nations Framework Convention on Climate Change (UNFCCC), the Montreal Protocol on Substances that Deplete the Ozone Layer and the Stockholm Convention;*
   Comment: Due to limited time and resources for the assessment the analysis of other needs assessment reports to gain experience could not be taken into account sufficiently.

9. *Experience to date, including limitations and successes of projects funded by the Global Environment Facility, as well as the performance of the Facility and its implementing and executing agencies;*
   Comment: The experience of the GEF was adequately recognized while closely consulting with the GEF Secretariat throughout the assessment of the funding needs for the Targets and the development of the entire report. Limitations and successes of GEF projects have been addressed, but not as thoroughly as needed due to time limits.

10. *Synergies with other GEF-funded Conventions.*
    Comment: Where appropriate, links and expected synergies with other GEF-funded Conventions were stated in the report (see II.2).

Procedures for implementation:

As requested, the Executive Secretary appointed a team of five experts, composed of two from developing country Parties (Brazil and India), two from developed country Parties (France and Sweden), and one from an international non-governmental organization (GEF NGO Network), to prepare the report.

Five Expert Team Meetings were held, in Montreal (July 25-27, 2011), Tokyo (December 18-20, 2011), Quito (March 3-5, 2012), Montreal (May 10th and May 13th, 2012), and Cambridge (August 1st, 2012) where the experts intensively discussed and evaluated each Target and the chapters of the draft report.

Accordingly, in preparing the assessment report, the procedure of implementation required that:

1. *In preparing the assessment report the expert team should undertake such interviews, surveys, quantitative and qualitative analyses, and consultation, as may be required, including:*
   a) *Compilation and analysis of the needs identified in national biodiversity strategies and action plans, including country-specific resource mobilization strategies, prepared by Parties pursuant to Article 6 of the Convention;*
      According to information from the CBD Secretariat, country-specific financing needs assessments have not been finalized during the period of the GEF-6 needs assessment study and could not be analysed by the Expert Team.

   b) *Review of reports submitted by Parties pursuant to Article 26 of the Convention to identify funding needs in fulfilment of their obligations under the Convention;*

Reports on funding needs were not available during the study period and could not be analysed by the Expert Team.

c) *Estimated financial implications of guidance to the financial mechanism from the Conference of the Parties;*
The financial implications of activities derived from guidance to the GEF were taken into account (see II.2).

d) *Experience to date in the provision of funds by the financial mechanism for each replenishment period;*
Information on the provision of funds to the focal areas by the GEF for each replenishment period was used in the target-by-target assessment (see II.2) and to compare funding needs with the availability of funds (see III).

e) *Additional funding needs for the period July 2014-June 2018 arising out of the national implementation of the Strategic Plan for Biodiversity 2011-2020;*
Additional information on funding for the GEF-6 period was not available from Parties except through the questionnaire that was circulated to Parties (see II.5).

f) *Compilation and analysis of any supplementary information provided by Parties which are developing countries or countries with economies in transition on their funding needs for the implementation of their obligations under the Convention.*
Additional and supplementary information was expected from the questionnaire that was circulated to Parties (see II.5).

2. *The GEF and the Executive Secretary should conduct a review of the draft assessment reports of the expert team to ensure accuracy and consistency of approach and data.*
Preliminary chapters of the assessment report were presented to the GEF and the CBD Secretariat during the Expert Team's meetings in 2011 and 2012 to receive feed-back and advice on further work (see I.1.3).

3. *The Executive Secretary shall strive to ensure that the assessment report of the expert team will be distributed to all Parties one month before WGRI-4 of the Convention.*
The preliminary report was provided as an Information Document (UNEP/CBD/WG-RI/4/INF/10) and the draft report summary as an annex to the official document: *The Financial Mechanism: Review of GEF-5 and Needs for GEF-6* (UNEP/CBD/WG-RI/4/7) to all Parties before WGRI-4 in Montreal on 7-11 May, 2012.

4. *WGRI-4 of the Convention should consider the expert team's assessment report and make recommendations for consideration by the eleventh meeting of the Conference of the Parties.*
WGRI-4 considered the preliminary report and made recommendations to be considered by the Expert Team (UNEP/CBD/WG-RI/4/CRP.7, see I.1.3).

5. *COP-11 will make a decision on the assessment of the amount of funds that are necessary for the implementation of the Convention for the sixth replenishment period of the Trust Fund of the GEF, and communicate the results to the GEF accordingly.*
The final report of the Expert Team will be provided as an information document to COP-11.

Consultation process

Decision X/26 provided guidance to the following consultation process: *In preparing the assessment report, the expert team should consult widely with all relevant persons and institutions and other relevant sources of information deemed useful*

1. *The expert team shall design a questionnaire on funding needs for the period July 2014-June 2018 and circulate it to all Parties to the Convention, and the secretariat, Evaluation Office and agencies of the Global Environment Facility, and include the results in the assessment report.*
   The Expert Team designed a questionnaire that was circulated to Parties with Notification SCBD/ITS/RS/ESE/fb/77838 on 7th October 2011 (http://www.cbd.int/doc/notifications/2011/ntf-2011-195-financial-en.pdf). The methodology of the questionnaire is described in I.2.2, and results in II.5.

2. *Interviews and consultation meetings should be organized with participation of at least relevant key stakeholders, including major groups of Parties, the Convention Secretariat, as well as the secretariat, Evaluation Office and agencies of the Global Environment Facility;*
   Preliminary chapters of the assessment report were presented to the GEF Secretariat and discussed before and during the Expert Team's meetings in 2011 and 2012 to receive feed-back and advice on the further work.

   The Expert Team informed a wider audience about the study and preliminary results of the assessment at the meeting in Quito (March 3-5, 2012; http://www.dialogueseminar.net) and exchanged views with some GEF Council representatives present at the meeting.

   A side event was organized in the margins of the WGRI-4 meeting in Montreal (May 10th and May 13th, 2012) to present the preliminary report, methodology, and results to Parties, stakeholders, and experts. Additional consultation meetings were organized with the GEF Secretariat, Indigenous People's representatives, and Parties' delegates that are also involved in the GEF meetings.
   Prior to the 42nd GEF Council Meeting, a consultation was held between the GEF Council and civil society representatives on the 4 June 2012. The objective and scope of the GEF-6 financial need assessment exercise, methodology used, and preliminary results were presented by the CBD Secretariat and an Expert Team member. In the discussion, the importance of funding for biodiversity and the challenges in coming up with the costing for biodiversity were highlighted (http://www.gefngo.org/index.cfm?&menuid=196&parentid=49). In the margins of the GEF Council meeting, GEF Council members and implementing agency representatives have been informed of the upcoming assessment report.
   Additionally, various experts have been consulted while elaborating the target-by-target assessment.

3. *As far as possible, the expert team should endeavour to undertake regional and subregional consultations, taking advantage of regional and subregional workshops organized by the secretariats of the Convention and the Global Environment Facility during the study period,*
   Due to limited time and resources, the Expert Team was not in the position to undertake regional and sub-regional consultations. However, the CBD Secretariat provided information from such workshops relevant to this study.

4. *The approaches to assessing the funding necessary and available for the implementation of the Convention should be transparent, reliable and replicable, and demonstrate clear incremental cost reasoning in accordance with Article 20, paragraph 2, taking into consideration information gathered from other international funds serving conventions and information submitted by Parties in the application of concept of incremental costs as well as current rules and guidelines of the Global Environment Facility as approved by the Council of the Global Environment Facility;*
   The approaches of the target-by-target funding needs assessments are presented in a transparent and replicable way, using the structure outlined in chapter II.2. Information from literature, published sources, examples of funding from similar projects, and expert opinion were used to develop a reliable and replicable

basis for the assessments. GEF's policies, rules, and guidelines for determining incremental cost reasoning and eligibility were taken into account (details see I.1.4, I.2.1 and II.2).

5. *The expert team should address additional issues that may be raised by the fourth meeting of the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention during its consideration of the assessment report.*
   The issues that were raised by Parties during the WGRI-4 meeting have been considered by the Expert Team (see I.1.3).

I.1.3 Additional Guidance by WGRI-4

The preliminary assessment report was presented as an Information Document (UNEP/CBD/WG-RI/4/INF/10) and the draft report summary as an annex to the official document: *The Financial Mechanism: Review of GEF-5 and Needs for GEF-6* (UNEP/CBD/WG-RI/4/7) to the Ad Hoc Open-ended Working Group on Review of Implementation (WGRI-4) that took place in Montreal on 7-11 May, 2012.

WGRI-4 noted *that the preliminary assessment report, once it is finalized, will be relevant in the overall discussion of resource mobilization* and *that the GEF can only provide the incremental costs for global biodiversity benefits, and the assessment presented in the report provide inputs to the discussion on the overall funding needs* (UNEP/CBD/WG-RI/4/CRP.7). Furthermore WGRI-4

1. *Reminded Parties to provide the Secretariat with the data and information requested in the Executive Secretary's notifications regarding the GEF-6 funding needs assessment and the preliminary reporting framework in a timely manner;*
   Although all eligible countries were reminded and encouraged to participate in the questionnaire, only nine Parties responded (see II.5).

2. *Took note of the preliminary report of the assessment of needs for GEF-6, prepared in accordance with decision X/26, and expressed its appreciation to the members of the expert group;*

3. *Took note of the preliminary conclusions of the expert group as summarized in the annex to the note by the Executive Secretary (UNEP/CBD/WG-RI/4/7 – Summary of the full funding needs assessment);*

4. *Requested the expert group, with the support of the Executive Secretary, to further develop the report (UNEP/CBD/WG-RI/4/INF/10), taking into account the following, for the consideration of the COP-11:*

   (a) The views expressed by Parties and observers at the fourth meeting of the Working Group on Review of Implementation of the Convention;
   At the WGRI-4 session the following Parties expressed their views on the preliminary report: Australia, China, Ethiopia, Jordan, Norway, South Africa, Thailand, and Tunisia. The Expert Team considered these general comments while finalizing the study.

   (b) Additional views submitted by Parties, other Governments and organizations prior to 30 June 2012;
   Canada and the EU's submissions were provided to the CBD Secretariat, which contained specific comments regarding approach, existing funding, the application of GEF's rules on eligibility and incremental reasoning, co-financing, overlap, and synergies of targets etc. (http://www.cbd.int/financial/doc/canada-funding-needs-en.pdf; http://www.cbd.int/financial/doc/eu-funding-needs-en.pdf). The Expert Team consulted the submissions and considered these comments in the revised report.

(c) Work conducted by the high-level panel on financing for biodiversity, co-sponsored by India and the United Kingdom; and
Since the High Level Panel (HLP) started its work in July 2012, the Expert Team provided the target-by-target assessments to the cluster groups to inform them on the GEF-6 needs assessment approach and preliminary results. Expert Team members also participated in conference calls of various cluster teams and the HLP meeting in Cambridge on 2-3 August 2012 to discuss how to ensure consistency between the two assessments (http://www.cbd.int/doc/?meeting=HLPGAR-SP-01). The Expert Team supported the development of a guideline for the HLP clusters on how to use and interpret the GEF-6 needs assessment results.

(d) Other relevant technical information on the costs of implementing the Strategic Plan for Biodiversity 2011-2020 and achieving the Aichi Biodiversity Targets;
While finalizing the study, the Expert Team included as much additional information as possible into the study.

5. *In response to paragraphs 6 in the annex to decision X/26, requested the GEF and the Executive Secretary to conduct a review of the draft assessment report of the expert team to ensure accuracy and consistency of approach and data, and assessment of availability of funding through all sources* (UNEP/CBD/WG-RI/4/CRP.7). The draft assessment report was provided to the CBD Secretariat and the GEF Secretariat End of August 2012 to conduct a review of the draft study to ensure accuracy and consistency of approach and data.

I.1.4 GEF's Strategies and Procedures

The financial mechanism operates under the guidance of the COP to the Convention: "In accordance with Article 21 of the Convention, the Conference of the Parties (COP) will determine the policy, strategy, programme priorities and eligibility criteria for access to and utilization of financial resources available through the financial mechanism, including monitoring and evaluation on a regular basis of such utilization. The Global Environment Facility (GEF), in operating the financial mechanism under the Convention, will finance activities that are in full conformity with the guidance provided to it by the Conference of the Parties…" … Memorandum of Understanding (MoU), paragraph 2.1.

For GEF-5, a new approach of allocating financial resources to eligible countries was developed: *STAR is an abbreviation for the System for Transparent Allocation of Resources, which is the GEF's updated resource allocation system for its fifth replenishment period. (GEF-5). Under the STAR, the GEF allocates indicative envelopes of resources to eligible countries during the GEF-5 period based on transparent indicators reflecting country performance and country potential to achieve global environmental benefits. In the GEF-5, STAR covers three focal areas: biodiversity (BD), climate change (CC), and land degradation (LD)* (http://www.thegef.org/gef/STAR).

Biodiversity Focal Area Strategy
The GEF has allocated resources according to a defined set of focal area strategies that set out priorities in each of the GEF's focal areas and crosscutting thematic areas of work. The focal area strategies that are most relevant to this study are: *Biodiversity, Climate Change Mitigation, International Waters, Sustainable Forest Management/REDD+,* and *Cross-cutting Capacity Development*. Other GEF strategies related to the assessment are the *Communication and Outreach Strategy* and the *Strategic Approach to Enhancing Capacity Building* (http://www.thegef.org/gef/strategies).

The biodiversity focal area strategy is the most important in achieving the Aichi Targets; however, all GEF focal areas strategies can contribute to Target implementation.

The five biodiversity strategy objectives under GEF-5 are:

1) *Improve the sustainability of protected area systems*
   - *Improve sustainable financing of protected area systems*
   - *Expand Marine and Terrestrial Ecosystem Representation*
   - *Expand Threatened Species Representation*
   - *Improve Management Effectiveness of Existing Protected Areas*
2) *Mainstream biodiversity conservation and sustainable use into production landscapes/seascapes and sectors*
   - *Strengthen Policy and Regulatory Framework*
   - *Implement Invasive Alien Species Management Frameworks*
   - *Produce Biodiversity-friendly Goods and Services*
3) *Build capacity to implement the Cartagena Protocol on Biosafety*
   - *Single-country projects*
   - *Regional or Sub-regional projects*
   - *Thematic projects*
4) *Build capacity on access to genetic resources and benefit-sharing*
   - *Capacity building of governments for meeting their obligations under Article 15 of the CBD*
   - *Building capacity within key stakeholder groups*
5) *Integrate CBD obligations into national planning processes through enabling activities*
   - *Enabling activity support could be provided for revising NBSAPs in line with the CBD's new Strategic Plan*

(http://www.thegef.org/gef/sites/thegef.org/files/documents/document/GEF-5_Bio_strategy.pdf).

Incremental Reasoning and Co-financing

The GEF's mandate is to finance the agreed incremental costs of projects related to the provision of global environmental benefits. Hence, GEF projects generally fulfil incremental and catalytic roles by making a difference to the business-as-usual process in bringing together public resources from different levels and private resources, such as from NGOs and foundations.

GEF's incremental reasoning rule, which was applied in this study, is referenced below:

GEF`s Incremental Reasoning
GEF funds the "incremental" or additional costs associated with transforming a project with national benefits into one with global environmental benefits; for example, choosing solar energy technology over coal or diesel fuel meets the same national development goal (power generation), but is more costly. GEF grants cover the difference or "increment" between a less costly, more polluting option and a costlier, more environmentally friendly option. The approach in determining incremental cost consists of five steps that simplify the process of negotiating incremental costs, clarifies definitions, and links incremental cost analysis to result-based management and the GEF project cycle. The steps are as follows: 1. Determine the environmental problem, threat, or barrier, and the "business-as-usual" scenario (or: What would happen without the GEF?); 2. Identify the global environmental benefits (GEB) and fit with GEF priorities within GEF focal areas and themes as identified in GEF focal area strategies. Identify the global environmental benefits (GEB) and fit with GEF strategic programs and priorities linked to the GEF focal area; 3. Develop the results framework of the intervention; 4. Provide the incremental reasoning and GEF's role; and 5. Negotiate the role of co-financing. **Source:** http://www.thegef.org/gef/policy/incremental_costs

In addition, GEF Implementing Agencies mobilise co-financing as part of all projects. Hence, the GEF Trust Fund grant to co-financing ratio reflects the nature of each project, global environmental benefits that are to be generated, incremental costs to achieve the global environmental benefits, nature of the baseline which the project complements, and the presence and contributions of other co-financiers. In practice, the GEF as a *facility* seeks to leverage the maximum amount possible.

The ratio of the GEF Trust Fund to co-financing has thus ranged from 1:2 to as high as 1:10 in the biodiversity focal area with an average amount of 1:4 currently. This ratio is partly driven by possible negotiations among participants involved.

I.2 Methodological Framework of the Funding Needs Assessment

I.2.1 Target-by-Target Approach

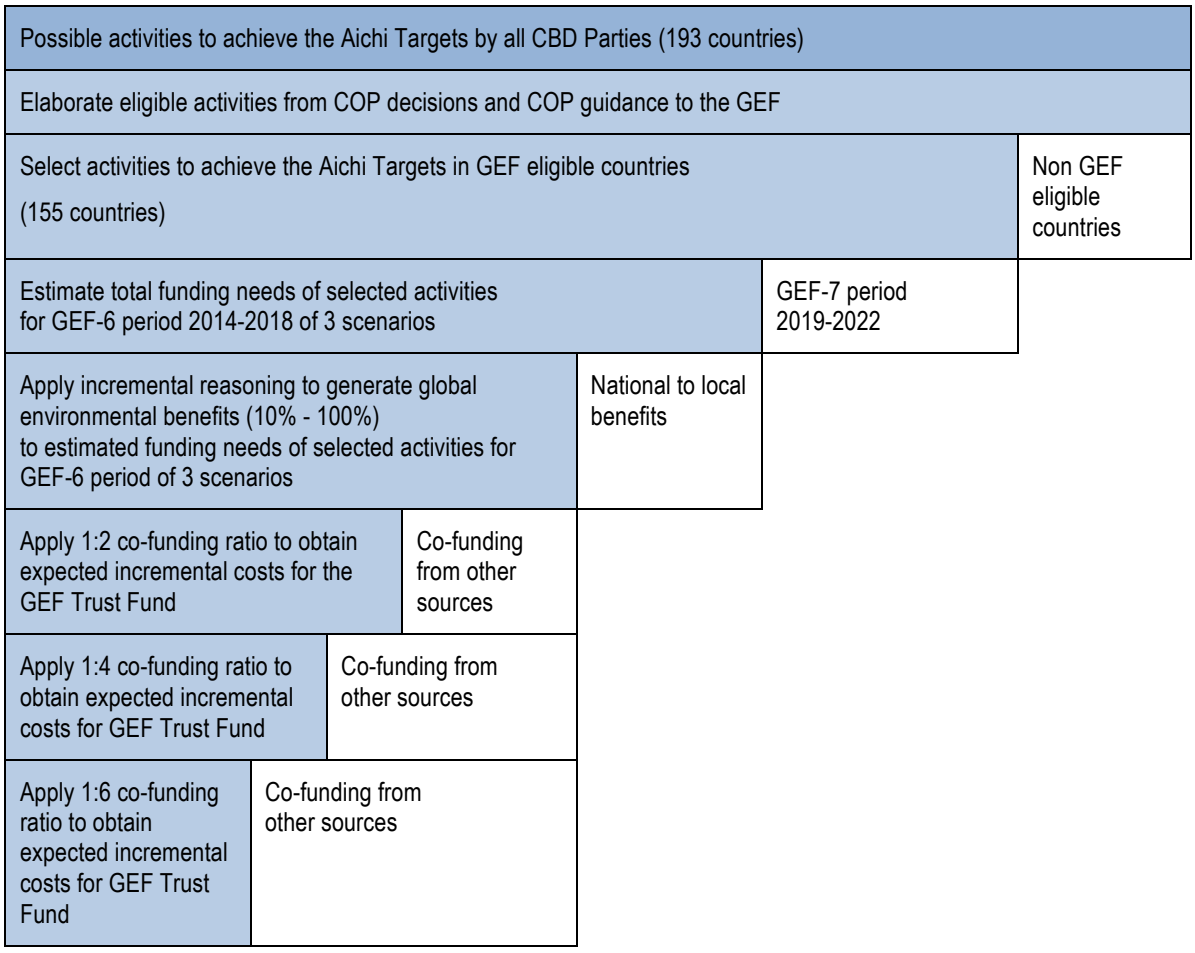
The methodology the Expert Team used was guided by the terms of reference (see I.1.2). A step-wise approach was applied to the 20 Aichi Targets and Biosafety (details see II.2) by identifying the relevant COP guidance, selecting the activities depending on their **strategic importance** to achieve the Target. Activities were identified as essential to be **publicly funded** taking into account national responsibilities and obligations according to CBD provisions as well as excluding activities with direct economic returns and potential private sector engagement. **GEF-eligibility** of selected activities, and **estimates of funding needs** through the use of information from literature, examples of funding from similar GEF projects, and expert opinion were justified.

To enable selection of the most viable option, a **range of estimates** – so called scenarios - was generated for each activity by taking into account **absorptive and delivery capacities** for the results. Scenario 1 represents the **lowest funding estimate** either because it includes the least number of countries or projects for the meaningful implementation of a given activity or the funding of the activity is relatively lower. Scenario 2 and 3 gradually increase the number of countries, projects, or cost depending on the activity. Scenario 2 represents **mid-level estimates**, whereas, Scenario 3 often includes **all or more countries**, projects, etc.

Based on **GEF's incremental reasoning** rule (see I.1.4), a percentage was developed to justify the achievement of global environmental benefits with the selected activity.

Finally, **three co-financing ratios** are applied to present options on the amount required for the GEF-6 replenishment of the GEF Trust Fund to cover expected incremental costs (see II.4.3).

Methodological steps to arrive at incremental costs for the GEF Trust Fund



I.2.2 Questionnaire to CBD Parties

According to the terms of reference (see I.1.3), a questionnaire seeking information on country-specific financial needs in addition to the Target-by-Target survey was developed and circulated to Parties with Notification SCBD/ITS/RS/ESE/fb/77838 on 7th October 2011 (http://www.cbd.int/doc/notifications/2011/ntf-2011-195-financial-en.pdf).

It was envisaged that the questionnaire would provide Parties a platform to identify the main elements of their funding strategy in accordance with the Strategy for Resource Mobilization (Decision X/2) to achieve the Strategic Plan, Aichi Targets, and the NBSAP in their county. The survey focused on gathering information regarding the estimated funding needs to meet the Aichi Targets during 2011-2020, particularly for the GEF-6 period July 2014-June 2018. The questionnaire is attached in **Annex Table 7.** Results are presented in chapter II.5 and **Annex Table 8**.

I.2.3 Country Case Studies

The aim of introducing a few country case studies in different regions was to assess resource allocation, funding situations (both gaps and coverage), conservation actions, resource mobilization strategies etc.

Based on biodiversity, geo-coverage, biodiversity conservation activities, hotspot areas, development indices, past GEF-funding, and other criteria, the following eight countries were selected: Brazil and Ecuador from Latin America, Madagascar and Democratic Republic of Congo from Africa, India and Indonesia from the Pacific Asia, Fiji from the Indian and Pacific Oceans (SIDs), and Kyrgyzstan from Europe/Central Asia. Some of the characteristics of the selected countries are listed in the table below.

Some characteristics of the countries selected for case studies

REGIONS AND COUNTRIES	UNDP** Project	UN-REDD Support or Project	UNFF SIDS	Mega Diverse	Low Forest Cover <10%	Wetland and Ramsar Sites	Coral Reef	Hotspot Areas	Moun-tain BD	IUCN PRO JECT	% Terrestrial PAs 2010	% Marine MPAs 2010	Human Dev't index 2010
LATIN AMERICA AND CAREBBIAN (LAC)													
1 Brazil	√			√		√	√	√	√	√	26.3	16.5	0.699
2 Ecuador	√	√		√		√	√	√	√		25.1	75.36	0.695
AFRICA													
3 Madagascar	√			√		√	√	√			3.1	0.1	0.435
4 DRC	√	√				√		√			10.0	4.4	0.239
ASIA PACIFIC													
5 India	√			√		√	√	√	√	√	5.0	1.7	0.519
6 Indonesia	√	√		√		√	√	√	√		14.2	2.0	0.600
INDIAN AND PACIFIC OCEANS: (SIDS)													
7 Fiji			√			√	√	√			1.3	0.1	0.669
EUROPE / CENTRAL ASIA													
8 Kyrgyzstan		√			√	√		√	√		6.9	na	0.518

The research for the case studies is being independently undertaken and the results are expected to complement the GEF-6 funding needs assessment. Though difficulties were encountered in contracting the case studies during the assessment period, they are currently underway. While the results from these studies are expected to be presented in 2012 and concur to current global funding needs assessments, this will likely occur after this report is finalized. An *Assessment Exercise on Financial Resources required for Biodiversity Conservation in India* was conducted by Professor A. Damodaran, Member of the Expert Team, and is presented in chapter II.6.

I.2.4 Link to the High Level Panel Global Assessment

In preparations for COP-11 the Government of the United Kingdom and India co-sponsored a High Level Panel global assessment of the resources required to implement the Strategic Plan for Biodiversity 2011-2020 and achieve the Aichi Biodiversity Targets (http://www.cbd.int/doc/notifications/2012/ntf-2012-028-financial-en.pdf). The main objectives of the High-Level Panel are:

- At the global level; to provide as robust an assessment as possible of the resources needed to achieve the 20 Aichi Targets (Decision X/2) in time for consideration by COP-11, recognizing that a comprehensive assessment may not be possible, but a credible assessment of current knowledge would be valuable at this stage.
- To present the cost estimates derived in the context of our knowledge about the benefits of biodiversity and current funding streams to help frame and stimulate discussion around meeting these resource needs; and
- To provide recommendations of future work, which would help Parties, better understand how they can finance the Strategic Plan for Biodiversity 2011-2020 (http://www.cbd.int/doc/notifications/2012/ntf-2012-103-resource-en.pdf).

The Panel is expected to benefit from the present financial needs assessment for the sixth replenishment of the GEF Trust Fund. Similarly, the results from the High-level Panel global assessment will complement the results from the GEF-6 funding needs assessment where gaps of information and data were identified. It recognises areas of overlap between actions needed to achieve individual Aichi Targets and has adopted a clustering approach. Hence, the two studies have a supplementary and complementary relationship in their assessment of funds needed to implement the Strategic Plan at different levels - the GEF-6 assessment focuses on **incremental costs of GEF eligible activities** while the other global assessment concentrates on **global costs** to achieve the Aichi Targets.

The Expert Team members worked closely together with the High Level Panel groups to ensure consistency between the two assessments.

I.3. Challenges and Limitations of the Assessment

The present GEF-6 funding needs assessment was the first exercise of this kind ever to be made and faced a lot of challenges and uncertainties. The timeframe for the study was extremely tight, given the limited resources by the CBD Secretariat to the Expert Team and the fact that the assessment was elaborated by the Expert Team on a voluntary basis without financial compensation and in addition to their regular activities.

Prior to taking up the assessment exercise, the Expert Team attempted to gauge the scope of the exercise in the light of the Strategic Plan and the Aichi Targets. Historically, the GEF has financed projects that largely fall under “traditional” conservation programmes. Recently, the GEF has also supported more projects to mainstream biodiversity into other sectors and to address drivers. However, fewer projects related to enabling activities such as awareness raising, certification schemes, capacity building that support improved enabling environments are funded by the GEF.

For this reason and with a view to successfully support the implementation of the Strategic Plan and the Aichi Targets through the GEF, this assessment also considers activities that not only fall under GEF’s “traditional” funding scheme, but also extend beyond its current funding portfolio. The latter includes activities related to national accounting, production and consumption patterns, and large scale ecosystem restoration that are essential in the contribution to protect and sustainable use global public goods. Thus, this assessment takes upon the challenge of focusing on strategic activities that enable the achievement of the Aichi Targets, and by that, also wishes to look

beyond the GEF's present funding practice and programming. The Expert Team's broad approach in conducting the assessment was welcomed by some Parties at the WGRI-4 meeting in Montreal.

The Rio+20 Conference on Sustainable Development 2012's declaration, "The Future We Want," can also be interpreted to encourage the GEF in taking a broader approach:

> *Para 265. We recognize the important achievements of the Global Environment Facility (GEF) over the past 20 years in funding environmental projects and welcome important reform processes that GEF has carried out during recent years, and we call for its further improvement and encourage GEF to take additional steps, within its mandate, to make resources more accessible to meet country needs for the national implementation of their international environmental commitments…..*

While Parties will examine the study, the following limitations must be taken into account (see ToR I.1.2):

On the guidance from COP decisions:

- The guidance from COP decisions is very complex and many suitable activities could have been identified and selected for GEF funding. However, it was decided that only strategic activities that contribute to the achievement of a given Target should be focused on, while still recognizing that other activities are also necessary and suitable to fully achieve this Target.
- Some of the possible milestones for the Targets were found to be unrealistic with respect to the timeframes indicated for their achievement; hence, the timeframes for certain activities derived from milestones were extended.
- The complex overlap of Aichi Targets had to be taken into consideration in order to avoid double estimation of funding needs; hence, activities were selected so as to minimize overlap as much as possible.

On data and knowledge:

- Data and knowledge gaps were recognized during the study, but they could not be filled within the given timeframe. Gaps in measures or activities that have previously been funded by Parties, the GEF, other organisations and institutions since 2010 to reach a certain level of achievement under each Target could not clearly be identified. This made it difficult to assess the remaining funding gap.
- The estimates of funding needs were based on literature, examples, and experience from the GEF and other funding institutions. Given limited time, capacity, and resources, further research will be needed to adjust assumptions for funding estimates. It is expected that results from the High-level Panel global assessment will provide additional and complementary information that can also serve the GEF-6 assessment.
- Data gaps were encountered in assessing the varying needs and cost structures of different countries to implement selected activities; hence, assumptions on average costs were taken into account.
- The support from national assessments through the questionnaire did not materialise at a sufficient level, because of lack of responsiveness from Parties; only a statistically insignificant number of responses were received.
- Since the country case studies started later than planned, they could not support the assessment with more country-based information.

On GEF rules and GEF-6 timeframe:

- Activities that should have happened under GEF-5 to achieve a certain Target may not have been started or completed yet. Hence, some activities will have to start or continue during the GEF-6 period.
- Some activities considered to start under GEF-6 are expected to continue under GEF-7 to facilitate the achievement of the Targets by 2020.
- GEF's rule on incremental reasoning and agreed incremental costs can be ambiguous, because the attempt of generating global environmental benefits and the issue of co-financing of a given project often appeared mixed

and partly driven by possible negotiations between GEF-eligible countries, implementing agencies, and the GEF Secretariat. Hence, the two issues were separated in the step-wise approach to be more transparent (see I.2.1).

On country-specific circumstances:

- Due to limited time and resources, it was not possible to sufficiently conduct an in-depth analysis of national reports, NBSAPs, and other studies to obtain additional information on country-specific funding needs.
- Due to the lack of information, it was very difficult to examine the readiness and absorptive capacity of eligible countries to implement the selected activities.
- Given GEF's policy that the application of GEF funds is basically country-driven, the number of countries that may implement the selected activity may vary from activity to activity. Hence, many uncertainties are implied in how countries will take up the proposed activities and thus contribute to the achievement of the Target.

Given these limitations, the assessment is inevitably imprecise. The study cannot provide a comprehensive or fully robust assessment of the incremental costs to be needed for the GEF-6 replenishment. Instead, the aim is to adopt a pragmatic approach designed to provide a plausible, transparent, and replicable attempt including scenarios of the likely scale of funding needs for the GEF-6 replenishment period.

II. RESULTS OF THE FUNDING NEEDS ASSESSMENT

II.1 Introduction

This section presents the results of the Expert Team's funding needs assessment exercise in 4 chapters:

A) The Target-by-Target Funding Needs Assessment with the results of the 20 Targets and Biosafety that follows an appropriate structure to guide through the assessment of each Target.
B) A chapter on potential overlap and synergies between Target activities.
C) A chapter on co-funding ratios and estimated incremental costs for the GEF Trust Fund in the GEF-6 period 2014 – 2018.
D) Information on the questionnaire that was provided to CBD Parties during the needs assessment period in 2011.
E) An approach to estimate the funding needs for India.

II.2 Target-by-Target Funding Needs Assessment

This chapter describes the results of the Target-by-Target funding needs assessment and the structure followed for the assessment of each target following the guidance of the Terms of Reference (see. I.1.2) and the methodological framework (see I.2.1):

1. Aichi Target and Technical Rationale:

Section 1 explains the various components of the Target, justifies its importance for biodiversity, describes ways in which implementing the Target could possibly contribute to the reduction of biodiversity losses and the Convention's three objectives. The text is taken from the CBD website.

2. Reference to Relevant COP Decisions and GEF Guidance:
For each of the Targets, the relevant *CBD Articles, COP decisions, GEF guidance by COPs, and possible milestones* are referenced to help capture the context and identity activities for implementation of the Target.
The references are taken from the CBD website.

***3. Activities, Funding Needs and Incremental Reasoning*:**
Section 3.1 presents the *activities* selected for a particular Target and the corresponding *scope* and *estimates of the funding needs* per activity by considering different *levels of ambition*.

As an introduction to each Target assessment the following questions have been addressed:
- Has the GEF already provided funding for activities of this nature?
- Are the activities related to several targets?
- What has already been undertaken in eligible countries (baseline)?
- What is the gap to achieve the target by 2020?
- Are there other fora, institutions, organizations that may have the mandate to fund the activities instead?

Following that brief, and due to time constraints and limited capacity of the Expert Team not at all comprehensive analysis, the *activities* for the GEF-6 needs assessment are selected. The derived activities consist of those that are considered to:
a) Reflect the mandate and framework of the GEF-6 needs assessment and the COP guidance to the GEF,
b) Require priority and strategic action to achieve the Aichi Targets by 2020 with GEF Trust Fund support,
c) Achieve global environmental benefits supplemented by national, regional, and local benefits in eligible countries.

All selected activities in this chapter are considered to be eligible for GEF Trust Fund support in principle, even if some of them haven't been funded previously by the GEF Trust Fund.

Then the *scope* of the selected activity is illustrated and explained in detail.

Funding estimates per activity are given relating to the amount of financial resources that the selected activity would require on average. All amounts are expressed in US$ at 2012 prices. The estimates are generated from GEF projects, experiences, experts, literature, and other public sources. The attempt was to propose realistic and evidence-based estimates while recognizing that average estimates might not fit every eligible country, task or project. The estimates largely cover **costs of biodiversity action**, what means the resources required to undertake the selected activities. This includes inter alia the expenditure on labour, materials, equipment and energy used in delivering biodiversity conservation activities. However, administrative and transaction costs, and opportunity costs may also be included depending on the project.

Levels of ambition are "*what if*" conditions; i.e. *what* funding is required for X number of countries, Y number of projects *if* the following criteria are considered:
- What are the absorptive, institutional, and technical capacities of eligible countries?
- How many eligible countries need to carry out the activity and may be ready to do so?
- How many projects are achievable to start within the GEF-6 timeframe?

While level 1 illustrates the minimum that would be required to make progress towards 2020, level 3 describes the maximum amount postulated in the present assessment to make significant progress to contribute to the achievement of the Target by 2020.

Section 3.2 refers to the *incremental reasoning* policy of the GEF (see I.1.4). The approach is applied and justified for each activity that takes into account the possible or potential global benefits that the selected activity could generate. The amount of funding needs is presented before and after applying incremental reasoning without recognition of co-financing opportunities. For example, if the total funding estimates for Activity X is $100 million US and the incremental reasoning percentage is set at 50%, then the amount that would be required for GEF-6 would be $50 million US after accounting for incremental reasoning without any co-financing. The attempt of co-financing with 3 options and ultimately the expected incremental costs for the GEF's Trust Fund period 2014-2018 are presented in chapter II.4.3.

4. Estimates of Funding Needs for the GEF-6 Period:

The total funding estimates for the Target are presented by summing up the amount over the activities. This approach ends up with 3 scenarios per Target with both

a) Estimated total needs for the 2014 – 2018 period **before** applying incremental reasoning.
b) Estimated funding needs for the GEF-6 period **after** applying incremental reasoning.

Hence, out of the suggested total amount for the GEF-6 period after applying incremental reasoning, not all of it is expected to be provided by the GEF Trust Fund, but from the entire "biodiversity conservation funding facility" that includes the implementing agencies and national institutions, and additionally leveraged funding from bilateral agencies, private sector, foundations, NGOs, or other sources. The attempt of co-financing is presented in chapter II.4.3.

5. Indicators and Baseline Information:

These refer to the types of data that will help measure the extent of achievement of the various activities related to each Aichi Target. This section is taken from the CBD Website (http://www.cbd.int/sp/targets/rationale/).

II.2.1 Awareness of Biodiversity Values (Target 1)

Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

1. Technical Rationale

Increasing understanding, awareness and appreciation of biodiversity's diverse values is necessary to create the willingness to undertake the behavioural changes required to conserve and sustainably use biodiversity. The key audiences for such communication, education, and public awareness activities will vary between Parties but would generally focus on national and local governments, business, non-governmental organizations and civil society groups, including in their role as producers and consumers of biodiversity-related goods (http://www.cbd.int/sp/targets/rationale/target-1/).

2. Reference to Relevant COP Decisions and GEF Guidance

This target is related to Article 13 of the Convention and relevant decisions on communication, education and public awareness (CEPA).

Article 13: Public Education and Awareness

The Contracting Parties shall:

a) Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes; and

b) Cooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity.

COP Decisions

COP 4 urged Parties to propose projects that promote measures for implementing Article 13 *(*Decision IV/10 B, paragraph 9*)* when requesting assistance through the financial mechanism (the GEF). The Programme of Work on Communication, Education, and Public Awareness, or CEPA, aims to assist Parties, educators, and civil society to provide answers to various questions such as what biodiversity is and why society should be concerned; how biodiversity can be used in a sustainable manner; what are the various activities of the Convention of Biological Diversity and its contribution to the objectives of conservation, sustainable use, and equitable sharing of the benefits from the use of genetic resources, for a variety of audiences.

Numerous decisions have also been made regarding Article 13, including Decisions V/17, VI/19, VII/24, VIII/6, IX/32, and IX/33 on the International Year of Biodiversity, and also Decision X/18 among other references to this issue. COP 10 Decision X/18: Communication, education and public awareness and the International Year of Biodiversity invites Parties and requests the Executive Secretary to start executing various tasks to improve CEPA activities (http://www.cbd.int/decision/cop/?id=12284)

The CEPA programme of work (http://www.cbd.int/cepa) seeks to:

- Communicate the scientific and technical work of the Convention in a language that is accessible to many different groups;
- Integrate biodiversity into Education systems in all Parties to the Convention;
- Raise Public Awareness of the importance of biodiversity for livelihoods, as well as its intrinsic value.

GEF Guidance

COP 10 - Decision X/24: Review of guidance to the financial mechanism,
Programme priorities: 4.10: Public education and awareness (Article 13)

(a) Capacity development for education, public awareness and communication in biological diversity at the national and regional levels, as prioritized in the Global Initiative on Communication, Education and Public Awareness;
(b) Implementation of national communication, education and public-awareness strategies, programmes and activities, in accordance with its mandate;
(c) Implementation of the identified communication, education and public awareness priority activities at national and regional levels in support of biodiversity strategies and action plans;
(d) Project components addressing promotion of the understanding of the importance of and measures required for, the conservation and sustainable use of biological diversity (http://www.cbd.int/decision/cop/?id=12290).

Proposed Milestones

The possible milestones for this target are:

- By 2011, basic public awareness campaigns about biodiversity and the steps people can take to protect it are initiated;
- By 2014, national baseline surveys are carried out and comprehensive national strategies to promote awareness of the values of biodiversity are prepared and adopted;
- By 2016, relevant educational curricula have been developed and implemented (http://www.cbd.int/sp/targets/rationale/target-1/).

3. Activities, Funding Needs and Incremental Reasoning

The Communication, Education and Public Awareness (CEPA) programme is the main instrument under the Convention for this target. CEPA related activities should be carried out at the national level and as project components following GEF guidance.

The assessment of National Biodiversity Strategies and Action Plans (NBSAP) informing COP 10 stated "CEPA features prominently in all NBSAPs, but rarely in the form of concrete provisions on how to raise awareness among the various target groups. … Education and communication experts have an important contribution to make to the development of NBSAPs that contain effective provisions for communication, education and public awareness…NBSAPs should include clear provisions for communication, education and public awareness (CEPA)" (UNEP/CBD/COP/10/INF/11).

Despite this recommendation, little information is available if and how the current NBSAPs updating process in accordance with Target 17 includes activities to implement Target 1 as recommended in the assessment report. Though not explicitly referring to Target 1, the current GEF funded project *Support to GEF Eligible Parties (LDCs & SIDs) for the Revision of the NBSAPs and Development of Fifth National Report to the CBD- PHASE II* (http://www.thegef.org/gef/content/support-gef-eligible-parties-ldcs-sids-revision-nbsaps-and-development-fifth-

national-report) refers to include communication in revised NBSAPs, but not the full range of necessary CEPA activities were mentioned.

3.1 Activities and Funding Needs

While strategies to address Target 1 should be incorporated into NBSAPs, capacity building and national CEPA programme implementation needs a separate approach to ensure progress in achieving other targets. Three main activities have been derived from COP and GEF guidance.

Activity 1: Develop favourable conditions and capacity for CEPA
Scope: Develop favourable conditions and necessary capacity for CEPA to encourage and support collaboration with governments, civil society and others for developing public awareness programmes. This includes carrying out a national baseline survey and a national CEPA strategy and programme (Dec X/24, 4.10, a and b).

During the United Nations Decade on Biodiversity 2011–2020, CEPA will play an important role in building awareness amongst all stakeholders whose actions have an impact on the ecosystems of our planet. In addition, the International Day for Biological Diversity, held every 22 May and organized around special themes, provides an excellent opportunity for countries and individuals to celebrate biodiversity. *The Green Wave* is an ongoing worldwide campaign that uses social media and the Internet to bring together children and youth to raise awareness about biodiversity.

Funding estimates: Preparing good conditions for CEPA and strengthening capacity, which includes carrying out a national baseline survey and a national CEPA strategy and programme, should be covered by Target 17 as part of NBSAP. Therefore this activity is not considered further under Target 1.

Levels of ambition*:* Nearly all Parties indicated in their fourth national reports that they are undertaking actions related to education and public awareness; however, it is also reported that further efforts are needed to increase overall public awareness on the various values of biodiversity given that the Strategic Plan 2011-2020 is a very ambitious programme. Although the proposed milestones indicate that CEPA campaigns should have already been initiated by 2011 and national baseline surveys by 2014, this does not appear to be the case in many countries due to capacity constraints and lack of enabling conditions. In terms of the given timeline up to 2020 and necessary follow-up, better conditions for CEPA implementation must be achieved as soon as possible. This implies that activity 1 should be carried out in the context of the NBSAP revision process described in Target 17.

Activity 2: Implement priority activities of national CEPA programme
Scope: Implement priority CEPA activities with active engagement and collaboration of various institutions, groups, and stakeholders such as national and regional governmental agencies, schools and universities, museums and parks, business, non-governmental organizations, and civil society groups, using material and tools adequate to target groups like the general public, children, students, stakeholders, and business. Awareness and learning about biodiversity should be linked to and mainstreamed into education principles and messages for sustainable development (Dec X/24, 4.10, c). The 2007 CBD/IUCN CEPA toolkit provides useful guidance in this regard.

Funding estimates: The costs of CEPA programme implementation varies from country to country and could be elaborated with higher or lower budgets if taking into account the cost conditions for producing material or the intensity of carrying out a set of adequate CEPA tools in each country.

Examples (source CBD Secretariat): In terms of regional coverage, e.g. Europe spends about $2-$3 million Euros per year for 30 to 40 countries on CEPA programme implementation. In Japan, $2-$3 million US expenditure is being discussed and whether $300,000 US per year would be sufficient for the country is also being evaluated. In India, the project 'train going around with biodiversity promotion' to raise awareness costs about $400,000 US. The Secretariat for the International Year of Biodiversity estimates that it presently costs $750,000 US per year for producing and distributing materials globally (coming to about $15,000 US - $20,000 US per country).

Given these examples, national implementation of priority CEPA activities may cost between $300,000 US - $400,000 US per year, depending on the range of activities. In an attempt to keep costs conservative, it is proposed to allocate at least $200,000 US per country per year to implement priority CEPA activities. Thus, for the GEF-6 period, this adds up to $800,000 US per eligible country.

Levels of ambition*:* Nearly all Parties indicated in their fourth national reports that they are undertaking actions related to CEPA, however it is reported that further efforts are needed to increase overall public awareness. It is important to encourage many countries to continue or to scale up implementation of priority activities in GEF-6.

While many eligible countries are already undertaking CEPA actions and have good conditions in place, others may have limited absorptive capacity to improve CEPA activities three levels of ambition are proposed for the GEF-6 period.

Activity 2 evaluated at three levels of ambition and $800 000 US per country

a) Implementing this activity in 30 countries would require $24 million US
b) Implementing this activity in 60 countries would require $48 million US
c) Implementing this activity in 90 countries would require $72 million US

Activity 3: Integrate CEPA activities into projects or programmes as components

Scope: Promote the understanding of the importance of and measures required for the conservation and sustainable use of biological diversity within GEF funded projects (Dec X/24, 4.10, d). Activity 3 is an integral component of GEF funded projects as it is carried out in former and ongoing GEF projects. Cost estimates are case specific; hence they are not addressed in this chapter. Since this activity will be incorporated as a component of GEF funded projects, it is not estimated separately in this chapter.

3.2 Incremental Reasoning

Activity 1: Develop favourable conditions and capacity for CEPA

Will be in accordance with incremental reasoning of Target 17.

Activity 2: Implement priority activities of national CEPA programme

In terms of implementing national CEPA programme priority activities, both national and global benefits will be achieved but may vary from country to country. Therefore, full cost funding provided by the GEF for national CEPA priority activity implementation is not justified. However, priority activities that will focus on decision makers, key

communication and media people, critical private sectors, and other highly relevant target groups may generate significant global environmental benefits. Given these assumptions, an average 50% incremental reasoning is assumed and GEF's support is considered to be important to achieve Target 1 by 2020.

Activity 3: Integrate CEPA activities into projects or programmes as components
Will be in accordance with incremental reasoning percentage of the relevant project.

4. Estimates of Funding Needs for the GEF-6 Period

The activities of Target 1 are a very important and essential prerequisite to make substantial progress in implementing the other targets. Funding CEPA activities is a crucial investment in the future and in achieving the goals of the entire Strategic Plan.

The estimated total funding needs of the two main activities and the funding needs in the GEF-6 period without recognition of potential co-funding are compiled in **Table 1**. The estimated total funding requirements range between $24 and $72 million US depending on the level of ambition. After applying incremental reasoning, the requirements range between $12 and $36 million US depending on how many countries participate in the 2014-2018 period. Continuity is crucial - funding for activities related to Target 1 should continue to be available in GEF-7 to meet the 2020 deadline.

Opportunities to leverage funds from other sources, like national funds, NGOs, or private sponsors might be achievable. In order to address broader outreach, synergies and cost-efficiency cooperation with other countries in the same region and with other international organizations is recommended. The United Nations Educational, Scientific and Cultural Organization (UNESCO) could be one key partner in co-financing and carrying out work towards implementing this target.

Table 1: Estimated Funding Needs of Aichi Target 1 for the GEF-6 period

Target 1 - Awareness of Biodiversity Values	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 30 eligible countries							
A1. Develop enabling conditions and capacity for CEPA	0,0			covered by target 17			
A2. Implement priority activities of national CEPA programmes	24,0			50%	12,0		
A3. Integrate CEPA activities into projects	0,0			according to project	0,0		
Level of Ambition 2: 60 eligible countries							
A1. Develop enabling conditions and capacity for CEPA		0,0		coverd by Target 17			
A2. Implement priority activities of national CEPA programmes		48,0		50%		24,0	
A3. Integrate CEPA activities into projects		0,0		according to project		0,0	
Level of Ambition 3: 90 eligible countries							
A1. Develop enabling conditions and capacity for CEPA			0,0	covered by Target 17			
A2. Implement priority activities of national CEPA programmes			72,0	50%			36,0
A3. Integrate CEPA activities into projects			0,0	according to project			0,0
Total for Target 1	**24,0**	**48,0**	**72,0**		**12,0**	**24,0**	**36,0**

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in awareness, attitudes, and public engagement in support of biological diversity and ecosystem services
  - Trends in awareness and attitudes to biodiversity
  - Trends in public engagement with biodiversity
  - Trends in communication programmes and actions promoting social corporate responsibility

The three indicators are for consideration for use at the national or sub-regional levels.

Possible indicators and baseline information: the number of visits to natural history museums, zoos, botanical gardens, protected areas, and parks; the number of school biodiversity education programmes or officially accredited teaching materials; volunteer participation in relevant activities; the number of activities carried out by indigenous peoples, local communities and local citizen groups; and the development and use of lists of recommended actions for citizens, the private sector, and other stakeholders. As a secondary step, the impact of public awareness campaigns could be monitored through surveys of awareness and attitudes, such as the Eurobarometer survey conducted in 2007 that provides a baseline for the European region. Other possible indicators could include the number of biodiversity related news articles published in national newspapers as well as changes in the demand for environmentally friendly products (http://www.cbd.int/sp/targets/rationale/target-1/).

II.2.2 Integration of Biodiversity Values (Target 2)

Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

1. Technical Rationale

It is widely recognized that the values of biodiversity are not typically reflected in decision-making. The objective of this target is to ensure that the diverse values of biodiversity and opportunities derived from its conservation and sustainable use are recognized and reflected in all relevant public and private decision-making. For example, though numerous studies, at various scales, have illustrated the economic value of biodiversity and the ecosystem services it underpins many Parties report that the absence of economic valuations of biodiversity is an obstacle to its conservation and sustainable use. Including the values of biodiversity in national and local development and poverty reduction strategies and planning processes and into nation accounting, as appropriate, and reporting systems, would help give it greater visibility amongst policy-makers and contribute to the "mainstreaming" of biodiversity issues in decision-making processes. Reflecting the values of biodiversity in the planning processes of governments at all levels, including economic, financial, spatial planning, and the application of strategic environmental assessment, will help internalize the costs and benefits of the conservation and sustainable use of biodiversity in decision-making (http://www.cbd.int/sp/targets/rationale/target-2/).

2. Reference to Relevant COP Decisions and GEF Guidance

This target is related to Article 6(b) of the Convention as well as relevant decisions on biodiversity integration into national planning, poverty eradication and development processes.

Article 6: General Measures for Conservation and Sustainable Use
Each Contracting Party shall, in accordance with its particular conditions and capabilities:
b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

COP Decisions
COP 10 Decision X/24: Review of guidance to the financial mechanism
4.1. Biodiversity planning
(a) Capacity building, including human resources development and institutional development and/or strengthening, to facilitate the preparation and/or implementation of national biodiversity strategies and action plans;
(b) Elaboration, development, review, revision and updating of national biodiversity strategies and action plans;
(c) Priority actions identified in the national plans and strategies of developing countries and countries with economies in transition;
(d) Projects aimed at the conservation of biological diversity and sustainable use of its components that integrate social dimensions, including those related to poverty;
(e) Capacity-building to implement development activities in ways that are consistent with, and do not compromise the achievement of the objectives of the Convention on Biological Diversity, including by improving environmental policies in relevant development agencies and sectors such as through integrating concerns relating to

biodiversity and the Millennium Development Goals more directly into environmental impact assessments, strategic environmental assessments and other such tools, including at the national level through the national strategies for sustainable development and poverty reduction strategies and programmes.

GEF Guidance

COP-10 – Decision X/25: Additional guidance to the financial mechanism

Biodiversity integration

5. In accordance with Article 20 of the Convention, *invites* developed country Parties, other Governments and donors, and the financial mechanism to provide financial and technical support to eligible countries to further develop approaches on the integration of biodiversity into poverty eradication and development processes;

National reporting

17. *Requests* the Global Environment Facility to provide adequate and timely financial support for the preparation of the fifth and future national reports, and *further requests* the Global Environment Facility and its implementing agencies to ensure that procedures are in place to ensure an early and expeditious disbursement of funds.

Proposed Milestones

The possible milestones for this target are:

- By 2012, work on biophysical inventories of biodiversity and associated ecosystem services is initiated and, by 2014, a work programme for reflecting biodiversity and ecosystem values in national accounts is developed;
- By 2014, the opportunities derived from the conservation and sustainable use of biodiversity, and the fair and equitable sharing of benefits arising from the use of genetic resources, are integrated into Poverty Reduction Strategy Papers (PRSPs) and other national development plans, and are routinely included in environmental impact assessment, strategic environmental assessment and spatial planning;
- By 2018, the most important aspects of biodiversity and ecosystem services are reflected in national statistics (http://www.cbd.int/sp/targets/rationale/target-2/).

3. Activities, Funding Needs and Incremental Reasoning

Activities to implement Target 2 will require Parties to appropriately value biodiversity and ecosystem services in their country and develop mechanisms to integrate these values in policy decisions, country-specific strategies, planning processes, and national accounting and reporting systems. Hence, these activities should be covered in the National Biodiversity Strategy and Action Plan (NBSAP). The assessment of NBSAPs informing COP 10 stated that NBSAPs should recognize the need to integrate the economics of biodiversity and that "…the NBSAP should be an instrument for ensuring that the true value of biodiversity is incorporated into decision-making, indicators, accounting systems and prices." (UNEP/CBD/COP/10/INF/11). Despite this recommendation, it is assumed that the current NBSAPs updating process in accordance with Target 17 will not sufficiently address activities to implement Target 2 as recommended in the assessment report.

Activities to implement Target 2 require a new strategy, which needs to be integrated into the NBSAP, in each country. These new strategies need to contain at least the following elements that the GEF should support:

Element 1: Develop a work programme that lays out how biodiversity and ecosystem values will be reflected in policy decisions and integrated into national accounting and reporting systems, Poverty Reduction Strategy Papers (PRSPs), planning processes and tools, such as EIA, and other national development plans.

Element 2: Work out country-specific biophysical inventories of biodiversity and associated ecosystem services and the related values, and develop the conditions for integration into national statistics.

Both Element 1 and 2 are closely related to Activity 1 under Target 14 on assessments of ecosystem services.

Tools are also available for integrating biodiversity into spatial planning exercises through the mapping of biodiversity ecosystem services and through systematic conservation planning (see for example http://www.wri.org/publications/ecosystems). Strategic environmental assessment and similar tools provide useful methodologies to assess impacts on biodiversity and ecosystem services, and allow for the assessment of trade-offs in decision-making (OECD DAC SEA and Ecosystem Services Advisory Note at www.seataskteam.net/guidance.php).

Efforts to improve the valuation of biodiversity should include tools and methods that also recognize ecological, social and cultural values in addition to economic values, and should be conducted in ways that encourage the sustainable use of biodiversity at all levels. Tools to assess the *economic values* of biodiversity are now more widely available, but are still in an early stage of strategic implementation at the national level:

- The Economics of Ecosystems and Biodiversity (TEEB) approach,
- The UN System of Economic and Environmental Accounting (SEEA),
- The World Bank's experience in integrating natural capital (e.g., forests) into national accounts could be further developed and built upon to incorporate the value of biodiversity and ecosystem services.
- Wealth Accounting and the Valuation of Ecosystem Services (WAVES) partnership.

3.1 Activities and Funding Needs

The proposed activities in GEF-6 should initiate and facilitate the two elements to implement Target 2.

Activity 1: Support national assessments of biodiversity values
Scope: This activity could support the elaboration of national assessments of biodiversity values (TEEB like studies) to assess biodiversity and ecosystem values and identify the economic and other values of biodiversity and relevant ecosystem services.

Funding estimates: The amount needed for national assessments of biodiversity values (TEEB like studies) will vary according to the scale of country-specific biophysical inventories to establish the values of biodiversity and ecosystem services and the country's size. National TEEB like studies that have already been prepared range in cost from $50,000 US for desk studies surveying and summarizing existing valuation studies to $1.25 million US for more comprehensive country studies that involve multi-stakeholder consultations and include biophysical data collection/mapping and utilization of valuation models (UNEP TEEB office, verbally). A total of $500,000 US per country study should be allocated as a one off activity to assist GEF eligible countries.

Levels of ambition*:* In light of Target 2, each CBD Party should elaborate and conduct a national assessment of biodiversity values. The GEF's support should primarily be focused on regions with globally relevant, high biodiversity value and high ecosystem service value in order to achieve global environmental benefits.

Depending on countrys' capacity and readiness, at least in 10, 30, or 50 countries were considered to move forward with national assessments of biodiversity values (TEEB like studies).

Activity 1 evaluated at three levels of ambition and $500,000 US per country

a) Implementing this activity in 10 countries would require $5 million US
b) Implementing this activity in 30 countries would require $15 million US
c) Implementing this activity in 50 countries would require $25 million US

Activity 2: Facilitate strategic integration and programming to value biodiversity

Scope: This activity includes analysis and development of a work programme on how to integrate biodiversity values into national policy processes, national and local poverty reduction strategies and budget processes, and accounting and reporting systems. It should also cover capacity building for national policy and planning authorities for integration of biodiversity values into budget processes and development of planning tools as PRSPs, EIAs and SEAs and other tools. Later this activity should be integrated into NBSAPs.

Funding estimates: A total of $200,000 US per country should be allocated as a one off GEF contribution for eligible countries to strategically move forward with the implementation of Target 2 and to integrate the values of biodiversity and ecosystem services in the relevant policies and tools.

Levels of ambition*:* Assuming not all GEF eligible countries need to be assisted in conducting such a strategic programming and depending on country's respective capacity and readiness, 10, 30, or 50 countries were considered in moving forward with this process.

Activity 2 evaluated at three levels of ambition and $200,000 US per country

a) Implementing this activity in 10 countries would require $2 million US
b) Implementing this activity in 30 countries would require $6 million US
c) Implementing this activity in 50 countries would require $10 million US

3.2 Incremental Reasoning

Activity 1: Support national assessments of biodiversity values

The more countries undertake national assessments of biodiversity values, the better the entire global value of biodiversity and ecosystem services can be identified and assessed. While both national and global biodiversity and ecosystem values might be identified, this will most likely vary from country to country. Therefore, full cost funding provided by the GEF for national TEEB like assessments might not be justified. However, national assessments will provide a much better picture about where global biodiversity and ecosystem values are located. Given this assumption, GEF support is expected to generate global environmental benefits. Therefore, 50% incremental reasoning should be applied.

Activity 2: Facilitate strategic integration and programming to value biodiversity

A strategic work programme to improve the recognition of the values of biodiversity and ecosystem services is considered to be an important activity to achieve the entire Strategic Plan which will generate significant global benefits and therefore 50% incremental reasoning is proposed. The valuation of biodiversity and ecosystem services must be integrated I the NBSAPs (Target 17).

4. Estimates of Funding Needs for the GEF-6 period

The activities of Target 2 are a very important and essential prerequisite to make substantial progress in determining biodiversity and ecosystem services' value. Funding Target 2 activities is a crucial investment in the future and in achieving the goals of the entire Strategic Plan.

The estimated total funding needs of the two main activities and the funding needs in the GEF-6 period without recognition of potential co-funding are compiled in **Table 2**. The estimated total funding requirements range between $7 and $35 million US depending on the level of ambition. After applying incremental reasoning, the funding needs range between $3.5 and $17.50 million US depending on how many countries participate in the 2014-2018 period. In order to meet the 2020 deadline, continuity in funding for activities related to Target 2 is crucial and should thus also be available in GEF-7.

Opportunities to leverage funds from other sources, like bilateral ODA or biodiversity funding, national funds, or research institutes might be achievable.

Table 2: Estimated Funding Needs of Aichi Target 2 for the GEF-6 period

Target 2 - Biodiversity Values	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 10 countries							
A1: Support national assessments of biodiversity (TEEB like studies)	5.00			50%	2.50		
A2: Facilitate strategic integration and programming to value biodiversity	2.00			50%	1.00		
Level of Ambition 2: 30 countries							
A1: Support national assessments of biodiversity (TEEB like studies)		15.00		50%		7.50	
A2: Facilitate strategic integration and programming to value biodiversity		6.00		50%		3.00	
Level of Ambition 3: 50 countries							
A1: Support national assessments of biodiversity (TEEB like studies)			25.00	50%			12.50
A2: Facilitate strategic integration and programming to value biodiversity			10.00	50%			5.00
Total for Target 2	**7.00**	**21.00**	**35.00**		**3.50**	**10.50**	**17.50**

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives
  - Trends in number of countries incorporating natural resource, biodiversity, and ecosystem service values into national accounting systems (Global level)
  - Trends in number of countries that have assessed values of biodiversity in accordance with the Convention
  - Trends in guidelines and applications of economic appraisal tools
  - Trends in integration of biodiversity and ecosystem service values into sectoral and development policies
  - Trends in policies considering biodiversity and ecosystem service in environmental impact assessment and strategic environmental assessment

  Apart from the first indicator, the rest are for consideration for use at the national or other sub-global level.

Possible indicators and baseline information: the number of countries with biophysical inventories of biodiversity and ecosystem services; the number of countries with national accounts reflecting the state of biodiversity and ecosystem services and, if appropriate, stocks and flows of natural capital; the number of countries with poverty reduction strategies and national development plans which incorporate biodiversity; and the number of companies (or their market share) with policies for biodiversity-friendly practices. Baseline information for 2010 could be obtained through desk studies, from the TEEB study, from the World Business Council for Sustainable Development (WBCSD) and business and biodiversity initiative (http://www.cbd.int/sp/targets/rationale/target-2/).

II.2.3 Incentive Measures (Target 3)

Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.

1. Technical Rationale

Substantial and widespread changes to incentives, including subsidies, are required to ensure sustainability. Ending or reforming incentives, including subsidies, harmful to biodiversity is a critical and necessary first step that would also generate net socio-economic benefits. In addition, the creation or further development of positive incentives for the conservation and sustainable use of biodiversity, provided that such incentives are in harmony with the Convention and other relevant international obligations, could also help in the implementation of the Strategic Plan by providing financial or other incentives to encourage actors to undertake actions which would benefit biodiversity. Fishery subsidies that contribute to over capacity, and overfishing globally are potential areas for reform as is the continued and deepened reform of production-inducing agricultural subsidies still prevalent in most Organization for Economic Co-operation and Development (OECD) countries. Bearing in mind the principle of common but differentiated responsibilities, this target would not imply a need for developing countries to remove subsidies that are necessary for poverty reduction programmes (http://www.cbd.int/sp/targets/rationale/target-3/).

2. Reference to Relevant COP Decisions and GEF Guidance

This Target is related to Article 11 of the Convention that states: *Each Contracting Party shall, as far as possible and as appropriate, adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity.*

COP Decisions

In 2000, COP 5 adopted a programme of work on incentive measures (PoW) which spells out a number of targets as well as the activities required from Parties, other governments, international organizations and the CBD Secretariat to achieve these targets (http://www.cbd.int/decision/cop/?id=7157).

The expected results of the work programme are:

a) The assessment of representative existing incentive measures, review of case studies, identification of new opportunities for incentive measures, and dissemination of information, through the clearing-house mechanism and other means, as appropriate;
b) The development of methods to promote information on biodiversity in consumer decisions, for example through eco-labelling, if appropriate;
c) The assessment, as appropriate and applicable to the circumstances of Parties, of the values of biodiversity, in order to better internalize these values in public policy initiatives and private-sector decisions;
d) A consideration of biodiversity concern in liability schemes;
e) The creation of incentives for integration of biodiversity concerns in all sectors.

Importantly, the COP decided to integrate actions on incentive measures in thematic work programmes and to ensure synergy with activities on sustainable use, noting that incentive measures are essential elements in developing effective approaches to conservation and sustainable use of biological diversity especially at the level of local communities.

The PoW was reviewed by COP 9 in 2008 (http://www.cbd.int/decision/cop/?id=11649). Noting the importance of incentive measures for achieving the objectives of the CBD, the COP recognized the ongoing relevance of the PoW, and also decided to put more emphasis on the implementation through enhanced information sharing on good practices, lessons learned, difficulties encountered, and other practical experience on its implementation, as well as assessments, studies, analyses, and capacity building (http://www.cbd.int/incentives/background.shtml).

GEF Guidance

COP-10 – Decision X/24 - Review of guidance to the financial mechanism
4.8 Incentive measures (Article 11)

(a) Design approaches relevant to the implementation of incentive measures, including, where necessary, assessment of biological diversity of the relevant ecosystems, capacity-¬building necessary for the design and implementation of incentive measures and the development of appropriate legal and policy frameworks;
(b) Projects that incorporate incentive measures promoting the development and implementation of social, economic and legal incentive measures for the conservation and sustainable use of biological diversity;
(c) Projects that assist with the implementation of the Programme of work on incentive measures;
(d) Innovative measures, including in the field of economic incentives and those which assist developing countries to address situations where opportunity costs are incurred by local communities and to identify ways and means by which these can be compensated.

Proposed Milestones

The possible milestones for this target are:

- By 2012, transparent and comprehensive subsidy inventories and inventories of possible positive incentive measures are established by all OECD countries, and an assessment of their effectiveness against stated objectives, of their cost-efficiency, and of their impacts on biodiversity, is being initiated;
- By 2014, prioritized plans of action for the removal or reform of subsidies that are harmful to biodiversity and for the development and application of positive incentives, are prepared and adopted;
- By 2020, subsidy programmes identified in the plans of action are being effectively reformed or phased out, and positive incentive measures identified in the plans of action are being effectively phased in (http://www.cbd.int/sp/targets/rationale/target-3/).

3. Activities, Funding Needs and Incremental Reasoning

Regarding incentives, Target 3 contains two elements:
Element 1: eliminate, phase out, or reform incentives harmful to biodiversity,
Element 2: develop and apply positive incentives for biodiversity and sustainable use.

The implementation of the elements and subsequent actions must be consistent and in harmony with provisions of the CBD and other relevant international obligations, taking into account national socio-economic conditions.

Element 1 mainly needs to be implemented in developed countries. The OECD already published studies on this in 2007 (Subsidy Reform and Sustainable Development: Political Economy Aspects). However, for OECD countries, GEF funding is not possible.

In a few developing countries or countries with economies in transition, biodiversity harmful incentive schemes may exist, which require elimination, reform, or phasing out to implement Target 3. Respective activities are considered the responsibility of the country and thus should not be financed by the GEF.

Element 2 is mainly a policy matter that should take into account national socio-economic conditions. It requires action plans to apply positive incentives at the national, regional, and local level. Under GEF guidance, two activities can be derived:

(a) Projects to promote incentive measures,
(b) Capacity-building for incentive measure design and implementation, including the design of innovative incentive measures.

3.1 Activities and Funding Needs

Element 2 contains two activities relevant to GEF funding.

Activity 1: Projects to promote incentive measures

Scope: Up until the GEF-5 period, the GEF has supported projects promoting the development and implementation of economic incentive measures for the conservation and sustainable use of biological diversity. Projects piloted approaches through ecotourism, revenues for protected area management, and payment for ecosystem services schemes and served for the implementation of Target 3. Some of them targeted how incentives focus on generating local benefits.

Funding estimates: The funding amount applicable to such types of projects can be found in the current GEF-5 project *Establishment of Incentives for the Conservation of Ecosystem Services of Global Significance (Argentina)* (http://www.thegef.org/gef/project_detail?projID=3623): *Mechanisms for payment for ecosystem services are tested and replication systems developed to ensure the protection of natural ecosystems of Argentina and the services provided by these*. The GEF is funding 25% of this $12 million US project. Projects funded so far by the GEF range from $6.5 million US up to $24 million US and the GEF co-funding ratio ranges between 10 – 30%.

Levels of ambition*:* Globally, there are already many examples for the implementation of positive incentive measures as evidenced by the Database on Incentive Measures (http://www.cbd.int/incentives/case-studies.shtml). However, projects that apply incentive measures in areas of high biodiversity and ecosystem service values are still lacking. GEF might support Target 3 with a specific programme in order to mainly achieve global environmental benefits. Taking into account potential constraints in country capacity, GEF-6 should start with approximately 10 new projects of about $10 million US each.

Activity 1 evaluated at three levels of ambition and $10 million US per project

a) Implementing this activity with 10 projects would require $100.0 million US
b) Implementing this activity with 20 projects would require $200.0 million US
c) Implementing this activity with 30 projects would require $300.0 million US

Activity 2: Capacity-building for incentive measure design and implementation
Scope: There is currently no information on the need of GEF eligible countries for capacity-building to design and implement incentive measures that are positive for biodiversity and will generate global environmental benefits. As part of the PoW on incentive measures, the Information Database on Incentive Measures has been established on the CBD Secretariat's website (http://www.cbd.int/incentives/case-studies.shtml). This database contains case studies and other pertinent information on incentive measures (including valuation) that have been submitted by Parties, other governments, and relevant international organizations. This database can serve as a useful capacity-building tool and a source to design incentive measures. In addition, the results of the *Dialogue Seminar on Scaling up Biodiversity Finance, Quito 6-9 March 2012* are useful sources of information (information, presentations and literature can be found at: http://www.dialogueseminars.net/).

Funding needs: Given these information sources capacity building, institutional improvements and policy development may be considered as a project component under activity 1.

Levels of ambition: Considered as a project component under activity 1.

3.2 Incremental Reasoning

Activity 1: Projects to promote incentive measures
Noting the importance of incentive measures for achieving CBD objectives, more emphasis should be put on projects that implement globally significant incentive measure schemes and a special programme should be designed in GEF-6. The guidance of the PoW must be reflected in the development of such a programme. Besides local and national benefits, all projects must be designed to generate significant global environmental benefits; therefore, 50% incremental reasoning should be assumed.

Activity 2: Capacity-building for incentive measure design and implementation
According to the incremental reasoning percentage under activity 1.

4. Estimates of Funding Needs for the GEF-6 Period

The estimated total needs for a specific programme on incentive measures' scheme would range between $100 million US and $300 million US during the GEF-6 period depending on whether 10, 20, or 30 projects are developed. After accounting for incremental reasoning, the estimated funding needs for the GEF-6 period ranges between $50 million US and $150 million US (**Table 3)**.

Since there have only been a few such projects up until GEF-5, the new programme is expected to encourage more GEF eligible countries to prepare positive incentive schemes that help serve the implementation of Target 3. The GEF should play a crucial role in stimulating this process in GEF eligible countries.

Table 3: Estimated Funding Needs of Aichi Target 3 for the GEF-6 Period

Target 3 - Incentive Measures	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 10 projects							
A1: Projects to promote incentive measures	100.00			50%	50.00		
A2: Capacity building for incentive measure design and implementation	0.00			50%	0.00		
Level of Ambition 2: 20 projects							
A1: Projects to promote incentive measures		200.00		50%		100.00	
A2: Capacity building for incentive measure design and implementation		0.00		50%		0.00	
Level of Ambition 3: 30 projects							
A1: Projects to promote incentive measures			300.00	50%			150.00
A2: Capacity building for incentive measure design and implementation			0.00	50%			0.00
Total for Target 3	**100.00**	**200.00**	**300.00**		**50.00**	**100.00**	**150.00**

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in integration of biodiversity, ecosystem services and benefits-sharing into planning, policy formulation and implementation and incentives
  - Trends in the number and value of incentives, including subsidies harmful to biodiversity removed, reformed or phased out
  - Trends in identification, assessment and establishment and strengthening of incentives that reward positive contribution to biodiversity and ecosystem services and penalize adviser impacts

  The first indicator is for possible use at global level and the second at national or sub-global level.

Possible indicators and baseline information: Estimates of the value of harmful subsidies, using criteria developed by WTO and OECD, would be an indicator. Baseline data is already published. Process indicators might include the successful conclusion of WTO negotiations on fisheries subsidies and on agricultural domestic support. Possible indicators for the application of positive incentive measures include the number and types of positive incentive mechanisms being developed and applied. The economic and financial values of biodiversity and ecosystem services captured via payments for ecosystem services, user fees, taxes and other mechanisms could also be used to track progress (http://www.cbd.int/sp/targets/rationale/target-3/).

II.2.4 Sustainable Production and Consumption (Target 4)

Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

1. Technical Rationale

Most Parties indicated in their fourth national reports that the unsustainable use or overexploitation of resources was a threat to biodiversity. Bringing the use of natural resources within safe ecological limits is an integral part of the Vision of the Strategic Plan, thus steps towards this must be taken by 2020. Reducing total demand and increasing efficiency contribute to the target and can be pursued through government regulations and/or incentives, education, and social and corporate responsibility as well as consumer information and awareness raising that is covered by Target 1 (http://www.cbd.int/sp/targets/rationale/target-4/).

2. Reference to Relevant COP Decisions and GEF Guidance

This target is related to Article 10 of the Convention as well as relevant decisions on Business and Biodiversity Initiative (IX/26: promotion of business engagement; X/21: business engagement), and sustainable use of biodiversity.

COP Decisions

Decision IX/26: Promotion of business engagement

4. *Requests* the Global Environment Facility, and *invites* Parties, other Governments, and relevant organizations to support capacity-building in developing countries, in particular the least developed and the small island developing States among them, and Parties with economies in transition, for engaging the business community in the implementation of the Convention.

Decision X/21: Business engagement

In addition to inviting Parties and encouraging businesses and the private sector to start various activities to engage the business sector, the decision also requests the Executive Secretary, subject to the availability of resources and in collaboration with relevant organization and initiatives to take various measures to encourage business and biodiversity initiatives (See details at http://www.cbd.int/decision/cop/?id=12287).

GEF Guidance

Decision X/24 - 4.7 Sustainable use (Article 10)

(a) Implementation of the Addis Ababa Principles and Guidelines at the national level to ensure that the use of biological diversity is sustainable.

The Addis Ababa Principles and Guidelines for the Sustainable use of Biodiversity consist of 14 interdependent practical principles, operational guidelines, and a few instruments for their implementation that govern the uses of components of biodiversity to ensure the sustainability of such uses. The principles provide a framework to assist governments, resource managers, indigenous and local communities, the private sector, and other stakeholders on how to ensure that their use of the components of biodiversity will not lead to the long-term decline of biological

diversity. The principles are intended to be of general relevance, although not all principles will apply equally to all situations, nor will they apply with equal rigor. Their application will vary according to the biodiversity being used, the conditions under which they are being used, and the institutional and cultural context in which the use is taking place (http://www.cbd.int/sustainable/addis.shtml).

2.9 Sustainability
(a) Promoting exchange of experience and lessons learned in addressing sustainability of funded projects on biological diversity.

Proposed Milestones
The possible milestones for this target are:
- By 2014, Governments and major private-sector actors, at sector or company level, have developed assessments of their ecological footprint, and have developed sustainability plans to reduce it;
- By 2016, efforts to inform consumers, raise awareness, and provide means for responsible consumers' behaviour have been implemented;
- By 2018, Governments and major private-sector actors can demonstrate progress towards sustainability (http://www.cbd.int/sp/targets/rationale/target-4/).

3. Activities, Funding Needs and Incremental Reasoning

Currently, some businesses and countries are making efforts to reduce their ecological footprint with a view to mitigating natural resources extraction and consumption (i.e. in the EU). Each country, as well as production- and consumption-related sectors, needs to develop and implement plans for this purpose. This requires jointly efforts between the government (in providing incentives and enabling legal regulatory frameworks), corporate sector (in actively implementing ecologically efficient processes), and consumers (in requesting products and goods with the smallest ecological footprint).

Businesses depend on biodiversity services from 20 to 85% due to their added values and profits (see TEEB, MEA, Orée). Biodiversity conservation presents opportunities for some business and can lead to increased competitiveness, new market niches, improved efficiency and risk management.

The Target will be achieved through a range of activities, such as the following, which are considered of strategic importance in the context of the GEF-6 needs assessment reflecting the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity:
- Raise awareness and available information for consumers at the national level, which should be part of CEPA activities under Target 1;
- Eliminate, phase out, or reform harmful subsidies, which is covered under Target 3;
- Develop and implement positive incentive measures, which requires activities under Target 7 that are in addition to incentive measures under Target 3;
- Develop capacity and enabling environments in developing countries, in particular the least developed and small island developing States, and Parties with economies in transition to engage the business community in the implementation of the Convention (*Decision IX/26)*;
- Carry out ecological footprint assessments as a basis for the development of sustainability plans to ensure production and consumption within safe ecological limits.

The GEF is currently conducting a project in Mexico that can contributes to the implementation of Target 4: *Sustainable Production Systems and Biodiversity Project Mexico*

(http://www.thegef.org/gef/project_detail?projID=4207) which aims *to conserve and protect nationally and globally significant biodiversity in Mexico through mainstreaming biodiversity-friendly management practices in productive landscapes in priority biological corridors*. The GEF is funding about 40% of this $30 million US project.

3.1 Activities and Funding Needs

Based on the relevant activities to cover this Target and the guidance to the GEF, two main activities are considered to be of strategic relevance for support during GEF-6.

Activity 1: Carry out ecological footprint assessments
Scope: Ecological footprint assessments with appropriate methodologies in priority countries and sectors would be aimed at enriching references and data and providing key benchmarking to pitch national and sectoral efforts in improving ecological efficiency related to production and consumption patterns. Ecological footprint assessments in developing countries and countries with emerging economies can be a key trigger for both preparing and implementing plans for ecological efficiency and sustainable production and consumption.

Establishing ecological footprints at the national level has already been done to some extent, but requires updating as new data is collected. Establishing country and sector wide ecological footprints would greatly contribute to stakeholders' capacities to identify and implement ecological efficiency strategies. The choice of such sectoral ecological studies and dissemination is obviously very much context specific, depending especially on the economic situations at national and regional levels, as well as on the dominant natural resources being impacted.

Funding estimates: Given previous expenditures to carry out similar activities by the Global Footprint Network, estimates of funding needs for national analysis were established at $500,000 US per country as a one-off support. The total expenditure depends on the level of thoroughness and the number of sector assessments.

Levels of ambition: For this activity, it is assumed that only a fraction of all GEF eligible countries have national economic and business contexts where the implementation of the activity would be appropriate. Given the impact on biodiversity of rapidly expanding economies in transition 10, 20, and 30 countries are considered to receive GEF funding. The expected uneven readiness and absorptive capacity of eligible countries needs to be taken into account.

Activity 1 evaluated at three levels of ambition and $500,000 US per country

a) Implementing this activity in 10 countries would require $5 million US
b) Implementing this activity in 20 countries would require $10 million US
c) Implementing this activity in 30 countries would require $15 million US

Activity 2: Develop plans to serve sustainable production and consumption
Scope: In order to serve Target 4 implementation in GEF eligible countries, the development of plans to support ecologically sustainable businesses and responsible consumption behaviours is crucial. This activity is thus about providing key knowledge-based information and exchange to facilitate the emergence of an environment that is more conducive to sustainable production and consumption, including regulatory framework.

This activity aims at supporting the achievement and implementation of plans for sustainable production and consumption with by e.g. setting up joint platforms, policy improvement, better implementation and enforcement, improved governance and transparency, supporting the establishment of different sectors' sustainability standards,

disseminating best innovative business initiatives, and encourage Corporate Social Responsibility. The CBD Secretariat's *Global Platform on Business and Biodiversity* may serve as an appropriate source of information to facilitate activity 1 (http://www.cbd.int/en/business/information).

Funding estimates: The development of plans for sustainable production and consumption, including engagement with business, may vary from country to country. As a one-off contribution to facilitate the process of implementing Target 4, it is proposed that $200,000 US per eligible country be allocated.

Levels of ambition: For this activity, it is assumed that only a fraction of all GEF eligible countries have national economic and business contexts where the implementation of the activity would be appropriate. Given the impact of rapidly expanding economies in transition on biodiversity, 10, 20, and 30 countries are considered to receive GEF funding. The expected uneven readiness and absorptive capacity of eligible countries needs to be taken into account.

Activity 2 evaluated at three levels of ambition and $200,000 US per country

a) Implementing this activity in 10 countries would require $2 million US
b) Implementing this activity in 20 countries would require $4 million US
c) Implementing this activity in 30 countries would require $6 million US

3.2 Incremental Reasoning

Activity 1: Carry out ecological footprint assessments

Activity 2: Develop plans to serve sustainable production and consumption

While these types of activities have not been undertaken previously by the GEF, it is arguable that the availability of seed money for such activities could have a positive triggering effect. However, full national responsibility is required to move quickly forward with the implementation of Target 4. It must be acknowledged that both governments and business companies have the responsibility to contribute to achieve this Target. Since the selected activities imply very important first steps in the achievement of the crucial objectives of sustainable consumption and production they may also have significant global benefits in avoiding an increase of the entire global ecological footprint. Therefore, 50% incremental reasoning is assumed for the seed money required for both activities.

This also presents potential for positive impacts on local economic benefits accrued when implementing plans for sustainable production and consumption required by Target 4.

Options for co-funding may be given from both the public and the private sector.

4. Estimates of Funding Needs for the GEF-6 Period

Depending on the level of ambition, activity 1 would require between $5 million US to $15 million US and activity 2 would require between $2 million to $6 million US before incremental reasoning. Therefore, the estimated total amount required for Target 4 is estimated to be between $7 million US and $21 million US before accounting for incremental reasoning. The estimated amount after incremental reasoning of 50% is $3.5 million US in Scenario 1, $7 million US in Scenario 2, and $10,5 million in Scenario 3 (**Table 4**). The GEF should serve as a catalyst to leveraging further fund to be supplied by other sources for the purpose of Target 4.

Table 4: Estimated Funding Needs of Aichi Target 4 for the GEF-6 period

Target 4 - Sustainable Production and Consumption	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 10 countries							
A1: Carry out ecological footprint assessments	5.0			50%	2.5		
A2: Support enabling environment to serve sustainable production and consumption	2.0			50%	1.0		
Level of Ambition 2: 20 countries							
A1: Carry out ecological footprint assessments		10.0		50%		5.0	
A2: Support enabling environment to serve sustainable production and consumption		4.0		50%		2.0	
Level of Ambition 3: 30 countries							
A1: Carry out ecological footprint assessments			15.0	50%			7.5
A2: Support enabling environment to serve sustainable production and consumption			6.0	50%			3.0
Total for Target 4	7.0	14.0	21.0		3.5	7.0	10.5

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture
  - Trends in ecological footprint and/or related concepts (Decisions VII/30 and VIII/15) (A)
  - Trends in population and extinction risk of utilized species, including species in trade (also used by CITES) (A)
  - Ecological limits assessed in terms of sustainable production and consumption (C)
- Trends in pressures from habitat conservation, pollution, invasive species, climate change, overexploitation and underlying drivers
  - Trends in biodiversity of cities (C) decision X/22)
- Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives
  - Trends in extent to which biodiversity and ecosystem service values are incorporated into organizational accounting and reporting (B)

  A: refers to consideration for use at global level, B: possibly at global level and C: at national and other sub-global level.

Possible indicators and baseline information: Initially, process indicators, such as the establishment of plans with clear and measurable targets, would be the main indicators. Other process indicators include the presence of strategic environmental impact assessment or similar assessment tools, and their application at multiple levels of government. One relevant outcome indicator is the Ecological Footprint (and related concepts) for which baseline data is available. Other possible indicators could include the total demand for natural resources, the proportion of products derived from sustainable sources and the number of community-based sustainable management plans (http://www.cbd.int/sp/targets/rationale/target-4/).

II.2.5 Habitat Loss, Fragmentation and Degradation (Target 5)

Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

1. Technical Rationale

Nearly all Parties report that habitat loss is the most important factor driving biodiversity loss. Largely undisturbed or primary habitat is a particular priority for reducing this loss. Degradation, which reduces the capacity of ecosystems to provide goods and services, is similarly important. Habitat fragmentation, though more difficult to quantify at a global level, is a related pressure driving biodiversity loss. While economic, demographic and social pressures are likely to mean continued habitat loss, degradation, and fragmentation, particularly due to land use change beyond 2020, the rate of change needs to be substantially reduced. While for some ecosystems it may be possible to bring the rate of habitat loss close to zero by 2020, for others a more realistic goal is to halve the rate of loss. Significantly reducing habitat degradation and fragmentation will also be required in order to ensure that those habitats, which remain are capable of supporting biodiversity. Ultimately, there must be limits to the conversion or degradation of natural habitats. This is particularly the case for some ecosystems, where continued loss risks passing "tipping points" that could lead to large scale negative effects on human well being.

This target refers to the rate of loss and should be regarded as a step towards halting the loss of natural habitats. Further, it should be noted that the use of net rather than gross rates of loss could obscure the loss of mature ecosystems as a result of restoration. Whilst restoration activities can restore many of the attributes of primary ecosystems, they cannot be restored completely in the short to medium term. The emphasis of this target should be on preventing the loss of high-biodiversity value habitats, such as primary forests and many wetlands (http://www.cbd.int/sp/targets/rationale/target-5/).

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

This target is related to relevant decisions on forest biodiversity (X/36), marine and coastal biodiversity (X/29), inland water biodiversity (X/28), dry and sub-humid lands biodiversity (X/35), and sustainable use (X/32)[1], and all references to ecosystem approaches including Decision V/6.

GEF Guidance

COP 10: Decision X/24 - Guidance to the financial mechanism

4.16: Forest biological diversity specifies among other:

(a) Projects and capacity-building activities for implementing the programme of work of forest biological diversity at the national, regional and subregional levels and the use of the clearing-house mechanism to include activities that contribute to halting and addressing deforestation, basic assessments and monitoring of forest biological

[1] Complete details of these decisions are provided in the CBD Secretariat's Website at http://www.cbd.int/climate/decision.shtml

diversity, including taxonomic studies and inventories, focusing on forest species, other important components of forest biological diversity and ecosystems under threat;

(b) Projects focusing on the identified national priorities, as well as regional and international actions that assist the implementation of the expanded work programme considering conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits from genetic resources in a balanced way, underscoring the importance of ensuring long-term conservation, sustainable use, and benefit-sharing of native forests.

4.18 Inland water biological diversity

(a) Projects which help Parties to develop and implement national, sectoral and cross-sectoral plans for the conservation and sustainable use of biological diversity of inland water ecosystems, including comprehensive assessments of the biological diversity of inland waters, and capacity-building programmes for monitoring the implementation of the programme of work and the trends in inland water biological diversity and for information gathering and dissemination among riparian communities;

(b) Projects that assist with the implementation of the programme of work on biological diversity of inland water ecosystems.

4.19 Marine and coastal biological diversity

Projects that implement the elaborated programme of work on marine and coastal biodiversity;

(a) Country-driven activities aimed at enhancing capabilities to address the impacts of mortality related to coral bleaching and physical degradation and destruction of coral reefs, including developing rapid response capabilities to implement measures to address coral-reef degradation, mortality and subsequent recovery;

(b) Projects that promote the conservation and sustainable use of marine and coastal biodiversity under threat

4.21 Dry and sub-humid lands

(a) Projects that implement the Convention's programme of work on biodiversity of dry and sub-humid lands;

(b) Projects that promote the conservation and sustainable use of biological diversity in arid and semi-arid areas.

Proposed Milestones

Possible milestones for this Target include:

- By 2012, common indicators for monitoring and assessing *forest degradation, biomass, forest health, and forest goods* have been agreed upon and are widely used;
- By 2015, activities on REDD+ under the UNFCCC have broad participation across developing countries and receive significant financial flows, including for results-based actions that should be fully measured, reported and verified (third phase REDD+);
- By 2015, the enhancement of multiple benefits of REDD+ for biodiversity and indigenous and local communities is an explicit objective in the majority of all national REDD+ strategies and programmes;
- By 2014, national legislation and land use plans or zonation maps have been reviewed and updated in relation to national targets for the maintenance of natural habitats, and spatial planning tools are made available for wide use;
- By 2014, additional measures are taken, as necessary, including for example for the enhancement of land tenure, law enforcement, and the use of incentive measures (http://www.cbd.int/sp/targets/rationale/target-5/).

3. Activities, Funding Needs and Incremental Reasoning

For the purpose of the need's assessment exercise, the emphasis of this target has been put on 3 Elements:

Element 1: Preventing the loss of high-biodiversity value habitats, such as primary forests: FAO published a report in 2010 (http://www.fao.org/news/story/en/item/40893/icode), which states that forest loss has been reduced in the past 20 years. Globally, around 13 million hectares of forests were converted annually to other uses or lost through natural causes between 2000 and 2010 – a 3.25% loss – as compared to around 16 million hectares per year during the 1990s – a 4% loss. Despite a reduction in the loss rate by about 19%, deforestation, mainly the conversion of tropical forests to agricultural land, still continues at an alarmingly high rate in many countries.

Therefore, it is key to strengthen the efforts of eligible countries to reduce the rate of deforestation significantly by improving spatial planning, enforcing existing laws and regulations on both public and private lands, implementing REDD+ schemes, with appropriate safeguards for biodiversity and ILC's rights and livelihood possibilities, improving production efficiency, and recognizing the value of ecosystem services for long term resilience, which prevent the loss of primary forests and other high-value forests.

Element 2: Reducing the rate of loss of important wetlands: Data on the last century's losses of wetlands in Africa, Europe, Asia, and the Americas consistently show figures ranging from 45% to 70% of the areas estimated or measured at the onset of the 20th century (http://www.ramsar.org/cda/en/ramsar-news-archives-2002--a-global-overview-of/main/ramsar/1-26-45-87%5E16905_4000_0__).

With a basis of almost 1.9 million km² of wetlands designated as Ramsar sites, 2006 sites of international importance, a measurable goal for the listed Ramsar sites ("*maintain their ecological character*"), and 48 sites under threat of change of ecological character, these figures provided by the Ramsar Convention provide some basis for partly but explicitly calculating the effort of halving wetland losses (http://www.ramsar.org/cda/en/ramsar-documents-montreux-montreux-record/main/ramsar/1-31-118%5E20972_4000_0).

In addition to Ramsar national action plans, activities under this Target would include:

- Establish new protected areas at the national level for key unprotected wetlands;
- Better manage existing protected wetlands;
- Ensure better enforcement of existing laws and regulations;
- Establish an enabling environment for the sustainable management of wetlands;
- Promote PES and other revenue generating schemes for wetlands conservation (under Target 3);
- Develop regional landscape strategies based on an ecosystem approach.

It is assumed that many activities have already been conducted under the Ramsar Convention. Hence, these activities are primarily viewed as falling under the funding of the Ramsar Convention. Given that the Ramsar Convention may not be able to solely support a 50% reduction of the wetland loss rate, the GEF has a role in supporting the achievement of this Target.

It is important to note that the Rio Conventions converge in their objectives on reducing habitat loss, particularly in reducing deforestation, forest degradation and fragmentation, and in their aim for synergies when considering investments in Target 5.

Aichi Biodiversity Targets (CBD Decision X/2)	REDD+ elements (UNFCCC Decision 1/CP.16)	DLDD and Sustainable Forest Management (SFM) (UNCCD Decision 4/COP.8)
Target 5: By 2020, the rate of loss of all natural habitats, including forest, is brought close to zero, and degradation and fragmentation is significantly reduced	Reducing emissions from deforestation Reducing emissions from forest degradation Conservation of forest carbon stocks	Reinforce SFM as a means of preventing soil erosion and flooding, thus increasing the size of atmospheric carbon sinks and conserving ecosystems and biodiversity. Strengthen the capacity of LFCCs to combat desertification, land degradation and deforestation.

REDD+: Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forest and enhancement of forest carbon stocks in developing countries (REDD+), cf. UNFCCC decision 1/CP.16
Source: Adapted from Joint Liaison Group of the Rio Conventions, 2012.

Very strong synergies exist between this Target's activities and those activities required to achieve Targets 2, 3, 4, 7, 11, 14, and 15. It is recommended that the GEF encourage and promote joint activities, which deliver outputs consistent with all of these Targets.

Element 3: Reducing the rate of loss of habitats in the wider landscape: regional landscape strategies based on the ecosystem approach could create a balance between sustainable use and conservation with a holistic view on the use of the landscape to reduce the loss, degradation and fragmentation of habitats. This should include a bottom-up perspective by involvement of actors from different levels of society. Projects funded by the GEF's Small Grants Programme (SGP) with a total budget of $80,000 US have been carried out in Ghana to produce case study material, conduct community consultations, ensure stakeholder participation identify and pilot indicators for resilience in socio-ecological production landscapes, and contribute to the development of the Landscape Strategy. The baseline assessments were used as instrument for the development and finalization of the Country Programme Landscape Strategies in participating countries (*Landscape Baseline Assessment For The Weto Range,* http://sgp.undp.org/index.php?option=com_sgpprojects&view=projectdetail&id=17859&Itemid=205#.UBpb7kQm_q0). Another SGP project was developed in Ethiopia (http://sgp.undp.org/index.php?option=com_sgpprojects&view=projectdetail&id=17860&Itemid=205#.UBpcvEQm_q0)

Activities to avoid dryland habitat loss are not considered here and are viewed as falling under the UNCCD. Similarly, funding to reduce coastal and marine habitat loss is not estimated under Target 5, as it is considered to be mostly covered by Targets 6, 10, 11 and 15.

3.1 Activities and Funding Needs

Given the present situation three activities are considered to meet the GEF's role within the GEF-6 period and beyond:

Activity 1: Develop a programme to stop deforestation, fragmentation and degradation in primary forests
Scope: One of the most important activities that should be given high priority attention when implementing Target 5 is the reduction of primary forest deforestation, fragmentation, and degradation in accordance with the ecosystem approach and integrated landscape planning. A specific programme should be developed and synergies with the

UNFCCC on reducing emissions from deforestation and forest degradation, the role of conservation and sustainable management of forests, and the enhancement of forest carbon stocks in developing countries (REDD+) should be sought.

Funding estimates: There are several global estimates of the combined annual costs for implementing REDD+. For the purpose of this assessment, the study of Kinderman et al (2008) is used as a basis, which notes that an annual financial flow of between $17 and $28 billion US would be required to halve deforestation by 2030.

Public expenditure for this activity is essentially linked to both the expenditure of establishing and enforcing sound regulatory frameworks of not converting forests such as is done in the REDD+ mechanism. This element, potentially with values in the tens of billions of US$, is prone to strong uncertainties, linked to on-going negotiations on sourcing REDD+ funds and possible synergies with climate change mitigation and adaptation funding resources. Hence, the funding need estimates are with the assumption that an important part will be sourced by REDD+ funding.

Reduction in the degradation and fragmentation of primary forests could be achieved through efficient forest planning and sustainable forest management (SFM). Since 2007, the GEF has increasingly provided resources for REDD+ pilot projects that focus on fostering cross-sectoral cooperation. Pooling investments from different GEF focal areas has proven a valuable tool to harmonize interventions and maximize co-benefits from REDD+. For its fifth replenishment cycle (2010-2014), the GEF further strengthened its commitment to REDD+ financing (http://www.thegef.org/gef/SFM). Currently, the GEF-5 investment in Sustainable Forest Management (SFM) is $250 million US (http://www.thegef.org/gef/SFM_REDD_Incentives) and with the $700 million US from the other Conventions' funds (source CBD Secretariat), the total is $950 million US.
Levels of ambition*:* The GEF programme should scale up forest projects and programmes with a focus on stopping deforestation in primary forests rather than depending only on available REDD+ financed projects through other sources.

The lowest estimated amount to contribute to reducing deforestation is around $2 billion US in situations where there are REDD+ projects in operation that are financed from other sources like funds from climate change, $3 billion US where there is limited REDD+ funding from other sources, and $5 billion US in the absence of any REDD+ funding. These scenarios include the possibility that substantial funding under REDD+ may not materialize, in which case GEF funding for Target 5 should be increased substantially at least as in the level of ambition (c).

Activity 1 evaluated at three levels of ambition for large projects to stop deforestation

a) Implementing this activity when REDD+ funding is already available: $2 billion US
b) Implementing this activity when limited REDD+ funding is available: $3 billion US
c) Implementing this activity when no other REDD+ funding is available: $5 billion US

Activity 2: Prevent wetland ecosystems' loss
Scope: It is hypothesised that to this date, only half of the wetlands are being currently protected as Ramsar sites. There are 1.9 million km^2 of wetlands, consisting of 2006 sites, currently listed under the Ramsar Convention; 48 of these sites are under direct and imminent threat of destruction. The area under threat represents 2.39% of sites (48/2006) and covers 90,820 km^2 (i.e. 1.9 million km^2 x 2 x 2.39%). Considering only GEF eligible countries and assuming these countries represent roughly about 2/3 of the surface of all 162 Ramsar countries, the area in these countries would cover 60,547 km^2 (i.e. 90,820 km^2 x 2/3). To reduce the rate under threat by 50% would mean investing in 30,000 km^2 of threatened wetlands. To bring the rate to zero assumes that all 60,000 km^2 of wetlands under threat are conserved (http://www.ramsar.org/cda/en/ramsar-documents-list/main/ramsar/1-31-218_4000_0).

Funding estimates: Using the cost of wetland conservation establishment and management at $30 US/ha for four years ($10 US /ha for establishment of PA and $5 US per ha per year for management during the four years of GEF-6 period) as a proxy, the investment required to reduce the loss of wetlands under threat by 50% is $90 million US for 30,000 km^2.

Levels of ambition*:* For Target 5, halving the loss of wetlands under imminent threat will require an estimated investment of about $90 million US at the basic level. If all wetlands under imminent threat are to be conserved, it is estimated to cost about $180 million US, while reducing the rate of loss to 75% would cost about $135 million US.

Activity 2 evaluated at three levels of ambition i.e. reduction of losses of wetlands under imminent threat

a) Reduction of area under imminent loss by 50% would require about $90 million US
b) Reduction of area under imminent loss by 75% would require about $135 million US
c) Reduction of area under imminent loss by 100% would require about $180 million US

It is noted that the amount of estimated funding needs for activity 2 strongly correspond with the needs assessment under Target 11 and an overlap is very likely.

Activity 3: Carry out pilot projects on regional landscape strategies based on the ecosystem approach

Scope: The pilot projects on regional landscape strategies based on the ecosystem approach could create a balance between sustainable use and conservation with a holistic view on the use of the landscape to reduce the loss, degradation and fragmentation of habitats. This should include a bottom-up perspective by involvement of actors from different levels of society. The projects could also attempt to identify new working methods as guidance for regional landscape strategies. This activity also relates to Target 7.

Funding estimates: Expenditure for one regional landscape strategy is about $100 000 US, based on examples from the SGP. The amount will be very different depending in what eligible country the landscape strategy is developed.

Level of ambition: If the number of projects is estimated to be 2 pilots for each country with above funding estimation that would end with $200 000 US per country.

Activity 3: calculated for three levels of ambition and $200 000 US per country

a) Implementing this activity in 10 countries would require $2 million US
b) Implementing this activity in 20 countries would require $4 million US
c) Implementing this activity in 30 countries would require $6 million US

3.2 Incremental Reasoning

Activity 1: Develop a programme to stop deforestation in primary forests

Activity 2: Prevent wetland ecosystems' loss

Forest and wetland degradation is a major threat to biodiversity and the provision of ecosystem services, especially carbon sequestration and water regulation. It not only destroys habitats for plants and animals, results in soil erosion and siltation of rivers and streams, destroys the livelihoods of poor forest-dependent people, but it also substantially impacts carbon emissions and climate change. The outlined activities to at least halve the rate of loss would come

both with significant global benefits (preserving and protecting biodiversity, assisting in carbon sequestration, and reducing the impacts of future climate change, which in turn will have substantial global contributions and benefits) and very important long term local benefits (securing key ecosystem services and benefits to local livelihoods and well-being). Given the potential high global environmental benefit of the two activities, the incremental reasoning is considered to be established at 60%.

Activity 3: Carry out pilot projects on regional landscape strategies based on the ecosystem approach
Given the need for landscape strategies to reduce habitat loss, fragmentation and degradation and contribute to conservation and sustainable use of biodiversity that could have global benefits, but do also contribute to national benefits, therefore 60 % incremental reasoning is considered for this activity.

4. Estimates of Funding Needs for the GEF-6 Period

It was estimated that building on the investment in REDD+ and aiming to increase the biodiversity benefits of REDD+ projects by introducing large projects to stop deforestation (Activity 1) would require a total of $2 to $5 billion US during the period 2014-2018 before the application of incremental reasoning. Protection of wetland ecosystems from imminent destruction and loss at various rates would require $90 million to $180 million US, and pilot projects on landscape strategies $2 to $6 million US. The estimated GEF-6 funding needs calculated at 60% incremental reasoning rate are presented in **Table 5**. The needs to avoid habitat loss in primary forests is a main component of Target 5 and depends greatly on the effectiveness of up-coming UNFCCC REDD+ payment scheme implementation at significant levels.

Table 5: Estimated Funding Needs of Aichi Target 5 for the GEF-6 Period

Target 5 - Habitat Loss	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1:							
A1: Develop a portfolio to stop deforestation (with REDD+ funding in operation)	2,000.0			60%	1,200.0		
A2: Prevent wetland ecosystems' loss (50% reduction of area under threat)	90.00			60%	54.00		
A3: Carry out pilot projects on landscape strategies	2.00			60%	1.20		
Level of Ambition 2:							
A1: Develp a portfolio to stop deforestation (with few REDD+ funding in operation)		3,000.0		60%		1800.00	
A2: Prevent wetland ecosystems' loss (75% reduction of area under threat)		135.00		60%		81.00	
A3: Carry out pilot projects on landscape strategies		4.00		60%		2.40	
Level of Ambition 3:							
A1: Develop a portfolio to stop deforestation (with absence of REDD+ funding)			5,000.0	60%			3000.00
A2: Prevent wetland ecosystems' loss (100% reduction of area under threat)			180.00	60%			108.00
A3: Carry out pilot projects on landscape strategies			6.00	60%			3.60
Total for Target 5	2092.00	3139.00	5186.00		1255.20	1883.40	3111.60

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in extent, condition and vulnerability of ecosystems, biomes and habitats
  - Extinction risk trends of habitat dependent species in each major habitat type (A)
  - Trends in extent of selected biomes, ecosystems and habitat (Decision VII/30 and VIII/15) (A)
  - Trends in proportion of degraded/threatened habitats (B)
  - Trends in fragmentation of natural habitats (Decision VII/30 and VIII/15) (B)
  - Trends in condition and vulnerability of ecosystems (C)
  - Trends in the proportion of natural habitats converted
- Trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture
  - Trends in primary productivity (C)
  - Trends in proportion of land affected by desertification (also used by UNCCD) (C)
- Trends in pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers
  - Population trends of habitat dependent species in each major habitat type (A)

  Once again, indicators (A) are for use at global level, (B) possibly at global level and (C) at national and other sub-global level.

Possible indicators and baseline information: In order to determine if the rate of habitat loss has been reduced, there will be a need to establish a baseline against which to gauge progress towards this goal. Relevant indicators include: trends in the extent of selected biomes, ecosystems, and habitats (forest area; mangroves); trends in the abundance and distribution of selected species and the connectivity/fragmentation of ecosystems. Reasonably good data are available for some habitats, such as forests, while for other habitats improvements in data would be needed. The Degradation Initiative of the Collaborative Partnership on Forests has identified, and is further developing, common indicators for monitoring and assessing forest degradation (http://www.cbd.int/sp/targets/rationale/target-5/).

II.2.6 Sustainable Exploitation of Marine Resources (Target 6)

Target 6: By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

1. Technical Rationale

Over-exploitation, including that resulting from illegal, unreported and unregulated (IUU) fishing, is the main pressure on marine ecosystems globally, leading to the loss of biodiversity and ecosystem structure. Global marine capture fisheries are yielding lower harvest and contributing less to the global economy than they could do under stronger policies to manage fish stocks in a way that is sustainable. The World Bank estimates that this situation represents a lost profitability of some $50 billion per year and puts at risk some 27 million jobs directly and the well-being of more than one billion people. The main drivers of overexploitation, such as subsidies leading to over capacity, generally reflect governance failure at international, regional, and national levels.

Better management of harvested marine resources, such as through the increased use of ecosystem based approaches and the establishment of recovery plans for depleted species, is needed to reduce pressure on marine ecosystems and to ensure the sustainable use of marine resource stocks. For example it is estimated that the global fishing fleet is currently 2.5 times larger than what the oceans can sustainably support. However, models suggest that, for some fisheries, on average, modest (~10%) reductions in catch could halve the pressure on marine ecosystems while also contributing to the long-term profitability and sustainability of fishing. Where fisheries are already managed sustainably, no further reductions in fishing pressure may be needed, while in some areas greater reductions might be warranted. Such a reduction in fishing pressure would substantially diminish the likelihood of fishery collapses. Other examples of destructive harvesting and management practices include bottom trawling and dynamite fishing, which physically damage marine environments, such as coral reefs and seamounts, which serve as habitats for marine biodiversity (http://www.cbd.int/sp/targets/rationale/target-6/).

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

Numerous decisions deal with these subjects: Decision X/32 (sustainable use of biodiversity), Decision VIII/21 (Marine and coastal biological diversity, conservation and sustainable use of deep seabed genetic resources beyond the limits of national jurisdiction; Decision VII/12 (Sustainable use (Article 10); Decision VI/13 (Sustainable use); Decision V/24 (Sustainable use as a cross-cutting issue); Decision IV/4 (Status and trends of the biological diversity of inland water ecosystems and options for conservation and sustainable use) among other.

GEF Guidance

COP 10 – Decision X/24: Guidance to the financial mechanism

3.3 Sustainable use (Article 10)

(a) Implementation of the Addis Ababa Principles and Guidelines at the national level to ensure that the use of biological diversity is sustainable.

4.19 Marine and coastal biological diversity
Projects that implement the elaborated programme of work on marine and coastal biodiversity;
(a) Projects that promote the conservation and sustainable use of marine and coastal biodiversity under threat.

COP-10 Decision X-25 198-19 Marine and coastal biodiversity
18. *Invites* the Global Environment Facility and other donors and funding agencies, as appropriate, to consider extending support for capacity-building to eligible countries, in order to implement decision X/29, and in particular, with respect to the invitation in paragraph 38 of decision X/29;

Proposed Milestones
Possible milestones for this target include*:*

- By 2012, Parties should have taken steps to address the management of fishing capacity for international fisheries requiring urgent attention, with priority being given to those harvesting transboundary, straddling, highly migratory, and high seas stocks which are overexploited, depleted, or recovering;
- By 2012, Parties should have eliminated destructive fishing practices;
- By 2012, Parties should develop or update national assessments of fishing capacity and national plans for the management of fishing capacity in line with the Ecosystem Approach, in order to halve the pressure on marine ecosystems by 2015 and end overfishing in both domestic and foreign waters by 2020;
- By 2012, Parties should have submitted alternative fishing plans that comply with the principles of sustainability (economic and ecosystem) and should have begun to implement them so that by 2020 they are fulfilling their goal to eliminate destructive fishing practices;
- By 2012, Parties have taken steps to address the management of international fisheries requiring urgent attention, with priority being given to transboundary, highly migratory, and high seas stocks that are significantly overfished;
- By 2012, Parties should develop or update national assessments of fishing capacity and national plans for the management of fishing capacity, in line with the Ecosystem Approach, in order to halve the pressure on marine ecosystems from unsustainable fishing by 2015;
- By 2012, Parties should have taken all actions relevant to a responsible Flag State, especially with respect to its fishing vessels operating on the high seas;
- By 2012, Parties have prohibited subsidies that contribute to overcapacity and overfishing through the implementation of a transparent and enforceable mechanism;
- By 2012(2014), Parties have agreed, through appropriate Regional Fisheries Management Organizations, arrangements, or through the Food and Agriculture Organization, to collect, exchange and publish basic fisheries data necessary for the proper management of fisheries;
- By 2015, Parties should have restored stocks to levels that can produce maximum sustainable yield;
- By 2015, pressure on marine ecosystems from fishing is halved at the global level;
- By 2015, Parties should have restored XX per cent of fish stocks to levels that can produce maximum sustainable yield;
- By 2015, Parties are implementing measures for the sustainable management of by-catch and have reduced the level of discard by 50 % (http://www.cbd.int/sp/targets/rationale/target-6/).

3. Activities, Funding Needs and Incremental Reasoning

Target 6 contains several components:
a) **Sustainable use of marine resources**: ensure that all marine resources (fish, invertebrates, aquatic plants) are harvested sustainably and within safe ecological limits, and that fisheries have no significant adverse impacts on threatened species. A range of activities may be covered, such as addressing the management of fishing capacity for international fisheries, eliminating destructive fishing practices, implementing measures for the sustainable management of by-catch, and assessing fishing capacity and plans for the management of fishing capacity, etc. By addressing sustainable fisheries with Target 6, Target 7, which addresses terrestrial sustainable use practices, is complemented;

b) Phase out **subsidies** that contribute to overcapacity and overfishing (covered by Target 3);
c) Establish **recovery plans** and measures for all depleted species to restore stocks to levels that can produce maximum sustainable yield (possible overlapping with Target 12).

Focusing on **sustainable fishery**, and considering that this component falls within FAO's mandate and budgeting, GEF's assistance in accordance with CBD guidance can be provided in the form of support to improve and promote sustainable use of marine resources, such as certified fish production. The FAO has released the 2012 edition of the "The State of World Fisheries and Aquaculture," which underscores fisheries' contribution to global food security and economic growth. At the same time, it warns that fisheries are threatened by poor governance, weak fisheries management regimes, conflicts over the use of natural resources, and the persistent use of poor fishery practices. Noting that the promotion of sustainable fishing can provide incentives for wider ecosystem stewardship, the report calls for the "greening" of fisheries. It urges the adoption of an ecosystem approach to fisheries with a fair and responsible tenure systems that turns resource users into resource stewards (http://www.fao.org/news/story/en/item/150839/icode/). Sustainable fisheries will contribute to avoiding Illegal, Unreported and Unregulated Fisheries (IUU).

GEF's global sustainable fisheries management and biodiversity conservation in the Areas Beyond National Jurisdiction (ABNJ) Program promotes efficient and sustainable management of fisheries resources and biodiversity conservation in the ABNJ. Urgent action is needed to improve management of many ABNJ fisheries and strengthen protection of related ecosystems to prevent devastating impacts on marine biodiversity, socio-economic well-being, and food security for millions of people directly dependent on those fisheries. Furthermore, the ABNJ Program helps UN member states better fulfil their obligations under The United Nations Convention on the Law of the Sea (UNCLOS), in particular Articles 116 to 119 on conservation and management of the living resources of the high seas and other relevant articles.

The ABNJ Program was approved by the GEF Council in November 2011. Since then, the GEF has provided $50 million US of grants in the Biodiversity and International Waters Focal Areas, leveraging over $269.7 million so far in co-financing from public and private partners (http://www.thegef.org/gef/ABNJ).

In addition, GEF's current regional projects support inter alia developing and implementing policies, strengthening governance frameworks, plans, and regulations that ensure economic development is consistent with sound environmental management to protect marine resources, and mainstreaming biodiversity conservation into the operation of the fisheries sector (e.g. in the Red Sea with total funding of $5.7 million US and 82.9% through the GEF http://www.thegef.org/gef/project_detail?projID=66; Argentina with total funding of about $7 million US and

32.7% through the GEF http://www.thegef.org/gef/project_detail?projID=3862,; Panama with total funding of $4.3 million US and 38.8% through the GEF http://www.thegef.org/gef/project_detail?projID=3021). Promotion of best practices and incentives for fisheries are also part of such projects.

Another activity that should gain the GEF's support in the future is to establish and carry out **recovery plans** for highly depleted species so that stocks can be restored to levels that can produce maximum sustainable yield. The FAO recently reported that almost 30% of fish stocks are overexploited (http://www.fao.org/news/story/en/item/150839/icode/). Recovery programmes for fish species have already been carried out and significantly range in cost from $1 million US/per year to over $10 million US/per year depending on the scope and timeframe. The US's National Oceanic and Atmospheric Administration (NOAA) stated that the estimated minimum cost of recovery actions for the Atlantic Salmon in Maine were up to $36.6 million US for year 1 to year 3 (http://www.nmfs.noaa.gov/pr/pdfs/recovery/salmon_atlantic.pdf); the cost of the recovery program for the Trout Cod in Australia was estimated at $3.543 million US over five years (http://www.environment.gov.au/biodiversity/threatened/publications/recovery/trout-cod/pubs/trout-cod.pdf). The GEF hasn't granted such projects yet.

This activity is expected to generate global biodiversity benefits and is linked to Target 12 on endangered species and Target 11 on the establishment of marine protected areas for highly depleted marine species.

3.1 Activities and Funding Needs

For the purpose of the need's assessment exercise, the emphasis of this target has been put on:

Activity 1: Develop and promote globally relevant certification of fisheries
Scope: This activity should focus on developing and improving certification of globally relevant sustainable fisheries, incl. improving governance by strengthening fishing rights that provide fishers and fishing communities with incentives to harvest sustainably and efficiently.

Funding estimates: Currently, the value of fishery certification varies from a few thousands US$ to over half a million US$. Cost of certification has four main components: pre-assessment, fishery assessment, chain of custody assessment, and Logo licensing fees/audit fees.

The first two elements depend on the size and complexity of the fishery. From the limited experience to date, pre-assessment costs may range from a few thousand US$ to over $20,000 US and full fishery certification costs may range from $10,000 to $100,000 US for a small fishery and from $100,000 - $500,000 US for a large and complex fishery (http://www.fao.org/docrep/010/ai002e/AI002E05.htm). The cost of custody assessment varies between $1,000 - $5,000 US and depends on the size and complexity of the supply chain (http://oregonstate.edu/dept/iifet/2000/papers/peacey.pdf, of 2000).

Another cost is the logo/audit fee. For companies wanting to use the Marine Stewardship Council (MSC) Logo, they must enter into agreement with MSC International and pay between $250 US and $2000 US for on-product logo use. In addition, royalties for consumer facing (retail) products or menus have to be paid. Royalties are calculated at 0.5% on the value of the seafood sold/purchased (http://www.msc.org/get-certified/use-the-msc-ecolabel/costs). The benefits of certification are numerous for the fishing industry, retailers, and consumers.

Currently, the 168 certified fisheries and 40 - 50 in some stage of pre-assessment account for about 10 million metric tonnes of seafood, or 11% of the annual global harvest of wild capture fisheries. Worldwide, more than 15,000

seafood products, which can be traced back to the certified sustainable fisheries, bear the blue MSC ecolabel (http://www.msc.org/business-support/key-facts-about-msc).

One approach to determine funding estimates in this case could be to use the cost of certification ($100, 000 - $250,000 US) times the number of fisheries. Even taking the lower range of the cost per fishery, the cost could be very high or the various sizes of fisheries may complicate the estimation. Using the number of vessels (more than 4 million http://www.fao.org/docrep/013/i1820e/i1820e.pdf) and considering that about 50% of the vessels are found in Least Developed Countries (LDCs), the following result can be obtained: $100,000 x 2 million vessels at 10% certification level represents $20 billion US.

Due to the lack of time during the needs assessment, the funding estimates could not be explored further; therefore, perhaps the FAO can indicate how to approach this issue: How many fisheries should be included? Which ones represent global priorities? How much does it cost to certify fisheries?

Levels of ambition: This activity may cost between $10 - $30 billion US for a comprehensive global approach depending the certification percentage that is considered 5, 10, or 15%.

Activity 1 evaluated at three levels of ambition (increasing area or size or number of projects)

a) Comprehensive certification projects at the cost of $10 billion US
b) Comprehensive certification projects at the cost of $20 billion US
c) Comprehensive certification projects at the cost of $30 billion US

It is noted that the analysis on *Assessing the Financial Resources Needed to Implement the Strategic Plan for Biodiversity 2012 – 2020 and Achieve the Aichi Biodiversity Targets* by the High Level Panel which is elaborated in parallel to this report may provide better data and evidence to decide on the range of investment needed (SCBD/ITS/RS/78931 www.cbd.int/financial/assessment).

Activity 2: Carry out recovery plans for highly depleted fish species

Scope: The FAO recently reported that almost 30% of fish stocks are overexploited. Therefore, activity 2 should support the recovery plans from highly depleted fish species in GEF eligible countries or in GEF eligible countries with regional fishery agreements. It must still be determined which and how many depleted fish species a recovery plan requires.

Funding estimates: For recovery plans in GEF eligible countries or GEF eligible countries with regional fishery agreements to be implemented and based on experience, it is to be expected that costs will be in the magnitude of approximately $5 million US for a 4-year period.

Levels of ambition: At least five recovery plans should be implemented during GEF-6, which would require a minimum investment of $25 million US. Ten new recovery plans would require $50 million US and 15 additional plans $75 million US respectively.

Activity 2 evaluated at three levels of ambition and $5 US per recovery plan

a) Implementing this activity with 5 recovery plans would require $25 million US
b) Implementing this activity with 10 recovery plans would require $50 million US
c) Implementing this activity with 15 recovery plans would require $75 million US

3.2 Incremental Reasoning

Activity 1: Develop and promote globally relevant certification of fisheries
In numerous developing countries, fisheries are very important sources of income (including export earnings), employment, livelihoods, and nutrition; thereby contributing to poverty alleviation. Although the global benefits of sustainable fisheries are important, their benefits at the national level are even more significant. Hence, for this activity, a 10% level of incremental reasoning is recommended.

Activity 2: Carry out recovery plans for highly depleted fish species
The implementation of recovery plans for highly depleted fish species, which will restore stocks to levels that can produce maximum sustainable yield, will contribute to a significant global biodiversity benefit. Their use will also benefit the regional, national, and local fishery sectors, so that positive economic stimuli are also to be expected. Therefore, the GEF's support will lead to economic progress and the securing of sustainable local livelihoods. Rather, for this activity a 50% level of incremental reasoning is recommended.

Given the GEF's role to generate global benefits, fisheries in ABNJ (e.g. the case of tuna fish) may also be focused on by urgently shifting the harvest of marine resources to more sustainable practices, thereby reducing the direct pressure on depleted marine species.

4. Estimates of Funding Needs for the GEF-6 Period

Activity 1 would require between $10 billion and $30 billion US to implement, and activity 2 between $25 million and $75 US. For activity 1 at 10% incremental reasoning, the amount required during GEF-6 ranges between $1 billion and $3 billion US. For activity 2 at 50% incremental reasoning, the funding amount estimated for GEF-6 ranges between $12.5 million and $37.5 million US. The estimated total amount needed for the two activities is presented in **Table 6**.

Again, it is noted that better data and evidence to decide on the range of investment needed may be provided by the analysis on Assessing the Financial Resources Needed to Implement the Strategic Plan for Biodiversity 2012 – 2020 and Achieve the Aichi Biodiversity Targets by the High Level Panel which is elaborated in parallel to this report (SCBD/ITS/RS/78931 www.cbd.int/financial/assessment).

Table 6: Estimated Funding Needs of Aichi Target 6 for the GEF-6 Period

Target 6 - Marine Resources	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1:							
A1: Develop and promote globally relevant certification of fisheries	10000.0			*10%*	1000.0		
A2: Carry out recovery plans for highly depleted fish species (5 plans x $5 mio US)	25.0			*50%*	12.5		
Level of Ambition 2:							
A1: Develop and promote globally relevant certification of fisheries		20000.0		*10%*		2000.0	
A2: Carry out recovery plans for highly depleted fish species (10 plans x $5 mio US)		50.0		*50%*		25.0	
Level of Ambition 3:							
A1: Develop and promote globally relevant certification of fisheries			30000.0	*10%*			3000.0
A2: Carry out recovery plans for highly depleted fish species (15 plans x $5 mio US)			75.0	*50%*			37.5
Total for Target 6	**10025.0**	**20050.0**	**30075.0**		**1012.5**	**2025.0**	**3037.5**

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture
  - Trends in extinction risk of target and bycatch aquatic species (A)
  - Trends in population of target and bycatch aquatic species (A)
  - Trends in proportion of utilized stocks outside safe biological limits (MDG indicator 7.4) (A)
  - Trends in catch per unit effort (C)
  - Trends in fishing effort capacity (C)
  - Trends in area, frequency, and/or intensity of destructive fishing practices (C)
- Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives
  - Trends in proportion of depleted target and bycatch species with recovery plans (B)

  Once again, indicators (A) are for use at global level, (B) possibly at global level and (C) at national and other sub-global level.

Possible indicators and baseline information: Indicators to measure progress towards this target include the Marine Trophic Index, the proportion of products derived from sustainable sources and trends in abundance and distribution of selected species. However, for several of these indicators, additional data would assist with monitoring progress. Other possible indicators include the proportion of collapsed species, fisheries catch, catch per unit effort, and the proportion of overexploited stocks. Baseline information for several of these indicators is available from the work conducted by the Food and Agriculture Organization of the United Nations. Possible process indicators could include the incidence of cooperation with the scientific bodies of Regional Fisheries Management Organizations (http://www.cbd.int/sp/targets/rationale/target-6/).

II.2.7 Sustainable Agriculture, Forestry and Aquaculture (Target 7)

Target 7: By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

1. Technical Rationale

The ecologically unsustainable consumption of water, use and run-off of pesticides and excess fertilizers, and the conversion of natural habitats to uniform monocultures, amongst other factors, has major negative impacts on biodiversity inside and outside of agricultural areas, as well as on forest, inland water and coastal ecosystems. The increasing demand for food, fibre and fuel will lead to increasing losses of biodiversity and ecosystem services if issues related to sustainable management are not addressed. On the other hand, sustainable management not only contributes to biodiversity conservation but can also deliver benefits to production systems in terms of services such as soil fertility, erosion control, enhanced pollination and reduced pest outbreaks, as well as contributing to the well-being and sustainable livelihoods of local communities engaged in the management of local natural resources (http://www.cbd.int/sp/targets/rationale/target-7/).

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

This target is related to relevant decisions on sustainable use of biodiversity (Addis Ababa Principles and Guidelines), agricultural biodiversity, forest biodiversity, and dry and sub-humid lands biodiversity the details of which are found in the CBD Secretariat's websites (http://www.cbd.int).

COP VIII/1 - Island biodiversity
Target 4.1: Island biodiversity-based products are derived from sources that are sustainably managed, and production areas managed, consistent with the conservation of biological diversity
Priority activity 4.2.1.9 Address the impacts of unsustainable aquaculture and promote sustainable aquaculture practices…

COP VIII/23 - Agricultural biodiversity
Element 3. Conserving and promoting wider use of biodiversity for food and nutrition
Activity 3.5 Promotion, conservation and sustainable use of important biodiversity, at all levels associated with agriculture, forestry and aquaculture systems.

GEF Guidance

COP 10: Decision X/24 – Guidance to the financial mechanism
4.7 Sustainable use (Article 10)

(a) Implementation of the Addis Ababa Principles and Guidelines at the national level to ensure that the use of biological diversity is sustainable.

4.16: Forest biological diversity specifies among other:
(a) Projects focusing on the identified national priorities, as well as regional and international actions that assist the implementation of the expanded work programme considering conservation of biological diversity, sustainable use of

its components and fair and equitable sharing of the benefits from genetic resources in a balanced way, underscoring the importance of ensuring long-term conservation, sustainable use, and benefit-sharing of native forests.

4.17: Agricultural biological diversity
(a) Projects that assist with the implementation of the Plan of Action for the International Initiative for the Conservation and Sustainable Use of Pollinators;
(b) Projects that implement the Convention's programme of work on agricultural biodiversity.

4.21: Dry and sub-humid lands
(a) Projects that promote the conservation and sustainable use of biological diversity in arid and semi-arid areas.

Proposed Milestones
Possible milestones for this Target include:
- By 2012, all Parties have identified or developed and promoted sustainability criteria and/or good practices for agriculture, aquaculture and forestry;
- By 2015, the area of agriculture, aquaculture and forestry managed according to sustainability criteria has doubled (http://www.cbd.int/sp/targets/rationale/target-7/).

3. Activities, Funding Needs and Incremental Reasoning

The COP guidance related to Target 7 does not appear to be very precise. Hence, it is considered that activities focusing on sustainable agriculture, aquaculture, and forestry primarily fall within FAO's mandate and budgeting. GEF's assistance in accordance with CBD guidance may be provided inter alia in the form of support to improve and promote measures and practices of sustainable agriculture, aquaculture, and forestry, such as certified production and the application of standards. The CBD Secretariat's website provides information on various standards and certification schemes (http://www.cbd.int/en/business/tools-and-mechanisms/standards). To achieve Target 7, the GEF may take the role of stimulating market transformation in order to urgently shift unsustainable practices to more sustainable ones.

Sustainable agriculture
According to FAO's bi-annual statistics for 2004/2005, the total area under sustainable practices was 98.8 million ha, roughly about 6% of arable land in the world. Approximately, one fourth of this is in developing countries, i.e. approximately 25 million hectares. GEF investments should assist to double this area by 2020.

FAO should provide detailed information on the area under sustainable agriculture and on how to achieve doubling this area. The main challenge in this case will be balancing food production, biodiversity protection and safeguarding ecosystem services. Since, small-scale production generally has relatively lower impact on biodiversity loss than large scale production the GEF may specifically finance projects in that field. Examples are
- Model or pilot activities for small and medium-scale producers.
- Biodiversity conservation and sustainable use through establishing green value chains and the provision of quality products on the market.
- Support of organic production through establishing of enabling production conditions linked to markets.

Since there are already many such pilot projects, the best way is to learn from them, to replicable projects to scale up the implementation of Target 7.

The GEF recently started to provide funds to develop projects that specifically focus on implementing Target 7 as related to sustainable agriculture. An example of GEF support on this activity is the project *Mainstreaming Biodiversity in Palm Cropping in Colombia with an Ecosystem Approach* with a US $4.25 million GEF grant (15%) and US $14.3 million in co-finance. This five year project seeks to (i) lower the percentage of new palm-growing areas that displace High Conservation Value Areas (HCVA), (ii) increase HCVA surface area in palm-production units that is legally protected and under conservation management (protection and restoration), and (iii) increase average net income of small-scale palm producers associated with the project as a result of their participation (http://www.thegef.org/gef/news/mainstreaming-biodiversity-conservation-palm-cropping-colombia).

GEF is contributing $5 million US (25%) and mobilizing an additional $15 million from co-financing partners to an initiative that will bring together cocoa producers, small chocolate commercializing businesses as well as the chocolate industry, and focus on improving the way cocoa is being cultivated and commercialized. The project will harness the growing private sector commitment to sustainable practices. This will have a positive effect on all actors within the value chain of cocoa, stabilize the cocoa price, and increase the income for small producers. The work will run for six years and focus on a good geographical spread of 10 countries that were chosen by the significance of their biodiversity and the industry's interest in producing countries. Ecuador, Peru, Brazil and the Dominican Republic were selected in Latin America, Ivory Coast, Ghana, Madagascar and Nigeria in Africa and Papua New Guinea and Indonesia in Asia. (http://www.thegef.org/gef/press_release/Ecuador_cocoa).

Sustainable aquaculture

Since the 1970's, global aquaculture production has grown rapidly at a rate of about 9% per year. Currently, aquaculture produces at least 50% of the world's consumed seafood. As the demand for fish protein increases and the ability of wild fish stocks to meet this demand continues to decline due to overfishing and insufficient regulation, aquaculture production will likely continue to grow in the future. In fact, aquaculture is now the fastest growing form of food production on the planet.

The FAO has released the 2012 edition of the "*The State of World Fisheries and Aquaculture*." The report underscores fisheries' and aquaculture's contribution to global food security and economic growth, but warns that they are threatened by poor governance, weak fisheries management regimes, conflicts over the use of natural resources, and the persistent use of poor aquaculture practices. Noting that the promotion of sustainable fish farming can provide incentives for wider ecosystem stewardship, the report calls for the "greening" of aquaculture. It urges the adoption of an ecosystem approach to aquaculture with fair and responsible tenure systems in order to turn resource users into resource stewards (http://www.fao.org/news/story/en/item/150839/icode/).

Sustainable Forestry

The concept of sustainable forest management (SFM) encompasses both natural and planted forests in all geographic regions. All forest functions, such as conservation, production, ecosystem functions and other environmental or social purposes, should be managed to provide a range of ecosystem goods and services with local, national and global benefits. Sustainably managed forests can enhance the provision of wood and non-timber forest products for the approximately 1.6 billion people who depend on forests for their livelihoods. Forest ecosystems are also expected to play a key role in helping people in developing countries adapt to the effects of climate change.

The Collaborative Partnership on Forests' Advisory Group on Finance's 2012 study stated: *The global need for funding for sustainable forest management is estimated to be between USD 70 and USD 160 billion per year* (http://www.un.org/esa/forests/pdf/AGF_Study_July_2012.pdf).

Since its inception in 1991, the GEF has financed over 300 projects and programs focusing on forest conservation and management in developing countries with a total GEF allocation to forest initiatives amounts of more than $1.6 billion US, and $5 billion US leveraged from other sources (average GEF share of about 25%). Drawing on guidance from the three international conventions dealing with forests (CBD, UNFCCC and UNCCD) the GEF has funded projects that can be broadly classified into three categories (http://www.thegef.org/gef/SFM):

a) Forest conservation (primarily protected areas and buffer zones, related to Target 11)
b) Sustainable use of forests (forest production landscapes)
c) Sustainable forest management (addressing forests and trees in the wider landscape).

According to the GEF Secretariats' analysis of projects over the last years with GEF Trust Fund contributions between 10% and 50%, the GEF's financing of SFM projects ranges between US $20 million and US $40 million (see Document GEF/C.27/14 http://www.thegef.org/gef/SFM).

GEF's strategy during GEF-5 is to invest up to $1 billion US in the world's forests in pursuit of multiple environmental and economic benefits ranging from the improved management of all forest types to strengthened sustainable livelihoods for people who depend on forest resources. The SFM/REDD+ program presents developing countries with plans for sustainable forest management through the reduction of emissions resulting from deforestation and forest degradation. The program recognizes that forests have a range of uses that help achieve multiple benefits for forest users while addressing forest biodiversity and climate change, maintaining livelihoods, and consolidating forests' role in countries' development projects. Some projects have already been approved using funds from the GEF STAR country allocation, Least Developed Country Fund (LDCF), and other sources to achieve multi benefits at the global, national, and local level (http://www.thegef.org/gef/content/fast-track-protected-productive-forests-gef-5-sfmredd-projects). Hence, the SFM/REDD+ program also very much serves the implementation of Target 5 and Target 14.

3.1 Activities and Funding Needs

The GEF may consider with the FAO how to collaborate in the best way and provide GEF funding for suitable activities to complement FAO's measures to achieve Target 7. The aim should be to double the area of agriculture, aquaculture, and forestry managed according to sustainability criteria by 2020. Successfully meeting this challenge will be critical for the achievement of Target 7.

It is noted that the analysis on *Assessing the Financial Resources Needed to Implement the Strategic Plan for Biodiversity 2012 – 2020 and Achieve the Aichi Biodiversity Targets* by the High Level Panel, which is elaborated in parallel to this report, may provide better data and evidence to decide on the costs of activities and measures to implement Target 7 (see I.2.4).

Activity 1: Develop and promote sustainable agriculture
Scope: This activity should focus on developing and improving certification of sustainable agriculture with projects that seek to promote the adoption of biodiversity friendly agro-ecological practices in developing countries.

Funding estimates: For projects on promoting sustainable agriculture in GEF eligible countries based on ongoing GEF experience, it is considered that funding will be necessary in the magnitude of approximately $20 million US per project.

Levels of ambition: To scale funding to achieve Target 7 at least 10 new projects should be implemented during GEF-6, which would require a minimum investment of $200 million US. If twenty and 30 new projects are implemented $400 million US and $600 million US respectively would be require. Due to a lack of information it cannot be envisaged how these projects will contribute to the goal of doubling the area of sustainable agriculture by 2020.

Activity 1 evaluated at three levels of ambition and $20 US per sustainable agriculture project

a) Implementing this activity with 10 new projects would require $200 million US
b) Implementing this activity with 20 new projects would require $400 million US
c) Implementing this activity with 30 new projects would require $600 million US

Activity 2: Sustainable aquaculture (pending)

The GEF hasn't invested in aquaculture certification projects yet. However, FAO carried out projects to promote and implement sustainable aquaculture systems, e.g. in Nigeria (2008) and Zambia (2011), with a budget per project of about US $400,000. In Nigeria, the aim was to improve food security for the most vulnerable populations (http://coin.fao.org/cms/world/nigeria/Projects.html). In Zambia, the FAO supported aqua-farmers to develop viable, sustainable aquaculture under a programme for Small and Medium Scale Enterprise farmers. These enterprises contribute to a diversification of livelihoods, improved nutritional status, increased income-generating capacity, as well as improved employment opportunities (http://coin.fao.org/cms/world/zambia/Projects.html).

Best aquaculture practices and certification systems have already been developed that advance environmentally and socially responsible aquaculture and a safe supply of seafood to meet growing world food needs. Information on standards is provided on the CBD website (http://www.cbd.int/en/business/tools-and-mechanisms/standards).

Due to a lack of information to estimate funding needs in this study, activities are not elaborated further. The global assessment of the High Level Panel may provide better data and evidence to decide on the costs of activities regarding sustainable aquaculture. Hence, the issue should be considered later.

Activity 3: Enhance the sustainable forest management programme

Scope: In GEF-6, the SFM/REDD+ program should continue with the same approach as outlined in the GEF-5 strategy to achieve multi benefits and to also serve Target 5.

Funding estimates: According to the Collaborative Partnership on Forests' Advisory Group on Finance's 2012 study, more funding should be provided to meet the funding gap. The GEF should contribute substantially to address this funding gap through scaling up its SFM/REDD+ program.

Levels of ambition: The financial needs range between $70 billion US and $160 billion US and it is assumed that total public funding needs in GEF-eligible countries will be at least $10 billion US to about $30 billion US throughout the GEF-6 period. Hence, the following three levels of ambition are considered:

Activity 3 evaluated at three levels of ambition (different scales of programme…

a) Enhancing sustainable forest management programme with $10 billion US
b) Enhancing sustainable forest management programme with $20 billion US
c) Enhancing sustainable forest management programme with $30 billion US

3.2 Incremental Reasoning

Activity 1: Develop and promote sustainable agriculture

Activity 2: Sustainable Aquaculture (pending)

Activity 3: Enhance the sustainable forest management programme
Implementing the activities under Target 7 projects and programmes on sustainable agriculture, aquaculture, and forestry are expected to generate large amounts of global, local and national benefits including contribution to sustainable economic development and poverty alleviation. It is considered that the activities must be designed to generate at least 50% global benefits.

4. Estimates of Funding Needs for the GEF-6 Period

Estimated total amounts required for promoting sustainable agriculture and aquaculture may be identified when better evidence is available.

Estimated funding needs of the selected activity on sustainable agriculture for GEF-6 range between $200 million US and $600 billion US before accounting for incremental reasoning. Applying incremental reasoning of 50%, the funding amounts for the three levels of ambition are $100, $200 and $300 million US. The activities related to sustainable forest management will need the most with at least between $10 billion US to $30 billion US in estimated total needs and between $5 billion US and $15 billion US after incremental reasoning. The estimated funding needs before and after applying incremental reasoning are presented in **Table 7**. Scenario 2 and 3 estimates are expected to significantly scale up financing and increase efforts towards sustainability of the sectors.

Table 7: Estimated Funding Needs of Aichi Target 7 for the GEF-6 Period

Target 7 - Sustainable Agriculture et al	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1:							
A1: Sustainable agriculture	200.0			50%	100.0		
A2: Sustainable aquaculture	pending						
A3: Sustainable forestry (SFM)	10,000.0			50%	5,000.0		
Level of Ambition 2:							
A1: Sustainable agriculture		400.0		50%		200.0	
A2: Sustainable aquaculture		pending					
A3: Sustainable forestry (SFM)		20,000.0		50%		10,000.0	
Level of Ambition 3							
A1: Sustainable agriculture			600.0	50%			300.0
A2: Sustainable aquaculture			pending				
A3: Sustainable forestry (SFM)			30,000.0	50%			15,000.0
Total for Target 7	**10,200.0**	**20,400.0**	**30,600.0**		**5,100.0**	**10,200.0**	**15,300.0**

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture
  - Trends in population of forest and agriculture dependent species in production systems (B)
  - Trends in production per unit (B)
  - Trends in proportion of products derived from sustainable sources (Decision VII/30 and VIII/15) (C)
- Trends in integration of biodiversity, ecosystems services and benefits sharing into planning, policy formulation and implementation and incentives
  - Trends in area of forest, agricultural and aquaculture ecosystems under sustainable management (Decision VII/30 and VIII/15) (B)

Indicators (A) are for use at global level, (B) possibly at global level and (C) at national and other sub-global level.

Possible indicators and baseline information: Relevant indicators for this target include: the area of forest, agricultural and aquaculture ecosystems under sustainable management; the proportion of products derived from sustainable sources; and trends in genetic diversity of domesticated animals, cultivated plants and fish species of major socioeconomic importance. Other possible indicators could include: the Ecological Footprint and related concepts; the extent of the use of good agricultural practices; the quality of forest governance; and the proportion of products derived from sustainable sources. Existing sustainability certification schemes could provide baseline information for some ecosystems and sectors (http://www.cbd.int/sp/targets/rationale/target-7/).

I.2.8 Pollution Reduction (Target 8)

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

1. Technical Rationale

Nearly all Parties indicated in their fourth national reports that pollution was posing a threat to biodiversity. Nutrient loading, primarily of nitrogen and phosphorus, is a major and increasing cause of biodiversity loss and ecosystem dysfunction, particularly in wetland, coastal and dryland areas, including through eutrophication and the creation of hypoxic "dead zones" associated with severe losses of valuable ecosystem services. These issues pose an increasing threat to biodiversity conservation in the world. Humans have already more than doubled the amount of "reactive nitrogen" in the biosphere, and business-as-usual trends would suggest a further increase of the same magnitude by 2050. This Target is consistent with, and complementary to, work under the Rotterdam and Stockholm Conventions and the Target established in the Johannesburg Plan of Implementation (parag. 23) to achieve, by 2020, a situation where chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment (http://www.cbd.int/sp/targets/rationale/target-8/).

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

This Target is related to relevant decisions on inland water biodiversity, marine and coastal biodiversity, and the International Initiative on Soil Biodiversity.

GEF Guidance

Guidance related to agricultural sustainability and climate change also applies to this Target. Pollution and nutrient loads impact biodiversity and human health and contribute to climate change and its further impacts on economic and social conditions.

Proposed Milestones

Possible milestones for this Target include:

- By 2014, Parties have developed national assessments of the impact of heavy metal, chemical and nutrient loading and other pollution on ecosystems and have developed strategies and polices to reduce such pollution;
- By 2015, most ecosystems show declining heavy metal, chemical and nutrient loads and levels of other pollutants (http://www.cbd.int/sp/targets/rationale/target-8/).

3. Activities, Funding Needs and Incremental Reasoning

The better control of pollution sources, including the prevention of heavy metal waste discharges, efficiency in fertilizer use, and the better management of animal wastes, coupled with the use of wetlands plants as a natural filtration system where appropriate, can be used to bring nutrient levels below those that are critical for ecosystem functioning, while also allowing for increased fertilizer use in areas where it is necessary to meet soil fertility and food security needs.

The EU has successfully promoted regulations to this end, e.g the Agricultural Nitrates Directive (http://europa.eu/legislation_summaries/environment/water_protection_management/l28013_en.htm), and similar approaches are feasible in other developed and emerging economies. Similarly, the development of national water quality guidelines could help to limit pollution and excess nutrients from entering freshwater and marine ecosystems (i.e. EU Water Framework Directive http://europa.eu/legislation_summaries/environment/water_protection_management/l28002b_en.htm).

This target is relevant to several programmes of work but, in particular, to those dealing with inland water biodiversity, marine and coastal biodiversity. Examples of activities are to promote appropriate and efficient fertilizer use and disposal of livestock waste (good agricultural practices); improve sewage treatment; wisely use wetlands; better control point and non-point pollution sources and deposition of heavy metals; and develop national water quality guidelines. The basic goal is to ensure that biodiversity loss is arrested in critical biodiversity habitats characterized by agro-ecosystems that are affected by unsustainable agricultural practices.

All of these issues may require national interventions.

3.1 Activities and Funding Needs

In a large number of countries, integrated watershed management projects are in vogue. However, the biodiversity conservation outcomes from these projects are insignificant since they mainly focus on soil engineering, mechanical structure works, and planting activities that are insensitive to local biodiversity.

This Target may be covered by activities under Target 10 in terms of reducing pollution from watersheds that affect coastal and marine ecosystems, and to Target 7 in terms of good practices of agriculture, aquaculture and forestry.

Given an overlap to chemicals other fora such as the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants (POPs) may develop activities to address pollution, e.g. under the POPs focal area.

In the future, actions may be needed to address the problem of marine debris, which is becoming increasingly apparent (see SBSTTA recommendation XVI/5). Activities related to this issue may be addressed under the International Waters focal area of the GEF, but due to the lack of information, this was not calculated here.

Ultimately no activities under this Target are considered.

4. Estimates of Funding Needs for the GEF-6 Period

Not elaborated further.

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers:
  - Trends in natural regeneration of keystone species in watersheds concerned
  - Trends in agricultural cropping patterns and impact on non-point source based chemical/nutrient pollution on keystone micro-organisms, avian species, mammals and fisheries through contamination of aquifers and surface water source including wetlands (A)
  - Trends in incidence of hypoxic zones and algal blooms (A)
  - Trends in water quality in aquatic ecosystems (A) (decisions VII/30 and VIII/15)
  - Impact of pollution on extinction risk trends (B)
  - Trends in pollution deposition rate (B) (decisions VII/30 and VIII/15)
  - Trends in sediment transfer rates (B)
  - Trend in emission to the environment of pollutants relevant for biodiversity (C)
  - Trend in levels of contaminants in wildlife (C)
  - Trends in nitrogen footprint of consumption activities (C)
  - Trends in ozone levels in natural ecosystems (C)
  - Trends in proportion of wastewater discharged after treatment (C)
  - Trends in UV-radiation levels (C) http://www.cbd.int/recommendation/sbstta/?id=12968

  Indicators (A) are for use at global level, (B) possibly at global level and (C) at national and other sub-global level.

Possible indicators and baseline information: Relevant indicators include enhancement of natural regeneration and conservation of local keystone species in watersheds concerned apart from assessment of changes in nutrient/heavy metal, nitrogen/phosphorus and heavy metal deposition on water quality in fresh water ecosystems. Other possible indicators could be the Ecological Footprint and related concepts, total nutrient use, nutrient /toxic metal loading in freshwater and marine environments, and the incidence of hypoxic zones and algal blooms. Data, which could provide baseline information already, exists for several of these indicators, including the incidence of marine dead zones (an example of human-induced ecosystem failure) and the global aerial deposition of reactive nitrogen (http://www.cbd.int/sp/targets/rationale/target-8/).

II.2.9 Control of Invasive Alien Species (Target 9)

Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated and measures are in place to manage pathways to prevent their introduction and establishment.

1. Technical Rationale

Invasive alien species are those alien species, which threaten ecosystems, habitats, or species (Article 8(h)). They are a major threat to biodiversity and ecosystem services, as identified by most Parties in their fourth national reports. They often have a particularly detrimental effect in island ecosystems. In some ecosystems, such as many island ecosystems, invasive alien species are the leading cause of biodiversity loss. In addition, invasive alien species can pose a threat to food security, human health and economic development. Increasing trade and travel means the threat is likely to increase unless additional action is taken (http://www.cbd.int/sp/targets/rationale/target-9/).

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

Recognizing an urgent need to address the negative impact of invasive alien species, COP 4 established *Invasive Alien Species* as a crosscutting issue (decision IV/1C). COP 6 adopted the *Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species* (decision VI/23). The issue of invasive alien species was also addressed in the following COP decisions VII/13, VIII/27, IX/4 and X/38. The latter is entirely devoted to invasive alien species. SBSSTA 15 presents various recommendations to the Conference of the Parties on different issues related to invasive alien species.

GEF Guidance

Review of guidance to the financial mechanism (Decision X/24):

Consolidated guidance to the financial mechanism of the Convention

4.5 Invasive alien species (Article 8(h))

(a) Capacity-building to prevent or minimize the risks of the dispersal and establishment of invasive alien species at the national, subregional, or regional levels;

(b) Projects that assist with the development and implementation, at national and regional levels, of the invasive alien species strategies and action plans, in particular those strategies and actions related to geographically and evolutionarily isolated ecosystems;

(c) Improved prevention, rapid response and management measures to address threats of alien invasive species, in accordance with its mandate.

Proposed Milestones

Possible milestones for this Target include:

- By 2014, potential pathways for invasive alien species are identified using a risk assessment framework, and lists of the most harmful invasive species are developed;
- By 2014 action plans are developed and relevant legislation is reviewed;
- By 2016, actions have been taken to address the most important introduction pathways and the most serious invasions;
- By 2020, the measures, which have been put in place, have been assessed to determine their impact (http://www.cbd.int/sp/targets/rationale/target-9/).

3. Activities, Funding Needs and Incremental Reasoning

The Global Invasive Species Programme (GISP) was tasked to provide advice to Governments and organizations on actions to be taken at national and regional levels to implement Article 8(h) of the CBD (paragraphs 14a, 18 and 19 in Decision VI/23). Due to the closure of GISP the needed assistance for capacity building to developing countries to address invasive alien species has virtually fallen in abeyance. The tools developed by the GISP in earlier time had provided effective assistance. However, such tools should be revised with the recent changes of international standards and codes of conduct of the relevant international organizations that set international regulatory framework relevant to invasive alien species, as well as with the latest findings in sciences related to biological invasions.

Activities should consider the most resource effective measures to address the issue of invasive alien species with prioritization of measures using *Invasive Species Management Framework*. Implementing measures to control pathways and development of early detection and rapid response mechanism require sufficient capacity to identify alien species, and to report the facts to appropriate management authorities to take actions. Trainings for (i) species identification, (ii) risk analysis, (iii) database management and (iv) risk communication, including awareness-raising among the relevant sectors and local communities, are critical set of capacity building.

In terms of implementing *Invasive Alien Species Management Frameworks* the GEF already addressed the issue systemically through developing sectoral policy, regulations, and institutional arrangements for the prevention and management of invasions emphasizing a risk management approach by focusing on the highest risk invasion pathways.

The GEF funded during the last years more than 10 projects to address the implementation of Invasive Alien Species Management Frameworks, ranging in size from $2 million US to $40 million US with a GEF support between 18% to 85%: e.g. *Strengthening Capacity to Control the Introduction and Spread of Alien Invasive Species, Sri Lanka* (http://www.thegef.org/gef/project_detail?projID=2472) with GEF funding of 85% out of a total funding of $2 million US; *Control of Invasive Species in the Galapagos Archipelago, Ecuador* (http://www.thegef.org/gef/project_detail?projID=763) with GEF funding of 44% out of a total funding of $41.5 million US; *Mainstreaming Prevention and Control Measures for Invasive Alien Species into Trade, Transport and Travel Across the Production Landscape, Seychelles* (http://www.thegef.org/gef/project_detail?projID=3254) with GEF funding of 30% out of a total funding of $6.6 million; *Strengthening of Governance for the Protection of Biodiversity through the Formulation and Implementation of the National Strategy on Invasive Alien Species (NSIAS), Argentina* (http://www.thegef.org/gef/project_detail?projID=4768) with GEF funding of 18% out of a total funding of $22 million US. The average size of a project is $13.5 million US and the GEF funding ratio about 36%.

In future priority should be given to establishing policy measures that reduce the impact of invasive species on the environment, including through prevention of new incursions, early detection and institutional frameworks to respond rapidly to new incursions (http://www.thegef.org/gef/sites/thegef.org/files/documents/GEF.C.35.Inf_.13.pdf). In recognition of the importance that Target 9 places on the threat that invasive alien species pose to biodiversity, particularly in islands and island states, and most often in productive lands and oceans, the GEF should continue to support the development of regulatory and management frameworks to prevent, control and manage these species.

Actions to implement the International Convention for the Control and Management of Ships' Ballast Water and Sediments, which seeks to prevent the spread of organisms carried in ships' ballast water, also help to achieve progress towards this Target.

3.1 Activities and Funding Needs

Target 9 requires the implementation of Invasive Alien Species Management Frameworks (IASF) with various types of projects that can address different activities according to the situation in the GEF eligible country.

Activity 1: Implement Invasive Alien Species Management Frameworks
Scope: Projects to implement an appropriate country-specific framework could contain inter alia:

- *Improvement of border control and quarantine:* pathway identification, pathway control and management, development of national list of most harmful invasive species in order to control the spread of IAS,
- *Early warning mechanisms, rapid response measures:* capacity building for species identification, development of alert systems, engagement of public and private sectors, public awareness, capacity building for eradication.
- *Implementation of international standards:* This includes codes of conduct and other relevant measures, and development or update of National Invasive species Strategies and Action Plans, risk analysis, national legislation, regional harmonization of action plans and legislations,
- *Global support program for technical assistance and capacity building support mechanism: re*-establishment of Global Invasive Species Programme or its equivalent, establishment of capacity building support mechanisms.

Funding estimates: Current GEF funded projects to cover the implementation of Invasive Alien Species Management Frameworks range in size from $2 million US to $40 million US. It is proposed to allocate at least an amount of $10 million US per project and country.

Levels of ambition: The activity would require $10 million US per country or project and assuming that several eligible countries still need to implement a IAS framework it is considered that GEF-6 should provide funds for 5, 10 and 20 countries or projects respectively. The activity should be continued in GEF-6 in order to serve the achievement of the Target.

Activity 1 evaluated at three levels of ambition with $10 million US per project)

a) Invasive Alien Species Management Frameworks in 5 countries would require $50 million US
b) Invasive Alien Species Management Frameworks in 10 countries would require $100 million US
c) Invasive Alien Species Management Frameworks in 15 countries would require $150 million US

Note that invasive species strategies and action plans should be included as a component of updated National Biodiversity Strategies and Action Plans (NBSAPs). If countries do not have invasive species strategies and action plans in their NBSAPs yet, this activity is suitable to serve the integration into the NBSAP (Target 17).

3.2 Incremental Reasoning

Activity 1: Implement Invasive Alien Species Management Frameworks

Alien species that become invasive are considered to be a main direct driver of biodiversity loss across the globe and a huge threat to businesses. The economic impact of invasive species is estimated at $1.4 trillion US globally, i.e. 5% of global GDP (GISP, n. d.). Given the substantial threat presented by invasive alien species not only at national but also global level, and the significant expected global and national benefits that their control could have, incremental reasoning is considered at 80%.

4. Estimates of Funding Needs for the GEF-6 Period

For additional projects within GEF-6, the total amount of financial needs would be between $50 million US and $150 million US for the activity before applying incremental reasoning. This Target will require between $40 million and $120 million US in total funding needs after accounting incremental reasoning (**Table 9**).

Table 9: Estimated Funding Needs of Aichi Target 9 for the GEF-6 Period

Target 9 - Invasive Alien Species	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 5 projects / countries A 1: Implement Invasive Alien Species Management Frameworks	50.0			*80%*	40.0		
Level of Ambition 2: 10 projects / countries A 1: Implement Invasive Alien Species Management Frameworks		100.0		*80%*		*80.0*	
Level of Ambition 3: 15 projects / countries A 1: Implement Invasive Alien Species Management Frameworks			150.0	*80%*			120.0
Total for Target 9	**50.0**	**100.0**	**150.0**		**40.0**	**80.0**	**120.0**

5. Indicator and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers:
  - Trends in the impact of invasive alien species on extinction risk trends (A)
  - Trends in the economic impacts of selected invasive alien species (B)
  - Trends in number of invasive alien species (B) (Decision VII/30)
  - Trends in incidence of wildlife diseases caused by invasive alien species (C)
- Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives
  - Trends in policy responses, legislation and management plans to control and prevent spread of invasive alien species (B)
  - Trends in invasive alien species pathways management (C)

(A) refers to consideration at global level, (B) possibly at global level and (C) at national and other sub-global level.

Possible indicators and baseline information: Process indicators for this target could include the number of countries with national invasive species policies, strategies and action plans, and the number of countries that have ratified international agreements and standards related to the prevention and control of invasive alien species. One outcome-oriented indicator is trends in invasive alien species while other possible indicators could include the status of alien species invasion, and the Red List Index for impacts of invasive alien species. However, well-developed and globally-applicable indicators are lacking, some basic methodologies do exist which can serve as a starting point for further monitoring or provide baseline information. The work undertaken by the Global Invasive Species Programme, as well as by IUCN's Invasive Species Specialist Group, could be useful starting points in this regard. Further, many countries do have data on invasions and pest outbreaks and therefore national-level targets might be developed (http://www.cbd.int/sp/targets/rationale/target-9/).

II.2.10 Coral Reefs and Other Vulnerable Ecosystems (Target 10)

Target 10: By 2015 the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning

1. Technical Rationale

In addition to warming caused by the greenhouse effect, increased atmospheric CO2 leads to ocean acidification. Both pressures need to be considered in elaborating policy response options to climate change for coral reefs and other vulnerable ecosystems. However, given ecological and policy inertias, it is important to urgently reduce the other anthropogenic pressures on these vulnerable ecosystems, such as land-based pollution/sedimentation, unsustainable harvesting and physical pressures, so as to increase their resilience to climate change and ocean acidification. Given this urgency, a deadline for 2015 has been adopted for this target (http://www.cbd.int/sp/targets/rationale/target-10/).

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

Multiple programmes of work, including those on climate change and biodiversity, and marine and coastal biodiversity, are relevant to this Target. There are numerous Decisions about climate change and biodiversity[2]. COP 8 Decision VIII/23 on Agricultural biodiversity addressed crosscutting initiatives on biodiversity for food and nutrition (compare with International Initiative on Food and Nutrition) and proposed a corresponding framework. Decisions VII/5 and X/29 regard marine and coastal biodiversity, of which coral reefs are a part.

GEF Guidance

COP – 10 - Decision X/24: Review of Guidance to the Financial Mechanism

4.19 Marine and coastal biological diversity

(a) Projects that implement the elaborated programme of work on marine and coastal biodiversity;

(b) Country-driven activities aimed at enhancing capabilities to address the impacts of mortality related to coral bleaching and physical degradation and destruction of coral reefs, including developing rapid response capabilities to implement measures to address coral-reef degradation, mortality and subsequent recovery;

4.23 Climate change and biodiversity

(a) Capacity-building with the aim of increasing the effectiveness in addressing environmental issues through their commitments under the Convention on Biological Diversity, the United Nations Framework Convention on Climate Change, and the United Nations Convention to Combat Desertification, inter alia, by applying the ecosystem approach;

[2]Those decisions include: Decision X/33 (Biodiversity and Climate Change); Decision IX/16 (Biodiversity and Climate Change: A. Proposals for the integration of climate-change activities within the programmes of work of the Convention; B. Options for mutually supportive actions addressing climate change within the three Rio Conventions; C. Ocean Fertilization; D. Summary of the findings of the Global Assessment on Peatlands, Biodiversity and Climate Change); Decision VIII/30 (Biodiversity and climate change: guidance to promote synergy among activities for biodiversity conservation, mitigating or adapting to climate change and combating land degradation); Decision VII/15 (Biodiversity and Climate Change).

(b) Developing synergy-oriented programmes to conserve and sustainably manage all ecosystems, such as forests, wetlands, and marine environment that also contribute to poverty eradication;
(c) Country-driven activities, including pilot projects, aimed at projects related to ecosystem conservation, restoration of degraded lands and marine environments, and overall ecosystem integrity that take into account impacts of climate change.

COP 10 – Decision X/25: Additional guidance to the financial mechanism
Marine and coastal biodiversity
18. *Invites* the Global Environment Facility and other donors and funding agencies, as appropriate, to consider extending support for capacity-building to eligible countries, in order to implement Decision X/29; referring to the Programme of Work on Marine and Coastal Biodiversity.

Proposed Milestones
Proposed milestones for this Target include:
- By 2012, assess the integrity of coral reefs and pressures arising from land-based pollution/sedimentation, unsustainable fishing and recreation, and other activities and develop a strategy to minimize these;
- By 2012, identify vulnerable marine ecosystems, undertake an assessment of fishing impacts on such ecosystems and of fishing activities on target and non-target species, and assess on the basis of the best available scientific information whether individual bottom fishing activities would have significant adverse impacts on vulnerable marine ecosystems;
- By 2014, fully implement the strategy to minimize pressures on coral reefs arising from land-based pollution/sedimentation as well as from unsustainable fishing and recreational activities (http://www.cbd.int/sp/targets/rationale/target-10/).

3. Activities, Funding Needs and Incremental Reasoning

By addressing those anthropogenic pressures, which are most amenable to rapid positive changes, it may be possible to give vulnerable ecosystems time to cope with the pressures caused by climate change. This would include activities such as reducing pollution, overexploitation, and harvesting practices, which have negative consequences on ecosystems. Due to the extraordinary and heavy pressures on corals reefs, their ecological sensitivity, and importance to secure local livelihoods, activities under this Target will only focus on coral reef ecosystems. However, it is evident that other vulnerable ecosystems are also heavily affected by climate change and ocean acidification and may need urgent conservation activities by 2015. We did not include funding needs of other vulnerable habitats in this report.

Coral reefs cover an area of between 280,000 km^2 to 300,000 km^2 in the world and support a myriad of species in the 'rainforest of the sea (http://www.globalissues.org/article/173/coral-reefs). The US National Oceanic and Atmospheric Administration (NOAA) has estimated the annual global economic value of coral reefs to be $375 billion US (jobs, food, and tourism). This represents an average value of around $6,075 US per hectare of coral reef per year (Edwards and Gomez, 2007). About 20%-30% of reefs are severely damaged and 60% could be lost by 2030 (http://www.enn.com/top_stories/article/3542). At least another 20% are badly degraded or under probable risk of collapse (COPI, 2008).

Of the major coral reef regions, at least 5 reef systems belong to GEF eligible countries.

- Coral Triangle and the Pacific (Papua New Guinea, Solomon Islands, Timor Leste, Fiji, Vanuatu, Indonesia, Malaysia, Philippines)
- Mesoamerican Barrier Reef System – second largest reef system (Mexico, Belize, Guatemala, Honduras)
- Andros Barrier Reef — third largest reef system (Bahamas)
- Maldives' Coral Reefs
- Red Sea Coral Reef (Saudi Arabia, Yemen, Egypt, Sudan, Eritrea, Djibouti)

Two large coral reef systems fall under the responsibility of non-eligible GEF countries:

- Great Barrier Reef — largest, comprised of 2,900 individual reefs and 900 islands stretching for over 2,600 kilometres (Australia)
- New Caledonia Barrier Reef—second longest double barrier reef, covering 1,500 kilometres (France).

Reducing the multiple pressures on coral reefs is a key factor if their resilience is to be increased[3]. This would include an assortment of activities such as reducing pollution coming from coastal and inland agriculture, diver damage, dynamite fishing, overexploitation, harvesting practices, and expanding coastal tourism infrastructure, all of which have negative consequences on ecosystems. There is a link to climate change activities under the UNFCCC, which will serve the implementation of this Target.

A GEF project example is the *Integrating Watershed and Coastal Area Management (IWCAM) in the Small Island Developing States of the Caribbean Latin America, Caribbean* (2006-2011 http://www.thegef.org/gef/project_detail?projID=1254) with a GEF grant of $14 million US (12,4%) of a total funding amount of $112.6 million US. The overall objective of the project is to assist participating countries in improving their watershed and coastal zone management practices in support of sustainable development. The project includes the following components addressing areas of priority concern: coastal area management and biodiversity; tourism development; protection of water supplies; land based sources of pollution; climate change. Activities undertaken during the full project will include, amongst others, demonstrations in the fields of marine pollution reduction and waste management, land use, soil degradation and watershed management.

Such kinds of activities can also be found e.g. in the GEF project *Strengthening Coastal and Marine Resources Management in the Coral Triangle of the Pacific,* which started in five Pacific countries in 2010. Project component *3: Increasing resilience of marine resources and communities to climate change impacts* comprises at least some of the activities described above. Over the course of four years, this project component was estimated to cost $5 million US, of which $2 million US was covered through a GEF grant (40%).

Depending on the content and scope the overall size of such projects can vary quite significantly between $5 million US up to $100 million US. Establishing new or improving existing coastal and marine protected areas will be covered under Target 11.

[3] Galaz, V., Downing, T., Warner, K., Thomalla, F., 2008, "Ecosystems under Pressure - linking ecosystem services, climate change adaptation and disaster risk reduction". Policy brief to the International Commission on Climate Change and Development.Stockholm Resilience Centre/Stockholm Environmental Institute/United Nations University. Jan/Feb 2008.
Nyström, M., Graham, N., Lokrantz, J., Norström, A., 2008, Capturing the Cornerstones of Coral Reef Resilience - Linking Theory to Practice. Coral Reefs. October 1st, DOI: 10.1007/s00338-008-0426-z.

3.1 Activities and Funding Needs

The activity to accomplish this Target will focus on the coral reef regions in GEF eligible countries, including the coastal areas where anthropogenic pressures occur.

Activity 1: Improve resilience of coral reefs
Scope: To improve coral reef resilience the following activities are considered as a package of actions:

- Assess pressures arising from land-based pollution/sedimentation from coastal and regional agriculture, as well as from unsustainable fishing incl. dynamite fishing, diver damage, coastal tourism infrastructure, and recreational activities.
- Develop a strategy and action plan to minimize the multiple pressures on coral reefs.
- Develop and implement integrated coastal zone management programmes and marine spatial planning.

Funding estimates: Funding of a 5 year project ranges from several million US to over $100 million US. At least an amount of $20 million US per project is considered to carry out such projects, based on previous GEF projects.

Levels of ambition*:* It may not be feasible to accomplish this activity in all major coral reef regions around the world within the short timeframe set by COP 10. However, assessments, strategies, action plans, and implementation activities should start as early as possible and/or can build on existing studies and planning processes. It is also likely that due to the huge size of some coral reef regions, several GEF projects will need to be conducted within a region.

Currently, two 4-year projects are being carried out in the Coral Triangle region. Eligible countries covering at least the other four coral reef regions should consider GEF projects of the same size if multiple human pressures need to be addressed. In order to meet the tight timeline, the GEF should conduct even more projects if feasible.

Due to time constraints, it is expected that the milestones will not be met by 2015; additionally, the Target may not be met anytime soon thereafter. However, a strong response is urgently needed to reduce the multiple pressures on coral reefs. Hence, the GEF's engagement is required in GEF-6 and also in GEF-7.

Activity 1: Improve resilience of coral reefs (evaluated at three levels of ambition)

a) 6 new projects at $20 million US each would require $120 million US
b) 8 new projects at $20 million US each would require $160 million US
c) 10 new projects at $20 million US each would require $200 million US

3.2 Incremental reasoning

Activity 1: Improve resilience of coral reefs
The GEF incremental support for this kind of activity will contribute to mainstreaming biodiversity conservation in coastal land-use schemes, adaptation to negative climate change impacts, and address the immediate and future threats from land-based pressures on corals reefs in the context of ecosystem-based management strategies. Without the GEF support, these activities would be largely underfunded and most of the threats to coral reefs in eligible countries would persist. Threats might even aggravate to a level that would hinder resilience to future stress. Moreover, many livelihoods that depend on coral reefs would become even more vulnerable. Taking into account the global economic value of coral reefs and the severe threats they face, it is envisaged that projects will generate

significant global environmental benefits for biodiversity and climate change, and therefore 80% incremental reasoning is justifiable.

4. Estimates of Funding Needs for the GEF-6 Period

Before accounting for incremental reasoning, the activity's estimated total funding needs range between $30 million US and $50 million US. After accounting for incremental reasoning, funding needs range between $24 million US to $40 million US (**Table 10**).

Table 10: Estimated Funding Needs of Aichi Target 10 for the GEF-6 Period

Target 10 - Coral Reefs and other Vulnerable Ecosystems	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 6 new projects A1: Improve resilience of coral reefs	120			80%	96		
Level of Ambition 2: 8 new projects A1: Improve resilience of coral reefs		160		80%		128	
Level of Ambition 3: 10 new projects A1: Improve resilience of coral reefs			200	80%			160
Total for Target 10	120	160	200		96	128	160

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers:
  - Extinction risk trends of coral and reef fish (A)
  - Trends in climate change impacts on extinction risk (B)
  - Trends in coral reef condition (B)
  - Trends in extent, and rate of shifts of boundaries, of vulnerable ecosystems (B)
  - Trends in climatic impacts on community composition (C)
  - Trends in climatic impacts on population trends (C)

  (A) for use at the global level, (B) possibly at the global level, and (C) at national or other sub-global level.

Possible indicators and baseline information: Indicators for this target include the Marine Trophic Index, the incidence of human-induced ecosystem failure, the health and well-being of communities who directly depend on local ecosystem goods and services, and trends in coral bleaching. Other possible indicators include the Ecological Footprint and related concepts. Process indicators could include the number of plans, programmes, and strategies related to the protection and management of marine and coastal ecosystems (http://www.cbd.int/sp/targets/rationale/target-10/).

II.2.11 Protected Areas (Target 11)

Target 11: By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider lands.

1. Technical Rationale

Well-governed and effectively managed protected areas are a proven method for safeguarding both habitats and populations of species and for delivering important ecosystem services. Currently, some 13 per cent of terrestrial areas and 5 per cent of coastal areas are protected, while very little of the open oceans are protected. The current target of 10 per cent protection for each ecological region has been achieved in approximately 55 per cent of all terrestrial eco-regions. Therefore reaching this target implies a modest increase in terrestrial protected areas globally, with an increased focus on representativeness and management effectiveness. It further implies that major efforts to expand marine protected areas would be required. A focus on representativeness is crucial as current protected area networks have gaps, and some fail to offer adequate protection to many species and ecosystems. These gaps include many sites of high biodiversity value such as Alliance for Zero Extinction sites and Important Bird Areas. Particular emphasis is needed to protect critical ecosystems such as tropical coral reefs, sea-grass beds, deepwater cold coral reefs, seamounts, tropical forests, peat lands, freshwater ecosystems and coastal wetlands (http://www.cbd.int/sp/targets/rationale/target-11/).

2. Reference to Relevant COP Decisions and GEF Guidance

This target is related to relevant decisions on protected areas, dry and sub-humid lands biodiversity, inland waters biodiversity, island biodiversity, marine and coastal biodiversity, mountain biodiversity and Global Strategy for Plant Conservation.

COP Decisions

There are numerous decisions on Protected Areas: Protected areas – In-Situ Conservation: Decision X/31, IX/18; VIII/24, VII/28, III/9, II/7-8 Ex-Situ and In-Situ Conservation. COP 10 Decisions X/31 on protected areas especially sections A: strategies for strengthening implementation and B: issues that need greater attention and Decision X/29 on marine and coastal biodiversity, the marine protected areas component provides impetus for undertaking activities for achieving the target.

GEF Guidance

COP 10: Decision X/24: Review of Guidance to the financial mechanism
4.4 Conservation and protected areas (Article 8(A)-(F))

i. Community-conserved areas;
ii. National and regional systems of protected areas;
iii. Country-driven early action activities of the programme of work on protected areas;

iv. Addressing the long-term financial sustainability of protected areas, including through different mechanisms and instruments;
v. Further development of the programme on protected areas towards comprehensive, representative and effectively managed protected area systems addressing system wide needs;
vi. Projects that demonstrate the role-protected areas play in addressing climate change;
vii. Capacity-building activities for the implementation of the Global Strategy for Plant Conservation;
viii. Projects that promote the conservation and/or sustainable use of endemic species.

Programme priorities 4.19 Marine and coastal biological diversity
(c) Projects that promote the conservation … of marine and coastal biodiversity under threat

COP 10: Decision X/25: Additional guidance to the financial mechanism
Protected areas
10. *Recalling* paragraph 1 of its decision IX/18 B, *further urges* Parties, in particular developed country Parties, and *invites* other Governments and international financial institutions including the Global Environment Facility, the regional development banks, and other multilateral financial institutions to provide the adequate, predictable and timely financial support, to eligible countries to enable the full implementation of the programme of work on protected areas;

11. *Urges* the Global Environment Facility and its Implementing Agencies to streamline their delivery for expeditious and proportionate disbursement and to align the projects to national action plans for the programme of work on protected areas for appropriate, focused, sufficient and harmonious interventions of projects;

Proposed Milestones
Possible milestones for this Target include:
- By 2012, in the marine area, a global network of comprehensive, representative and effectively-managed national and regional protected area systems is established;
- By 2012, all protected areas are effectively and equitably managed, using participatory and science-based site planning processes that incorporate clear biodiversity objectives, targets, management strategies and monitoring and evaluation protocols;
- By 2015, all protected areas and protected area systems are integrated into the wider land- and seascape, and relevant sectors, by applying the Ecosystem Approach and taking into account ecological connectivity, likely climate change impacts and, where appropriate, the concept of ecological networks (http://www.cbd.int/sp/targets/rationale/target-11/).

3. Activities, Funding Needs and Incremental Reasoning

Recognizing the critical roles of PAs, the COP 6 in February 2004 committed to a comprehensive and specific set of actions known as the Programme of Work on Protected Areas (PoWPA, Decision VII/28). The protected-area network covers now about 11% of Earth's land surface; less than 1% of the Earth's marine area is covered. However, according to the best available data on the status and trends on protected areas (see UNEP/CBD/SBSTTA/9/5), the current global systems of protected areas are not sufficiently large, sufficiently well-planned, nor sufficiently well-managed to maximize their contribution to biodiversity conservation. Therefore, there is an urgent need to take action to improve the coverage, representativeness and management of protected areas nationally, regionally and globally. http://www.cbd.int/protected/pow/learnmore/intro/)

Target 11 therefore requests to expand terrestrial and inland water PA coverage to 17%, which means a significant increase from the current baseline. In terms of coastal and marine PAs (MPA) the challenge is even greater to achieve 10% MPAs by 2020.

The following activities, which have already been agreed on the Convention and in Decisions XI/18 and X/31, are required to be undertaken for achieving Target 11:

- Protection of critical areas identified in line with Annex I to the Convention on Biological Diversity (high biodiversity areas and areas providing critical services);
- Institutionalize management effectiveness assessment towards assessing 60% of the total areas by 2015 and ensure that the results of the assessments are implemented; IUCN'S Guidelines for applying PA management categories should be recognized;
- Completion of ecological gap analysis for identifying "ecologically representative areas" (including unprotected IBAs, KBAs etc) and implement the results;
- Integration of PAs into wider land and seascapes to showcase mainstreaming of biodiversity with other sectors and ecosystem based approaches to adaptation to climate change adaptation and leading to mitigation through carbon sequestration (also Target 10, 15);
- Recognition of Indigenous Community Conserved Areas (ICCAs) including through acknowledgement in national legislation or other effective means, formal inclusion in the national systems, and practicing of various governance types;
- Development and implementation of sustainable finance plans for PA systems;
- Valuation of PA goods and services.

Past GEF funding for protected areas: As per the guidance given by the COP in Decision VII/28, the GEF launched a UNDP/GEF project to support implementation of the Program of Work on Protected Areas (PoWPA). Currently the GEF is the largest multilateral funding mechanism for protected areas worldwide (Zimsky, 2010). Since 1991, the GEF biodiversity focal area program has provided approximately $3.1 billion US in grants and leveraged about $9 billion US in co-financing in support of 1,000 biodiversity projects in more than 155 countries.

As the largest funding mechanism for protected areas (PAs) worldwide, the GEF has invested in over 2,809 PAs, covering more than 708 million ha. The GEF has provided more than $ 2.2 billion US to fund protected areas, leveraging an additional $5.55 billion US in co-financing from project partners.

The GEF has supported 60 countries to implement system-wide protected area finance strategies through a combination of conservation trust funds (40 worldwide totalling $300 million US), payment for ecosystem services schemes, revolving funds, tourism fees, ecosystem service valuation and other financial mechanisms to provide steady, reliable funding for protected area management and biodiversity conservation.

The GEF has provided funding to 233 projects supporting marine protected area management totalling $1.4 billion US of GEF resources from all GEF focal areas, which has leveraged $6.8 billion US for a total of $8.2 billion US.

The GEF has supported more than 159 projects related to protected area establishment and management. The total project budgets ranged from $980,000 US for the creation of *A Co-Managed Protected Areas System* in Belize to $116,600,000 US for the GEF MAR project *Marine and Coastal Protected Areas* in Brazil. The GEF funding oscillated between $685,000 US for the project *Catalyzing Financial Sustainability of Georgia's Protected Area System* with 10.4% of the total project budget to $30,000,000 US for the GEF MAR project in Brazil with 33.7%.

Addressing the drivers of biodiversity loss and sustainable PA systems was the centrepiece of the GEF protected area strategy for GEF-4 (2006-2010) and GEF-5 (2010-2014):

- The vast majority of GEF-4 PA projects focused on system sustainability;
- Sufficient and predictable resources available to support PA management costs;
- Effective protection of ecologically viable samples of a country's ecosystems (marine focus with terrestrial coverage that supports filling global gaps, i.e., inland waters) provides adequate coverage of threatened species at sufficient scale to ensure long-term persistence (GEF-5);
- Individual and institutional management capacity.

In GEF-5 under the biodiversity focal area, strategic objective 1 *Improve the sustainability of protected area systems* the following activities are included to serve Target 11 (http://www.thegef.org/gef/node/4452):

- Improve Sustainable Financing of Protected Area Systems,
- Expand Marine and Terrestrial Ecosystem Representation,
- Expand Threatened Species Representation,
- Improve Management Effectiveness of Existing Protected.

In addition the GEF has been a leader in helping establish sustainable financing mechanisms to support the operation of national PA systems in developing countries through more than 90 projects that involve conservation trust funds, payment for ecosystem services schemes, revolving funds, private sector and village funds, and other innovative financial mechanisms to provide steady, reliable funding for PA management and biodiversity conservation in developing countries. The GEF is recognized as a pioneer in supporting more than 40 conservation trust funds worldwide, investing more than $300 million in total. Target 3 will cover this area.

The PoWPA implementation also helps toward achieving other Targets 1, 2, 5, 10, 12, 14, 15 and 18.

Two important activities have been identified to achieve Target 11:
Activity 1: Manage effectively and expand the Terrestrial PA system (PA)
Element PA 1: Effective management of existing PAs
Element PA 2: Effective management of the expanded PAs
Element PA 3: Establishment cost of expanding PAs

Activity 2: Manage effectively and expand the Marine PA system (MPA)
Element MPA 1: Effective management of existing MPAs
Element MPA 2: Effective management of the expanded MPAs.
Element MPA 3: Establishment cost of expanding MPAs.

3.1 Activities and Funding Needs

3.1.1. Terrestrial Protected Area System

Activity 1: Manage effectively and expand the Terrestrial PA system (PA)
Scope: The activity contains 3 elements:
Element PA 1: Effective management of existing PAs
Element PA 2: Effective management of the expanded PAs
Element PA 3: Establishment cost of expanding PAs

Funding estimates for Terrestrial Protected Areas (PAs):

In terms of ***What has to be financed?*** Bruner *et al* (2004) described three categories of PA expenses: (i) management costs for existing PAs (note: these management costs should be incurred to bring PAs up to minimum management standard after which the country can take care of the recurrent costs which the GEF is not responsible for), (ii) system wide expenses to support a network of protected areas, and (iii) costs of bringing new PAs and ensuring their effective management. An accurate and comprehensive assessment of management needs across a PA system enables informed decisions on funding needs, priorities and opportunities for savings. Bovarnick et al (2010) in their UNDP and TNC study reported the following six expenditure categories used in Latin American countries grouping hundreds of different items and resources needed for PA management:

Recurrent Costs (operational)

- Human resources: (salaries for park staff, scientist, community liaison officers, tourism, financial specialists etc.)
- Maintenance: office and vehicles, path maintenance, patrolling
- Utilities: water, electricity and communications
- Basic equipment: GPS devices, boots, uniforms etc.

Capital costs (investments)

- Infrastructure, capital equipment, vehicles, visitor centre, ranger towers, demarcation posts, roads etc.
- Professional services for base level studies, ongoing training etc.

Bruner *et al* (2004) added system wide expenses, which include national and regional administration, new site selection, budgeting, and securing financial allocation within political system to support the network. The establishment costs for new protected areas include designation costs (e.g., stakeholder consultations, biological inventories, boundary demarcation, land purchase, and compensation) and up front purchases, construction and planning.

In terms of ***What are available information on estimated needs based on submissions from Parties?,*** the PoWPA called for establishment and implementation of country-level sustainable financing plans by 2008 for ensuring financial sustainability of national systems of PAs protected areas (Activity 3.4.2 of the PoWPA - Decision VII/28). The assessment of financial needs and gaps for implementing the PoW is one of the first steps in developing sustainable financing plans. To date, only a few countries are in the process of completing country-level sustainable financing plans. Information on financial needs assessment for implementing the programme of work is available for few least developed countries, small island developing states, other developing countries, and countries with economies in transition (***Annex Table 1***). Bovarnick et al 2010, in their UNDP and TNC study described financing gaps in 18 Latin American countries estimated under both basic and optimal management scenarios (***Annex Table 2***). The financing gap in Namibia under two expenditure scenarios is presented in (***Annex Table 3***).

Examples of information on expenditure estimates for various PA management activities in Costa Rica, Peru and Ecuador taken from Flores *et al* (2008) are given in ***Annex Figure 1***. Namibia has also estimated costs attributable to the parks system *(**Annex Table 4**)*.

Method 1 based on GEF-4 and GEF-5 data: Using data from the GEF council documents for GEF-4 and GEF-5 replenishments as a basis, the needs for GEF- 6 and GEF-7 can be estimated. In the GEF council document GEF/C.37/3, in the summary of negotiations of the fifth replenishment of the GEF trust fund dated May 17, 2010 paragraph 49 reads as follows http://www.thegef.org/gef/sites/thegef.org/files/documents/C.37.3%20Summary%20of%20Negotiations%20of%20the%20Fifth%20Replenishment%20of%20the%20GEF.pdf):

> *"The achievements made by the global community with GEF support must be further consolidated through enhancing the sustainability of protected area systems such that they continue to deliver the global benefits of: (i) biodiversity (indirect use and option values, and existence values particularly with regards to threatened species); (ii) provision of ecosystem goods and services, including contributions to climate mitigation; and (iii) ecosystem-based adaptation. Therefore, an investment of $700 million will be made to improve the management effectiveness of protected areas covering an estimated 170 million hectares, thus continuing GEF's prioritization in helping countries implement their obligations under the CBD Programme of Work on Protected Areas. The additional investment in 170 million hectares of protected areas under effective management for biodiversity conservation would total about 14% of the area of existing terrestrial protected areas in GEF-eligible countries or about 23% of the area of existing marine protected areas in GEF-eligible countries".*

In the GEF council document GEF/C.29/3, in Table 3 on expected outcomes and targets for GEF-4 biodiversity strategic objectives it was suggested to support at least 80 million hectares of protected areas based on FY91-04 of GEF support to protected areas. The average conservative estimate applied towards the target was: $5/ha per PA[4]. In GEF-5, $700 million US is programmed for the replenishment period to improve effective management of 170 million hectares at $4.1/ha. These 170 million hectares would cover 14% of the existing terrestrial PAs in GEF eligible countries or 23% of existing MPAs in GEF-eligible countries. Given the two above estimates of cost of management effectiveness ($5/ha and $4.1/ha) an average of the two can be used (i.e. $4.55/ha) for the estimation of the amount of fund that would be needed during the GEF-6 period.

Element PA 1: Effective management of existing PAs

According to the MDG, 2011 report, 13.3% of the terrestrial surface or 10,738,311.73 square km is currently protected in developing countries[5]. This is equivalent to 1,073,831,173 hectares of which 86% or 923,494,809 hectares still need investment for effective management of existing PAs for biodiversity conservation. This amounts to: 923,494,809ha x $4.55/ha = $4,201,901,381 US or $4.2 billion US for four years.

Element PA 2: Establishment funding needs of expansion

The results for establishment funding needs of expanding to reach different percentages of global target are found in the table below. The funding of expanding 311,575,442 hectares is $2 billion US per year (Bruner et al, 2004). Hence, for example to reach a global target of 17%, the establishment of the additional 298,734,988 hectares becomes: $1,917,577,240 per year or $7.67 billion US for the GEF-6 period 2014 and 2018.

[4] http://www.thegef.org/gef/sites/thegef.org/files/documents/C.29.3%20Summary%20of%20Negotiations.pdf
[5] http://unstats.un.org/unsd/mdg/Data.aspx

Estimated establishment funding needs of expanding to reach 16%, 17% and 18% PAs

To achieve Target 11	Expansion of PA by 2018		
	16%	17%	18%
Area to be established in hectares to reach the % increase	217.995.802	298.734.988	379.474.174
amount per hectare ($US) for four years	6,4	6,4	6,4
Establishment funding estimate of expansion ($ US/year)	1.399.313.121	1.917.577.240	2.435.841.358
Total ($ US for 4 years)	**5.597.252.483**	**7.670.308.958**	**9.743.365.434**

Element PA 3: Effective management of the expanded PAs

The results for different percentages of expansion are presented in table below. For example, to reach the global target of 17% terrestrial PAs in developing countries, the current percentage of PA needs to increase by 3.7%, or by 298,734,988 hectares[6]. The financial need for the effective management of this additional area is 298,734,988 x $4.55/ha US or $1,359,244,195 US.

Effective management financial needs to reach 16%, 17% and 18% expanded PA system (Method 1)

To reach Target 11	Expansion of PA by 2018		
	16%	17%	18%
Required increase from current (in %)	2,7	3,7	4,7
Required increase (in hectare)	217.995.802	298.734.988	379.474.174
Financing needs (in US $ per hectare) for four years	4,55	4,55	4,55
Total cost of effective management of expanded area (in US $)	**991.880.899**	**1.359.244.195**	**1.726.607.491**

Levels of Ambition: Estimations of funding needs are based on the levels of ambition of reaching 16%, 17% or 18% PA coverage by 2018.

Incremental reasoning: PAs generate significant national and global benefits. Since, its establishment GEF has contributed a substantial amount of fund towards the establishment and effective management of myriads of PAs and MPAs. The crucial important of protected areas is very well known, therefore 50% incremental reasoning rate is used in all of the scenarios.

Estimated Funding Needs for the GEF-6 period: The overall results from method 1 indicate required total funding needs of $10.8 billion US to about $15.6 billion US to reach 16%, 17% and 18% respectively during the GEF-6 period before accounting for incremental reasoning. Applying incremental reasoning the amounts will range from $5 billion US to 7.8 billion US (**Table PA M 1)**.

[6] (1 073 831 173 ha x 17/13.3) - 1 073 831 173 = 298 734 988 hectares

Table PA M 1: Estimated Funding Needs of Aichi Target 11 for GEF-6 Period: Terrestrial PAs - Method 1

Target 11: Terrestrial PAs - Method 1	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: Reaching 16% by 2018 (GEF-6)							
E1: Effective management of existing PAs	4,201			*50%*	2,101		
E2: Establishment cost of expanding to reach 16% PA	5,597			*50%*	2,799		
E3: Effective management of the expanded area	991			*50%*	496		
Level of Ambition 2: Reaching 17% by 2018 (GEF-6)							
E1: Effective management of existing PAs		4,201		*50%*		2,101	
E2: Establishment cost of expanding to reach 17% PA		7,670		*50%*		3,835	
E3: Effective management of the expanded area		1,359		*50%*		0,680	
Level of Ambition 3 : Reaching 18% by 2018 (GEF-6)							
E1: Effective management of existing PAs			4,200	*50%*			2,100
E2: Establishment cost of expanding to reach 18% PA			9,700	*50%*			4,850
E3: Effective management of the expanded area			1,700	*50%*			0,850
Total for Target 11: Terrestrial PAs	**10,789**	**13,230**	**15,600**		**5,386**	**6,615**	**7,800**

Method 2 based on existing literature: Based on several previous studies on financial needs of terrestrial protected area systems in developing countries, analysis of management plans, information derived from questionnaire survey and multiple regression models of variation in annual PA management cost, Bruner *et al* (2004)[7] presented terrestrial PA management costs in developing countries. They reported that the total annual cost for effective management of the existing protected areas in developing countries ranges from $ 1.1 billion US to $2.5 billion US per year and the funding shortfall (total cost minus current funding) varies between $1.0 and $1.7 billion US per year. They concluded that as the lower estimate does not include system wide costs, the funding shortfall should be greater than $1 billion US and the midpoint of $1.3 billion US should be a best estimate.

This paper was published in 2004 and the funding short fall of $1.3 billion US corresponded to the terrestrial PAs in developing countries in 2005, which was 10,546,051.77 km^2 or 13% of the terrestrial surface of developing countries. In 2011, terrestrial PAs cover 13.3% (10,738,311.7 km^2), therefore the funding short fall for effective management is $1.33 billion US per year by extrapolating the 1.3 billion short fall reported by Bruner *et al* (2004). Taking into account the cost of land acquisition, compensation payments, infrastructure and equipment among other, the study reported that the cost of expanding terrestrial protected areas to cover 30% of the terrestrial surface of developing countries could cost as much as $9 billion US per year for one decade. Since Target 11 stipulates 17% terrestrial PA surface as a global target, the cost of expanding terrestrial protected areas from the current 13.3% to 17% amounts to $1.92 billion US.

Bruner *et al* (2004) also reported that the average per hectare management costs for new PAs is likely to be greater than that for existing PA and the annual management costs for the expanded PAs would be $1.8 billion US per year for a 30% terrestrial surface expansion. So the effective management of 3.7% expanded terrestrial protected areas in developing countries would require $391 million per year or $1.564 billion US for four years (see Table below).

[7] IBID

Thus the total requirement of funds for effective management of existing terrestrial PAs, expanding them to cover 17% of the terrestrial surface and their effective management in developing countries, as per Bruner *et al* (2004) can be estimated:

Effective management financial needs to reach 16%, 17% and 18% expanded PA system (Method 2)

To reach global targets	Expansion of PA by 2018		
	16%	17%	18%
Required increase from current (in %)	2,7	3,7	4,7
Cost of effecitve management of expanded area (in US $/year)	285.324.324	391.000.000	496.675.676
Total cost of effective management of expanded area (in US $)	**1.141.297.297**	**1.564.000.000**	**1.986.702.703**

Element PA 1: Effective management of existing protected areas equals to $1.330 billion US $ per year or $5.320 billion US for four years.

Element PA 2: Establishment funding needs of expansion to reach 16%, 17% and 18% global target and equal to $5.6 billion US, $7.7 billion US and $9.7 billion US respectively using the information that it requires $1.92 billion US to expand to 17%.

Element PA 3: Effective management of the expanded protected areas being $391 million US per year (3.7% more to reach the 17%), summing up to 4 years will end with $1.14 billion US to reach 16% up to $2 billion to reach 18% PA coverage.

Levels of Ambition: Estimations of funding needs are based on the levels of ambition of reaching 16%, 17% or 18% PA coverage by 2018.

Incremental reasoning: PAs generate significant national and global benefits. The crucial important of protected areas is very well known, therefore 50% incremental reasoning rate is used in all of the scenarios.

Estimated Funding Needs for the GEF-6 period: Following Method 2, the total investment requirements for the four years of the GEF-6 period become $12 billion, $14.5 billion and $17 billion US for the targets to reach 16%, 17% and 18% PAs respectively before accounting for incremental reasoning. Applying incremental reasoning the amounts range from $6 billion US to 8.5 billion US (**Table PA M 2)**.

Table PA M 2: Estimated Funding Needs of Aichi Target 11 for GEF-6 Period: Terrestrial PAs – Method 2

Target 11: Terrestrial PAs - Method 2	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: Reaching 16% by 2018 (GEF-6)							
E1: Effective management of existing PAs	5,300			*50%*	2,650		
E2: Establishment cost of expanding to reach 16% PA	5,600			*50%*	2,800		
E3: Effective management of the expanded area	1,411			*50%*	0,706		
Level of Ambition 2: Reaching 17% by 2018 (GEF-6)							
E1: Effective management of existing PAs		5,320		*50%*		2,660	
E2: Establishment cost of expanding to reach 17% PA		7,670		*50%*		3,835	
E3: Effective management of the expanded area		1,564		*50%*		0,782	
Level of Ambition 3 : Reaching 18% by 2018 (GEF-6)							
E1: Effective management of existing PAs			5.320	*50%*			2.660
E2: Establishment cost of expanding to reach 18% PA			9.743	*50%*			4.872
E3: Effective management of the expanded area			1.987	*50%*			994
Total for Target 11: Terrestrial PAs	**12,311**	**14,554**	**17,050**		**6,156**	**7,277**	**8,525**

3.1.2. Marine Protected Area System:

Activity 2: Manage effectively and expand the Marine PA system (MPA)

Element MPA 1: Effective management of existing MPAs
Element MPA 2: Effective management of the expanded MPAs.
Element MPA 3: Establishment cost of expanding MPAs.

Scope: Global marine PA stats in a nutshell using the same source as the MDG analysis below:

- **Percentage and area of MPAs under national jurisdiction (0-200 nautical miles) worldwide**: 4.0% or 5,687,034 km^2
- **Percentage and area of MPAs under coastal waters (0-12 nautical miles) worldwide**:
  Currently 7.2% or 1,430,485 km^2 of coastal waters (0-12 nautical miles) are protected.
  For 8% protection, 158,943 km^2 should be added
  For 10% protection, 556,299 km^2 should be added
  For 15% protection, 1,549,692 km^2 should be added
- **Percentage and area of MPAs under Exclusive Economic Zones (EEZ)** (12-200 nautical miles) worldwide:
  Currently 3.5% or 4,256,549km^2 of EEZ (12-200 nautical miles) are protected
  For 5% protection, 1,824,235 km^2 should be added
  For 8% protection, 5,472,706 km^2 should be added
  For 10% protection, 7,905,019 km^2 should be added
- **Percentage of the total ocean area (including Areas Beyond National Jurisdiction (ABNJ) and national jurisdiction)** that is protected: 1.6% or 5,700,000 km^2.

Funding estimates for Marine Protected Areas (MPAs):

Using this real time data, requirements for reaching 8-15% protection of coastal waters and 5-10% of EEZ areas are calculated. For establishment costs, the median cost of $2,315 US per km^2 and annual maintenance cost of $1,253 US per km² are considered. Although this information is for the world, it provides reasonable approximations of investment requirements in GEF eligible countries.

Accurate information of the existing PAs in ABJN is not available currently. Toropova et al (2010) published a clear account on global ocean protection. Based on this information and from the High Seas MPAs in the OSPAR framework, it is possible to reasonably estimate the size of an average MPA in ABNJ. For example the Pelagos Sanctuary of Italy, France and Monaco; the CCAMLR's South Orkneys MPA in southern oceans surrounding Antarctic and other MPAs declared by RFMOs ranged from 90,000 km^2 to 125,000 km^2. Considering the economies of scale, the larger the MPA the lesser the maintenance and establishment expenditure per unit area (i.e. per km^2). For ABNJ, median expenditure for 50,000 km^2 MPA reported in the model of McCrea-Strub et al (2011) in marine policy is considered. This comes to $254 US per km^2 establishment costs and $33 US per km^2 for annual maintenance**.** Considering that 1.6% or 5,700,000 km^2 of oceans are under protection (although this is not very accurately provides the area under ABNJ) the corresponding estimates to arrive at 5%; 8% and 10% coverage of ABNJ are arrived at by extrapolation and establishment and maintenance expenditures estimated.

***Method 1 based on GEF-4 and GEF-5 data*:**

Element MPA 1: Effective management of existing MPAs: According to the MDG 2011 report, 4% of the marine surface in developing countries, or 461,564 km² (46,156,400 ha) is currently protected. Seventy-seven percent or 35,540,428 hectares of this area still needs investment for effective management, assuming that $700 million GEF allocation for effective management of PAs has already covered 23% of existing MPAs. Financing estimate of $4.55 per ha or $455 US per km^2 for four year is used.

Element MPA 2: Establishment funding needs for expansion: to reach the 10% global target (McCrea-Strub et al 2011) $1,602 million or $1.6 billion US (one time expenditure) is calculated and therefore, $2,315 US/$km^2$.

Element MPA 3: Effective management of the expanded area to reach the 10% global target: Currently 4% (or 46,156,400 ha) of the marine surface in developing countries is protected. To reach the global target of 10% marine protection this area needs to increase by 69,234,600 ha.

Levels of Ambition: Estimations are based on various levels of ambition on MPA coverage as indicated in Table MPA M 1 below.

Incremental reasoning: MPAs in coastal waters (0-12 nautical miles) and in EEZ (12-200 nautical miles) incremental reasoning is considered at 50% rate.

However, for ABNJ since they relate to globally shared resources GEF activities will generate mainly global environmental benefits. Hence, incremental reasoning should be at 100%. Furthermore since these areas fall outside national jurisdiction, GEF eligible countries may not take them into consideration as part of their objectives.

Estimated Funding Needs for the GEF-6 period

Using these estimates and the general information provided as well as scenarios built based on different percentage increases the results from method 1 are presented in **Table MPA M 1** under estimated total needs. The results indicate estimated total needs, before accounting for incremental reasoning ranging between $8.1 billion US and $28.8 billion US depending on scenario. These results, however, do not include the amounts needed for ABNJ.

Method 2 based on existing literature:

Balmford *et al* (2004) developed a model to predict total maintenance expenditure per unit area of MPAs based on a survey of 83 MPAs worldwide. Cullis–Suzuki and Pauly (2010) applying the model of Balmford *et al* (2004) estimated the annual maintenance expenditure of the current global network of MPAs. Annual running expenditures per unit area were higher in MPAs that were smaller and closer to coasts. Using the models extrapolating the data, this study suggested that a global MPA network conserving 20-30% of world's seas might need financing of $5-$10 billion US annually to maintain (**Annex Figure 2**).

McCrea-Strub *et al* (2011) studied 13 MPAs from Asia, Africa, Latin America, and North America and described the various MPA components and establishment expenditures. The variation in MPA start-up expenditures was most significantly related to both MPA size and the duration of the establishment phase. While the total establishment expenditure is expected to be higher for larger MPAs, per unit of area for smaller MPAs may be more expensive to establish, reflecting economies of scale. The estimated total establishment cost (EC) and annual maintenance cost (MC) for MPAs of 50 km^2 and 1,000,000 km^2 size varied from $60 US per km^2 to $69,990 US$ per km^2 (EC) and $3 US per km^2 to $7,723 US per km^2 per year (MC). EC and MC for 500 km^2 MPA are $2,315 US per km^2 and $1,253 US per km^2 per year respectively. These figures are taken as the basis to arrive at the MPA funding estimates for achieving Target 11 (**Annex Table 5**).

Table MPA M 1: Estimated Funding Needs of Aichi Target 11 for the GEF-6 Period: MPAs – Method 1

Target 11: MPAs - Method 1	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1 to achieve :							
1. 8% MPAs in coastal waters (0-12 nautical miles)							
E1: effective management of existing MPAs	651			50%	325		
E2: establishment funds of expansion to 8% coastal waters	368			50%	184		
E3: effective management of expanded MPAs	72			50%	36		
2. 5% MPAs in EEZ (12-200 nautical miles)							
E1: effective management of existing MPAs	1.937			50%	968		
E2: establishment funds of expansion to 5% coastal waters	4.223			50%	2.112		
E3: effective management of expanded MPAs	830			50%	415		
3. 5% MPAs in ABNJ							
E1: effective management of existing MPAs				100%			
E2: establishment funds of expansion to 5% MPAs in ABNJ				100%			
E3: effective management of expanded MPAs				100%			
Level of Ambition 2 to achieve:							
1. 10% MPAs in coastal waters (0-12 nautical miles)							
E1: effective management of existing MPAs		651		50%		325	
E2: establishment funds of expansion to 10% coastal waters		1.288		50%		644	
E3: effective management of expanded MPAs		253		50%		127	
2. 8% MPAs in EEZ (12-200 nautical miles)							
E1: effective management of existing MPAs		1.937		50%		968	
E2: establishment funds of expansion to 8% coastal waters		12.669		50%		6.335	
E3: effective management of expanded MPAs		2.490		50%		1.245	
3. 8% MPAs in ABNJ							
E1: effective management of existing MPAs				100%			
E2: establishment funds of expansion to 8% MPAs in ABNJ				100%			
E3: effective management of expanded MPAs				100%			
Level of Ambition 3 to achieve							
1. 15% MPAs in coastal waters (0-12 nautical miles)							
E1: effective management of existing MPAs			651	50%			325
E2: establishment funds of expansion to 15% coastal waters			3.588	50%			1.794
E3: effective management of expanded MPAs			705	50%			353
2. 10% MPAs in EEZ (12-200 nautical miles)							
E1: effective management of existing MPAs			1.937	50%			968
E2: establishment funds of expansion to 10% coastal waters			18.300	50%			9.150
E3: effective management of expanded MPAs			3.597	50%			1.798
3. 10% MPAs in ABNJ							
E1: effective management of existing MPAs				100%			
E2: establishment funds of expansion to 10% MPAs in ABNJ				100%			
E3: effective management of expanded MPAs				100%			
Total for Target 11: Marine PAs (MPAs)	**8.081**	**19.288**	**28.777**		**4.041**	**9.644**	**14.389**

Element 1: Effective management of existing MPAs: According to the MDG 2011 report, 4.0% of territorial waters or 461 564 km^2 is currently protected in developing countries. The amount of $1,253 US per km^2 per year is taken as basis for calculations.

Element 2: Establishment funding of expansion: For achieving Target 11, the existing 4.0% has to be expanded to 10% of territorial waters i.e. 1,153,910 km^2 or addition of 692,346 km^2. The establishment financing for these additional 692,346 km^2 amounts to $1,602 million US or $1.6 billion US when taking the figure of $2,315/$km^2$ as basis for calculations.

Element 3: Effective management of expanded area*:* is evaluated at $1,253 US per km^2.

Levels of Ambition: Estimations are based on various levels of ambition of protection levels as indicated in Table MPA M 2 below.

Incremental reasoning: MPAs in coastal waters (0-12 nautical miles) and in EEZ (12-200 nautical miles) incremental reasoning is considered at 50% rate.
However, for ABNJ since they relate to globally shared resources GEF activities will generate mainly global environmental benefits. Hence, incremental reasoning should be at 100%. Furthermore since these areas fall outside national jurisdiction, GEF eligible countries may not take them into consideration as part of their objectives.

Estimated Funding Needs for the GEF-6 period
Following Method 2 for MPAs, total estimated funding needs before accounting for incremental reasoning would range between $50.66 billion and $110.1 billion US depending on Scenario. The results, in this case, also take into consideration ABNJ.

Table MPA M 2: Estimated Funding Needs of Aichi Target 11 for the GEF-6 Period: MPAs – Method 2

Target 11: MPAs - Method 2	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1 to achieve :							
1. 8% MPAs in coastal waters (0-12 nautical miles)							
E1: effective management of existing MPAs	7.170			50%	3.585		
E2: establishment funding of expansion to 8% coastal waters	368			50%	184		
E3: effective management of expanded MPAs	797			50%	398		
2. 5% MPAs in EEZ (12-200 nautical miles)							
E1: effective management of existing MPAs	21.334			50%	10.667		
E2: establishment funding of expansion to 5% coastal waters	4.223			50%	2.112		
E3: effective management of expanded MPAs	9.143			50%	4.572		
3. 5% MPAs in ABNJ							
E1: effective management of existing MPAs	752			100%	752		
E2: establishment funding of expansion to 5% ABNJ	4.524			100%	4.524		
E3: effective management of expanded PAs	2.351			100%	2.351		
Level of Ambition 2 to achieve:							
1. 10% MPAs in coastal waters (0-12 nautical miles)							
E1: effective management of existing MPAs		7.170		50%		3.585	
E2: establishment funding of expansion to 10% coastal waters		1.288		50%		644	
E3: effective management of expanded MPAs		2.788		50%		1.394	
2. 8% MPAs in EEZ (12-200 nautical miles)							
E1: effective management of existing MPAs		21.334		50%		10.667	
E2: establishment funding of expansion to 8% coastal waters		12.669		50%		6.335	
E3: effective management of expanded MPAs		27.429		50%		13.715	
3. 8% MPAs in ABNJ							
E1: effective management of existing MPAs		752		100%		752	
E2: establishment funding of expansion to 8% MPAs in ABNJ		5.791		100%		5.791	
E3: effective management of expanded MPAs		3.009		100%		3.009	
Level of Ambition 3 to achieve							
1. 15% MPAs in coastal waters (0-12 nautical miles)							
E1: effective management of existing MPAs			7.170	50%			3.585
E2: establishment funding of expansion to 15% coastal waters			3.588	50%			1.794
E3: effective management of expanded MPAs			7.767	50%			3.884
2. 10% MPAs in EEZ (12-200 nautical miles)							
E1: effective management of existing MPAs			21.334	50%			10.667
E2: establishment funding of expansion to 10% coastal waters			18.300	50%			9.150
E3: effective management of expanded MPAs			39.620	50%			19.810
3. 10% MPAs in ABNJ							
E1: effective management of existing MPAs			752	100%			752
E2: establishment funding of expansion to 10% MPAs in ABNJ			7.600	100%			7.600
E3: effective management of expanded MPAs			3.950	100%			3.950
Total for Target 11: Marine PAs (MPAs)	**50.661**	**82.230**	**110.080**		**29.144**	**45.891**	**61.191**

3.2 Incremental reasoning

Activity 1: Manage effectively and expand the Terrestrial PA system (PA)

PAs generate significant national and global benefits and the crucial important of PAs for biodiversity conservation, safeguarding ecosystem services and providing resources to local communities is very well known. Therefore, a 50% rate of incremental reasoning is proposed in all scenarios.

Activity 2: Manage effectively and expand the Marine PA system (MPA)

MPAs in coastal waters (0-12 nautical miles) and in EEZ (12-200 nautical miles) incremental reasoning is considered at 50% rate. However, for ABNJ since they relate to globally shared resources GEF activities will generate mainly global environmental benefits. Hence, incremental reasoning should be at 100%. Furthermore since these areas fall outside national jurisdiction, GEF eligible countries may not take them into consideration as part of their objectives.

4. Estimates of Funding Needs for the GEF-6 Period

Estimated funding needs for terrestrial PAs

To manage effectively and expand the terrestrial PA system at three levels of ambition the requirements of funding needs depending on the two methods and the proposal of the expert team are presented in **Table 11-1**. The basis of estimates from the GEF and the one from literature differ not very much and thus the average of the two methods is taken into consideration when proposing a funding requirement. Before applying incremental reasoning it is proposed to consider the range of $12 billion US to $16 billion US and after applying 50% incremental reasoning $6 billion US to $8 billion US respectively.

Table 11-1: Estimated Funding Needs of Aichi Target 11 for the GEF-6 Period: Terrestrial PAs

Activity 1: Manage effectively and expand the Terrestrial PA system (PA) at 3 levels of ambition *(before applying incremental reasoning)*			
Level of ambition	Method 1: GEF data (in bn US $)	Method 2: literature (in bn US $)	Expert Team's proposal (in bn US $)
16% terrestrial PAs	10.8	12.3	**12.0** (11.55 average)
17% terrestrial PAs	13.2	14.5	**14.0** (13.85 average)
18% terrestrial PAs	15.6	17.0	**16.0** (16.30 average)
Activity 1: Manage effectively and expand the Terrestrial PA system (PA) at 3 levels of ambition *(after applying 50% incremental reasoning)*			
Level of ambition	Method 1: GEF data (in bn US $)	Method 2: literature (in bn US $)	Expert Team's proposal (in bn US $)
16% terrestrial PAs	5.4	6.15	**6.0** (5.770 average)
17% terrestrial PAs	6.6	7.25	**7.0** (6,925 average)
18% terrestrial PAs	7.8	8.5	**8.0** (8.150 average)

Estimated funding needs for Marine PAs

Activity 2 is split into two chapters. For MPAs without ABNJ data from GEF and literature is available. However, they differ significantly concerning their order of magnitude. Therefore the average of both values was subject to a further reduction. The proposal ranges from $20 billion US to $60 billion US before applying incremental reasoning. When applying 50% incremental reasoning the resulting amounts are respectively $10 billion US, $20 billion US und $30 billion US (**Table 11-2**).

Table 11-2: Estimated Funding Needs of Aichi Target 11 for the GEF-6 Period: Marine PAs without ABNJ

Activity 2: Manage effectively and expand the Marine PA system (MPA) without MPAs in ABNJ at 3 levels of ambition *(before applying incremental reasoning)*			
Level of ambition	Method 1: GEF data (in bn US $)	Method 2: literature (in bn US $)	Expert Team's proposal (in bn US $)
8% MPAs in 0- 12 nautic miles zone 5% MPAs in 12-200 nautic miles zone	8.0	43.0	**20.0** (25.5 average)
10% MPAs in 0- 12 nautic miles zone 8% MPAs in 12-200 nautic miles zone	19.3	72.7	**40.0** (46.0 average)
15% MPAs in 0- 12 nautic miles zone 10% MPAs in 12-200 nautic miles zone	28.8	98.0	**60.0** (63.4 average)
Activity 2: Manage effectively and expand the Marine PA system (MPA) without MPAs in ABNJ at 3 levels of ambition *(after applying 50% incremental reasoning)*			
Level of ambition	Method 1: GEF data (in bn US $)	Method 2: literature (in bn US $)	Expert Team's proposal (in bn US $)
8% MPAs in 0- 12 nautic miles zone 5% MPAs in 12-200 nautic miles zone	4.0	21.5	**10.0** (12.75 average)
10% MPAs in 0- 12 nautic miles zone 8% MPAs in 12-200 nautic miles zone	9.65	36.35	**20.0** (23.0 average)
15% MPAs in 0- 12 nautic miles zone 10% MPAs in 12-200 nautic miles zone	14.4	49.0	**30.0** (31.7 average)

In order to calculate the extension of the MPA systems in ABNJ only data from literature is available and was used as a reference base. The GEF did not fund projects to establish MPAs in ABNJ yet. The estimates of funding requirements range from $7 billion US to $12 billion US applying 100% incremental reasoning. The estimates are presented in **Table 11-3**.

Table 11-3: Estimated Funding Needs of Aichi Target 11 for the GEF-6 Period: Marine PAs in ABNJ

Activity 2: Manage effectively and expand the Marine PA system (MPA) in ABNJ *(applying 100% incremental reasoning)*			
Level of ambition	Method 1: GEF data (in bn US $)	Method 2: literature (in bn US $)	Expert Team's proposal (in bn US $)
5% MPAs in ABNJ	No data yet	7.6	**7.0**
8% MPAs in ABNJ	No data yet	9.5	**9.0**
10% MPAs in ABNJ	No data yet	12.3	**12.0**

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- *Trends in coverage, condition, representativeness and effectiveness of protected areas and other area-based approaches:*
  - Trends in extent of marine protected areas, coverage of key biodiversity areas and management effectiveness (A)
  - Trends in protected area condition and/or management effectiveness including more equitable management (A) (Decision X/31)
  - Trend in representative coverage of protected areas and other area based approaches, including sites of particular importance for biodiversity, and of terrestrial, marine and inland water systems (A) (Decision VII/30 and VIII/15)
  - Trends in the connectivity of protected areas and other area based approaches integrated into landscapes and seascapes (B) (Decision VII/30 and VIII/15)
  - Trends in the delivery of ecosystem services and equitable benefits from protected areas (C)

  (A) for use at the global level, (B) possibly at the global level and (C) at national or other sub-global level.

Possible indicators and baseline information: Relevant indicators to measure progress towards this target are the coverage of sites of significance for biodiversity covered by protected areas and the connectivity/fragmentation of ecosystems. Other possible indicators include the trends in extent of selected biomes, ecosystems and habitats, the Marine Trophic Index, the overlay of protected areas with ecoregions, the governance and management effectiveness of protected areas, trends in the extent of selected biomes, ecosystems and habitats, and water quality in aquatic ecosystems. Strong baseline information, from sources such as the World Database of Protected Areas, Alliance for Zero Extinction, Integrated Biodiversity Assessment Tool, IUCN Red List of Threatened Species and the IUCN World Commission on Protected Areas, already exists for many of these indicators (http://www.cbd.int/sp/targets/rationale/target-11/).

Outcomes and indicators suggested in the GEF council document GEF/C.37/3, in the summary of negotiations of the fifth replenishment of the GEF trust fund[8] dated May 17, 2010:

Outcome 1.1: Improved management effectiveness of existing and new protected areas.

Indicator 1.1: Protected area management effectiveness score as recorded by Management Effectiveness Tracking Tool.

Outcome 1.2: Increased revenue for protected area systems to meet total expenditures required for management.

Indicator 1.2: Funding gap *for management of protected area systems as recorded by protected area financing scorecards*

[8] http://www.thegef.org/gef/sites/thegef.org/files/documents/C.37.3%20Summary%20of%20Negotiations%20of%20the%20Fifth%20Replenishment%20of%20the%20GEF.pdf

II.2.12 Prevention of Extinction of Threatened Species (Target 12)

Target 12: By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

1. Technical Rationale

Though some extinction can occur naturally, as a result of human action current rates of extinction are some 100 to 1000 times the background extinction rate. While reducing the threat of human-induced extinction requires action to address the direct and indirect drivers of change, imminent extinctions of known threatened species (these are mostly vertebrates and higher plants) can in many cases be prevented by protecting the sites where such threatened species (identified in the IUCN Red List of Threatened Species) are located. As per the IUCN, the number of species that are in the critically threatened category are 3900, while those in the category of threatened / vulnerable are 15000. Currently many countries have adopted conservation plans for critically threatened and threatened and vulnerable species, though the action plan vary in terms of their technical effectiveness, A pre-requisite for this is to help countries formulate species specific conservation plans, which, while giving due regard to site-specific conditions, provide international benchmarks and action plan acceptable frameworks for protecting the species across countries where they occur. Such species-specific action plans lead to substantial augmentation of global environmental benefits than is the present situation. Indeed such benchmarked standards for species specific conservation action plans are of special relevance to critically threatened or threatened species that migrate or move across nation state borders. There would be additional biodiversity benefits from the protection of the habitats and other species contained therein. *Ex situ* measures could complement *in situ* protection. Progress towards this target would help to reach several of the other targets contained in the Strategic Plan, including Target 13 (http://www.cbd.int/sp/targets/rationale/target-12/).

2. Reference to Relevant COP Decisions and GEF Guidance

Article 8 of the Convention calls on Parties to

(a) Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity;

(b) Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity;

(c) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use;

(d) Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings;

(e) Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas;

(f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies;

…

COP Decisions

There are numerous decisions and articles related to these issues of Target 12, such as decisions on Global Strategy for Plant Conservation (Decision VI/9), Global Taxonomy Initiative (Decision VI/8), and the programme of work on protected areas (Decision VII/28 on protected areas (Articles 8(a) to (f)) and PoWPA). Decisions VI/20 and X/20 recognize the Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention) as the lead partner in the conservation and sustainable use of migratory species.

GEF Guidance

COP 10: Decision X/24: Review of guidance to the financial mechanism

4.4 Conservation and protected areas (Article 8(A)-(F))

(a) Community-conserved areas;
(b) National and regional systems of protected areas;
(c) Country-driven early action activities of the programme of work on protected areas;
(d) Addressing the long-term financial sustainability of protected areas, including through different mechanisms and instruments;
(e) Further development of the programme on protected areas towards comprehensive, representative and effectively managed protected area systems addressing system wide needs;
(f) Projects that demonstrate the role-protected areas play in addressing climate change;
(g) Capacity-building activities for the implementation of the Global Strategy for Plant Conservation;
(h) Projects that promote the conservation and/or sustainable use of endemic species.

COP 10: Decision X/25: Additional guidance to the financial mechanism

Global Taxonomy Initiative (GTI)

7.*Further recognizing* that taxonomic capacity is crucial for the implementation of all relevant articles and work programmes of the Convention and that the taxonomic capacity to inventory and monitor biodiversity, including the use of new technologies, such as DNA bar coding and other relevant information technology is not adequate in many parts of the world, *requests* the Global Environment Facility (GEF) and *invites* Parties, other Governments, and other international and funding organizations to continue to provide funding for GTI proposals;

Protected areas

10.*Recalling* paragraph 1 of its decision IX/18 B, *further urges* Parties, in particular developed country Parties, and *invites* other Governments and international financial institutions including the Global Environment Facility, the regional development banks, and other multilateral financial institutions to provide the adequate, predictable and timely financial support, to eligible countries to enable the full implementation of the programme of work on protected areas;

11. *Urges* the Global Environment Facility and its Implementing Agencies to streamline their delivery for expeditious and proportionate disbursement and to align the projects to national action plans for the programme of work on protected areas for appropriate, focused, sufficient and harmonious interventions of projects.

Proposed Milestones

Possible milestones for this Target include:

- By 2012, information on the occurrence and distribution of globally threatened species and existing national level action plans for conservation of threatened species are reviewed
- By 2012, species specific action plans are drawn up
- By 2014, conservation measures to prevent imminent extinctions at the national level are undertaken

- By 2016, a strategy for the prevention of extinction of internationally threatened species is in place that includes activities to ensure the enhanced capabilities in management of trans-boundary threatened species (http://www.cbd.int/sp/targets/rationale/target-12/).

3. Activities, Funding Needs and Incremental Reasoning

Numerous types of actions can be taken to implement this Target (e.g. habitat protection); however, these should be covered by activities under Target 11. Additional actions, which directly focus on species, are important, including the implementation of species recovery and conservation programmes, *ex situ* conservation measures, and the re-introduction of species to habitats from which they have been extirpated. It has to be acknowledged that protecting sites only might not be sufficient for migratory species and that activities at a broader landscape level will be necessary in collaboration with relevant sectors, e.g. agriculture, forestry, fisheries, and other stakeholders.

Examples of activities include
- Identification and protection of areas important for species at risk under Target 11;
- Implementation of species recovery and conservation programmes;
- Re-introduction of species to habitats from which they have been extirpated;
- *Ex situ* species conservation measures, and
- Activities that address the drivers of land use change affecting the habitat of threatened species (Targets 5, 6, 7, 8).

International treaties, like the ITPGR of the FAO (The International Treaty On Plant Genetic Resources For Food And Agriculture, http://www.fao.org/AG/cgrfa/itpgr.htm), are engaged in maintaining *ex-situ* conservation systems for the conservation of critical genetic resources. Target 13 will cover ex situ activities of wild relatives.

Member countries have undertaken actions in pursuance of CITES commitments to ensure that no species is threatened by international trade, which also contributes to the achievement of this Target. Furthermore activities under Target 12 should be linked to CMS that aims to conserve terrestrial, aquatic and avian migratory species throughout their range (http://www.cms.int/about/intro.htm). In this respect it has to be mentioned that CMS COP 10 adopted Resolution 10.25 on enhancing engagement with the GEF (http://www.cms.int/bodies/COP/cop10/resolutions_adopted/10_25_gef_e.pdf).

Until now, the GEF has supported conservation initiatives for threatened species with the Save *Our Species Program (SOS)* and as part of eco-development projects to reduce illegal wildlife consumption in Asian countries (e.g. India http://www.thegef.org/gef/project_detail?projID=84) and on protected areas (e.g. in Russia to ensure conservation of highly endangered mountain forest ecosystems, which is also the Amur tiger's habitat - the "flagship" species for biodiversity conservation in this region (http://www.thegef.org/gef/project_detail?projID=1303).

Another project is the one named *Wings over Wetlands (WOW)* that has developed a Critical Site Network Tool as an online resource for the conservation of 294 species of waterbirds and the important sites upon which they depend in Africa and Western Eurasia (http://www.wingsoverwetlands.org/).

In 2010, the GEF announced at the International Tiger Conservation Forum in St. Petersburg, Russia, that it will provide up to $50 million in grants to save the tiger from its current path towards extinction in the wild. Partnering with the World Bank and other development partners, significant co-financing is expected, including from the private

sector and the countries themselves. Through the approved Global Tiger Recovery Plan, a joint strategic approach will be implemented with the tiger range countries leading on action (http://www.thegef.org/gef/news/tiger_grant_2010).

GEF's support follows past funding of projects that protected or restored habitats of globally threatened species within protected area investments, which is primarily covered under Target 11. In addition to this approach, GEF should also have a role in supporting conservation action plans of other critically endangered "flagship" species both in- and outside of protected areas.

3.1 Activities and Funding Needs

The following activity is selected for GEF funding to also serve activities under Target 11 on Protected Areas and of other conventions like the CMS:

Activity 1: Support Critically Endangered Species Conservation Action Plans
Scope*:* This activity is required if critically endangered species are to be protected from extinction. As per IUCN, there are 3,900 critically threatened species currently. While many countries have adopted conservation action plans for critically threatened species, these plans vary in terms of their technical effectiveness and expenditure. This activity focuses on protecting a number of priority, highly threatened and critically endangered species outside protected areas. A specific programme for GEF-6 and GEF-7 should be developed with IUCN, the CMS Secretariat, and other relevant organizations.

Funding estimates: $10 million US per project is considered the average minimum funding required to support and scale-up ongoing or start new conservation plans for critically threatened species.

Level of ambition: This alternative activity is going to set out 10, 20, and 30 new projects to support conservation action plans of critically endangered species that need priority recognition to assist eligible countries in their efforts to prevent extinction.

Activity 1 evaluated at three levels of ambition with $10 million US per project

a) Implementing this activity with 10 projects would require $100 million US
b) Implementing this activity with 20 projects would require $200 million US
c) Implementing this activity with 30 projects would require $300 million US

3.2 Incremental Reasoning

Activity 1: Support Critically Endangered Species Conservation Action Plans
Depending on the ongoing international, national, and inter-state efforts to reverse extinction of critically endangered species, GEF funding should only be allocated to projects that are part of a multi-national species conservation programme to achieve global environmental benefits. In this regard, 100% incremental reasoning is proposed. A close collaboration with other conventions such as the CMS, or global initiatives like the Global Tiger Initiative, is essential and necessary to achieve relevant conservation efforts.

4. Estimates of Funding Needs for the GEF-6 Period

The estimated total funding needs for this Target range between $100 million US to $300 million US depending on the level of ambition and both before and after accounting for incremental reasoning (**Table 12**).

Co-financing might be available from other international agencies, NGOs and the private sector.

Table 12: Estimated Funding Needs of Aichi Target 12 for the GEF-6 Period

Target 12 - Threatened Species	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 10 projects A1: Support Critically Endangered Species Conservation Action Plans	100,0			100%	100,0		
Level of Ambition 2: 20 projects A1: Support Critically Endangered Species Conservation Action Plans		200,0		100%		200,0	
Level of Ambition 3: 30 projects A1: Support Critically Endangered Species Conservation Action Plans			300,0	100%			300,0
Total for Target 12	100,0	200,0	300,0		100,0	200,0	300,0

5. Indicators and Baseline information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in abundance, distribution and extinction risk of species:
  - Trends in abundance of selected species (A) (Decision VII/30 and VIII/15) (UNCCD indicator
  - Trends in extinction risk of species (A) (Decision VII/30 and VIII/15) (MDG indicator 7.7) (Also used by CMS)
  - Trends in distribution of selected species (B) (Decision VII/30 and VIII/15 (also used by UNCCD)

(A) for use at the global level, (B) possibly at the global level and (C) at national or other sub-global level.

Possible indicators and baseline information: One relevant indicator for this target is the change in status of threatened species. The IUCN Red List, which classifies species as being extinct (EX), Extinct in the wild (EW), Critically endangered (CR), Endangered (EN), Vulnerable (VU), Near threatened (NT), or Least Concern (LC), provides strong baseline information for this target (http://www.cbd.int/sp/targets/rationale/target-12/).

II.2.13 Genetic Diversity of Socio-Economically and Culturally Valuable Species (Target 13)

Target 13: By 2020, the loss of genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species is maintained and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

1. Technical Rationale

The genetic diversity of cultivated plants and farmed or domesticated animals and of wild relatives is in decline as is the genetic diversity of other socio-economically and culturally valuable species. As such the genetic diversity, which remains needs to be maintained, and strategies need to be developed and implemented to minimize the current erosion of genetic diversity. While progress has been made in safeguarding many varieties and breeds through ex situ storage in gene banks, less progress has been made in situ. In situ conservation, including through continued cultivation on farms, allows for ongoing adaptation and adaptability to changing conditions (such as climate change) and agricultural practices. In addition, both in situ and ex situ conservation of wild relatives of crop plants and other socio-economically valuable species, as well as selected wild species of plants and animals, should be improved inside and outside protected areas (http://www.cbd.int/sp/targets/rationale/target-13/).

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

This Target is related to relevant decisions on agricultural biodiversity, the Global Strategy for Plant Conservation, and the International Initiative on Food and Nutrition. Decisions on agricultural biodiversity include III/1 on conservation and sustainable use of agricultural biological diversity, IV/6; V/5; VI/5, VII/3, VIII/23, and X/34 on agricultural biodiversity. Decision VI/9 extensively covers the Global Strategy for Plant Conservation Targets.

GEF Guidance

CBD/COP Decision VI/9 has highlighted the potential and significance of conserving plant genetic resources. *(http://www.fao.org/biodiversity/assessments/en/)*

COP 10 Decision X/24.Review of guidance to the financial mechanism
4.2 Identification and monitoring (Article 7)

(a) Identification and monitoring of wild and domesticated biodiversity components, in particular those under threat, and implementation of measures for their conservation and sustainable use;
(b) Capacity-building for developing monitoring programmes and suitable indicators for biological diversity;
(c) Development and implementation of effective biodiversity indicators;
(d) Conducting national and other sub-global assessments making use of the conceptual framework and methodologies of the Millennium Ecosystem Assessment.

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Global Strategy for Plant Conservation
9.*Invites* Parties, other Governments, and funding organizations to provide adequate, timely and sustainable support to the implementation of the Global Strategy for Plant Conservation, especially by eligible countries; and *invites* the financial mechanism to consider strengthening the Global Strategy for Plant Conservation in its country-driven activities;

Proposed Milestones
Possible milestones for this Target include:

- By 2014, programmes for in situ conservation of crop and livestock genetic diversity and other socio-economically valuable species, as well as for selected wild species of plants and animals, are included in national biodiversity strategies and action plans (http://www.cbd.int/sp/targets/rationale/target-13/).

3. Activities, Funding Needs and Incremental Reasoning

The mandate to carry out activities to implement this Target may primarily fall under the FAO's responsibility. The CBD programme of work on agricultural biodiversity, as well as the FAO *Global Plan of Action* for the conservation and sustainable use of plant genetic resources for food and agriculture (http://typo3.fao.org/fileadmin/templates/agphome/documents/PGR/GPA/GPA2/GPA2_en.pdf), the FAO *Global Plan of Action* for animal genetic resources (http://www.fao.org/docrep/010/a1404e/a1404e00.htm), and the International Initiative on Biodiversity for Food and Nutrition provide guidance on the types of actions which can be taken to achieve this Target. The ITPGR of the FAO (The International Treaty on Plant Genetic Resources For Food and Agriculture, http://www.fao.org/AG/cgrfa/itpgr.htm) is engaged in maintaining *ex situ* conservation systems for the conservation of critical genetic resources. In 2010, the FAO launched The *Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture*, which was one of FAO's contributions to the International Year of Biodiversity. The Second Report identifies gaps and needs and provides a sound basis for updating the rolling *Global Plan of Action* (http://www.fao.org/biodiversity/assessments/en/).

Currently, efforts have been made in some countries to promote on-farm and off-farm conservation of traditional plant and livestock variety as part of national biodiversity legislations and plant variety protection legislations. However, these practices are not systematized and synergized. Conservation breeding of critically endangered or threatened species (e.g. in zoos) has been constrained by the small number of animals available in captivity.

Ex situ conservation breeding of endangered species complements in situ efforts and involves joint efforts of in situ and ex situ wildlife managers. Currently there are no projects that look at interface management between the two streams of conservation for critically endangered crop / livestock seeds and wild relatives. Further species conservation action plans for such kind of biodiversity are sporadic and weak on synergistic management. It is important to analyze suitability of the wild habitat for the targeted species and where habitats are not amenable to change to strengthen ex situ conservation and captive breeding efforts. The same also holds true of plant species, including wild relatives that represent a gene pool of plants that have higher adaptability to climate stress. On farm conservation possibilities for these genetic resources need to be explored more intensively to achieve Target 13. The other priority is to look at plants and animals that are valuable in terms of their significance to the cultural ethos of different communities.

Examples of activities to achieve Target 13 are to:
a. Maintain crop and livestock varieties on farm;
b. Establish protected areas for endangered varieties and wild relatives (this could partly be covered under Target 11);
c. Implement conservation programmes for threatened wild species;
d. Promote synergies of in-situ and ex-situ conservation of critically threatened species;
e. Establish and develop gene banks or ex situ collection centres.

So far, the GEF has not been significantly engaged with projects that facilitate Target 13; however, a few country projects are currently being supported by the GEF under the Small Grants Programme (e.g. Lesotho - setting up community herbal gardens and other ex-situ collection centres, http://sgp.undp.org/index.php?option=com_sgpprojects&view=projectdetail&id=17373&Itemid=205#.UA_P15G0KSp; Kenya - capacity building with around $5 million US (http://sgp.undp.org/index.php?option=com_sgpprojects&view=projectdetail&id=16398&Itemid=205#.UA_D4JG0KSo).

Until now, the GEF has not been engaged in supporting the establishment of gene banks. This is being suggested to discuss further. However, there is a role for the GEF to assist in elaborating conservation programmes, which cover threatened domestic varieties and their wild relatives.

3.1 Activities and Funding Needs

Target 13 is mainly linked to Targets 7, 11, and 12; however, the proposed activity below may not overlap with activities under these other Targets.

Activity 1: Develop and implement action plans for in situ-ex situ genetic diversity conservation
Scope: Given that Target 13 is linked to Targets 5, 6, 7, 11, and 12, it is proposed that efforts should focus on developing and implementing genetic biodiversity conservation action plans, which contain the set of activities described above. To ensure greater synergies between in situ and ex situ conservation, efforts should concentrate on projects and action plans that aim to improve conservation possibilities for wild relatives of plants and domesticated animals in pilot locations. These could then serve as a model for large scale national level efforts to close the gap between in situ and ex situ projects and overcome inadequacies in current practices of conservation involving culturally valuable varieties of species, particularly in high value areas in Africa, Asia, the Middle East, and Central Asia. The choice of areas may follow the criteria of high biodiversity and rich gene pools, such as Alleppo in the Middle East.

Funding estimates: Expenditures for conservation programmes of threatened species have been worked out by various experts (see Target 12). It is postulated that developing and implementing a conservation action plan addressing synergies of in situ and ex situ conservation will need at least $5 million US. It is assumed that pilot activities should be undertaken in protected areas that are already well managed and agro landscapes with valuable varieties for agriculture biodiversity.

Levels of ambition: Depending on the number of action plans connected to agro-biodiversity conservation that is taken up during GEF 6, the activity costs range between $5, $30, and $45 million US. It is assumed that each action plan will cost $5 million US

Activity 1: evaluated at three levels of ambition and $5 million US per action plan

a) Implementing this activity with 3 action plans would require $15 million US
b) Implementing this activity with 6 action plans would require $30 million US
c) Implementing this activity with 9 action plans would require $45 million US

3.2 Incremental Reasoning

Activity 1: Develop and implement action plans for in situ-ex situ genetic diversity conservation

The erosion of gene pools, varieties, and wild relatives of domesticated species has a global significance for food security and sustainable livelihoods since they help the improvement of gene accessions in the CGIAR Depositary (CGIAR is a global partnership that unites organizations engaged in research for a food secure future - http://www.cgiar.org/). A 50% incremental reasoning is considered to be justifiable for this activity.

4. Estimates of Funding Needs for the GEF-6 Period

To carry out conservation action plans in pilot locations targeting agro-biodiversity and culturally valuable species and assuming funding needs of $5 million US per plan, the estimated total funding amounts needed range from $15 million to $45 million US before incremental reasoning. After accounting for incremental reasoning, the amount required for GEF-6 would range between $7.5 million and $22.5 million US for activity 1 (**Table 13**).

Table 13: Estimated Funding Needs of Aichi Target 13 for the GEF-6 Period

Target 13 - Genetic Diversity	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 3 action plans x $ 5 million US							
A1: Develop and implement action plans for in situ-ex situ genetic diversity conservation	15,0			50%	7,5		
Level of Ambition 2: 6 action plans x 5 million US							
A1: Develop and implement action plans for in situ-ex situ genetic diversity conservation		30,0		50%		15,0	
Level of Ambition 3: 9 action plans x $ 5 million US							
A1: Develop and implement action plans for in situ-ex situ genetic diversity conservation			45,0	50%			22,5
Total for Target 13	**15,0**	**30,0**	**45,0**		**7,5**	**15,0**	**22,5**

5. Indicators and Baseline information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- *Trends in genetic diversity of species:*
  - Trends in genetic diversity of cultivated plants, and farmed and domesticated animals and their wild relatives (B) (Decision VII/30 and VIII/15)
  - Trends in genetic diversity of selected species (C)
- Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and implementation and incentives
  - Trends in number of effective policy mechanisms implemented to reduce genetic erosion and safeguard genetic diversity related to plant and animal genetic resources (B)

(A) for use at the global level, (B) possibly at the global level and (C) at national or other sub-global level.

Possible indicators and baseline information: The programme of work on agricultural biodiversity as well as the FAO Global Plan of Action for the conservation and sustainable use of plant genetic resources for food and agriculture, the FAO Global Plan of Action for animal genetic resources and the International Initiative on Biodiversity for Food and Nutrition provide guidance on the types of actions which can be taken to reach this target. Indicators and baseline information: Indicators for this target are ex situ crop collections, and the genetic diversity of terrestrial domestic animals. Other indicators could include trends in the genetic diversity of cultivated plants, fish species of major socio-economic importance and the number of gene bank accessions. Assessments carried out by the Food and Agriculture Organization could provide baselines for assessments towards this target. (http://www.cbd.int/sp/targets/rationale/target-13/)

II.2.14 Ecosystem Services (Target 14)

Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities and the poor and vulnerable.

1. Technical Rationale

All terrestrial, freshwater and marine ecosystems provide multiple ecosystem services. However some ecosystems, such as those that provide ecosystem services related to the provision of water, are particularly important in that they provide services that are essential for human wellbeing and specifically for the lives and livelihoods of women, and indigenous and local communities, including the poor and vulnerable. Accordingly, priority should be given to safeguarding or restoring such ecosystems, and to ensuring that people, especially women, indigenous and local communities and the poor and vulnerable, have adequate and secure access to these services (http://www.cbd.int/sp/targets/rationale/target-14/).

2. Reference to Relevant COP Decisions and GEF Guidance

This target is related to Article 8j and 10 and related provisions of the Convention.

COP Decisions
This Target is related to decisions on sustainable use, biodiversity for development and poverty reduction, ecosystem services, and the ecosystem approach, which is a strategy for the integrated management of land, water, and living resources that promote conservation and sustainable use in an equitable way. The ecosystem approach also recognizes that humans, with their cultural diversity, are an integral component of ecosystems (http://www.cbd.int/ecosystem/).

Decision IX/15 on the follow-up to the Millennium Ecosystem Assessment and *Decision X/24, Article 8(j)* and related provisions.

GEF Guidance
Decision X/25
4.1 Biodiversity Planning, issues related to developing countries.
4.6 Traditional knowledge (Article 8(j) and related provisions)
(a)…;
(c) Projects that strengthen the involvement of local and indigenous people in the conservation of biological diversity and sustainable use of its components.

4.7 Sustainable use (Article 10)
(a) Implementation of the Addis Ababa Principles and Guidelines at the national level to ensure that the use of biological diversity is sustainable.

Proposed Milestones

Possible milestones for this Target include:

- By 2014, information on the services provided by ecosystems and the benefits received by local and indigenous communities is compiled and reviewed through respectful and participatory processes;
- By 2014, national strategies or policies for enhanced and equitable provision of and access to essential ecosystem services are developed as a contribution to poverty reduction and sustainable development strategies (http://www.cbd.int/sp/targets/rationale/target-14/).

3. Activities, Funding Needs and Incremental Reasoning

Ecosystems, which provide essential services and contribute to local livelihoods, should be identified through participatory processes at local, national and global levels and in accordance with Article 10 of the Convention.

Three elements can be derived from the Target:

Element 1: specific assessments of ecosystem services: Ecosystem Assessments such as Sub Global Assessments and other methodologies and tools that compile information on the services provided by ecosystems and the benefits received by local and indigenous communities can contribute to achieving the Target.

Element 2: national strategies or policies for enhanced and equitable provision of and access to essential ecosystem services. The resulting information should be integrated into NBSAPs, development strategies, or land use planning to ensure that these ecosystems receive the necessary protection and investments.

Element 3: restoration of essential ecosystem services to provide these essential services to the local people.
This element addresses restoration activities of ecosystem services. Implementation of restoration activities is addressed through under other targets such as Target 10 on coral reef ecosystem services and Target 15 on carbon sequestration. Restoration activities regarding other ecosystem services, in particular water provision, may fall under this Target. The GEF has supported very few projects regarding this issue. Only one wetland restoration project could be found: *Lake Pomorie Conservation, Restoration and Sustainable Management Project Bulgaria* (http://www.thegef.org/gef/project_detail?projID=1749), which aims to promote the sustainable management of the wetland ecosystem by fostering a combination of restoration, conservation, and sustainable production activities. GEF's grant covered 44% of the total financing, which was about $2 million US.

Wetland habitat restoration, which also secures ecosystem services, is primarily covered by activities and funding under the Ramsar Convention (http://www.ramsar.org/cda/en/ramsar-home/main/ramsar/1_4000_0__) and thus, not considered further in this report.

3.1 Activities and Funding Needs

To meet Target 14, three activities for GEF funding are presented:

Activity 1: Elaborate sub global assessments[9] of ecosystem services in collaboration with indigenous and local knowledge holders

Scope: Sub global assessments and other methodologies and tools that compile information on the services provided by ecosystems and the benefits received by local and indigenous communities can contribute to the Target. An analysis is needed that reveals who derives which benefits from ecosystems, and how such benefits contribute to the well-being of the poor[10]. Such assessments should be developed and reviewed through respectful and participatory processes, in collaboration with indigenous and local knowledge holders, that take into account trends in proposed indicators for this target and Addis Ababa Principles and Guidelines, the under 8j developed elements of the code of ethical conduct, and other work related to Article 10 (as 10 c) and 8j. It could also include information from many other activities as e.g. the Indigenous and Community Conserved Areas (ICCA) reviews. Tools for mapping ecosystem services and the valuation of ecosystem services are described in Target 2. Hence, results can feed into activities under Target 2. Looking at the scope of Target 19, activity 1 may also be considered to be covered by Target 19.

Funding estimates: It is estimated that sub global assessments would cost about $2 million US per country, based on the UK National Assessment on Ecosystem Services performed 2011 (http://www.unep-wcmc.org/uk-national-ecosystem-assessment_646.html).

Levels of ambition:

Activity 1 for three levels of ambition and 2 million USD per GEF eligible country

a) Implementing this activity in 30 countries would require $60 million US
b) Implementing this activity in 60 countries would require $120 million US
c) Implementing this activity in 90 countries would require $180 million US

Activity 2: Support the development of national strategies on ecosystem services

Scope: National strategies or policies, based on results from Activity 1 can contribute to restore and safeguard ecosystem services and enhanced and equitable provision of and access to essential ecosystem services. The resulting information should be integrated into NBSAPs (Target 17), poverty reduction and sustainable development strategies, or land use planning to ensure that these ecosystems receive the necessary protection and investments. They could include enabling environment as institutional framework and contributions for implementation of activities and mechanisms identified to benefit local people. Sound distribution and recognition of property rights, including

[9] Sub-Global Assessments according to Millennium Ecosystem Assessment (MA): The MA was conducted as a "multiscale" assessment, consisting of interlinked assessments undertaken at local, watershed, national, regional and global scales. The MA sub-global assessments were conceived as integrated assessments to analyze the relationship between direct and indirect drivers of ecosystem change, their impact on ecosystem services, and the consequences for human well-being. They were also designed to compare different spatial scales, involve a diverse set of stakeholders, and use different knowledge systems as part of the assessment process. The MA sub-global assessments were designed to meet needs of decision-makers at the scale at which they are undertaken, strengthen the global findings with on-the-ground reality, and strengthen the local findings with global perspectives, data, and models. (The work with SGAs are carried forward with the help of The Sub-Global Assessment Network that seeks to create a common platform for practitioners, individuals and organizations, involved in ecosystem assessment at regional, sub-regional, national and sub-national levels.)

[10] Daw, Tim, Katrina Brown, Sergio Rosendo, and Robert Pomeroy. 2011. "Applying the Ecosystem Services Concept to Poverty Alleviation: The Need to Disaggregate Human Well-Being." Environmental Conservation 38 (04): 370-379. doi:10.1017/S0376892911000506.

traditional and customary rights, can contribute to ensuring adequate and equitable access to ecosystem services. This element is related to national strategies and policies that should be developed to secure essential services will be safeguarded to serve the needs of the local communities in the future.

This activity is already broadly covered under Target 2, on the integration of biodiversity values into national and local development, poverty reduction strategies, planning processes, and national accounting. The implementation will probably take place in GEF 7, therefore needs not further estimated here.

Activity 3: Restore essential ecosystem services related to water
Scope: This activity is to restore degraded ecosystem services for enhanced and equitable provision of and access to essential ecosystem services in the future as a contribution to poverty reduction and sustainable development strategies. Restoration of ecosystem services related to water is assumed to be funded primarily by the Ramsar Convention and not by the GEF currently nor in the future.

3.2 Incremental Reasoning

Activity 1: Elaborate sub global assessments of ecosystem services in collaboration with indigenous and local knowledge holders
This activity is considered to deliver both global and local / national benefits. Given the importance of the activity for accomplishment of other Targets, 50% of incremental reasoning is proposed.

Activity 2: Support the development of-national strategies on ecosystem services
Activity 3: Restore essential ecosystem services related to water
Regarding activities 2 and 3 that are captured in other Targets, the incremental reasoning is explained there.

4. Estimates of Funding Needs for the GEF-6 Period

The estimated total funding needs of the main activity and the funding needs in the GEF-6 period without recognition of incremental reasoning range between $60 and $180 million US depending on the level of ambition. After applying incremental reasoning, the requirements range between $30 and $90 million US depending on how many countries participate in the 2014-2018 period (**Table 14).**

Table 14: Estimated Funding Needs of Aichi Target 14 for the GEF-6 Period

Target 14 - Ecosystem Services	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1:							
A1: Elaborate sub-global assessments of ecosystem services	60,0			*50%*	30,0		
A2: Support the development of national strategies on ecosystem services	0,0			*Target 2, Act 2*	0,0		
A3: Restore essential ecosystem services related to water	0,0			*covered by Ramsar*	0,0		
Level of Ambition 2:							
A1: Elaborate sub-global assessments of ecosystem services		120,0		*50%*		60,0	
A2: Support the development of national strategies on ecosystem services		0,0		*Target 2, Act 2*		0,0	
A3: Restore essential ecosystem services related to water		0,0		*covered by Ramsar*		0,0	
Level of Ambition 3:							
A1: Elaborate sub-global assessments of ecosystem services			180,0	*50%*			90,0
A2: Support the development of national strategies on ecosystem services			0,0	*Target 2, Act 2*			0,0
A3: Restore essential ecosystem services related to water			0,0	*covered by Ramsar*			0,0
Total for Target 14	**60,0**	**120,0**	**180,0**		**30,0**	**60,0**	**90,0**

5. Indicators and baseline information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in distribution, condition and sustainability of ecosystem services for equitable human well-being
  - Trends in proportion of total freshwater resources used (A) (MDG indicator 7.5)
  - Trends in proportion of the population using improved water services (A) (MDG indicator 7.8 and 7.9)
  - Trends in benefits that humans derive from selected ecosystem services (A)
  - Population trends and extinction risk trends of species that provide ecosystem services (A)
  - Trends in delivery of multiple ecosystem services (B)
  - Trends in economic and non-economic values of selected ecosystem services (B)
  - Trends in health and wellbeing of communities who depend directly on local ecosystem goods and services (B) (decision VII/30 and VIII/15)
  - Trends in human and economic losses due to water or natural resource related disasters (B)
  - Trends in nutritional contribution of biodiversity: Food composition (B) (decision VII/30 and VIII/15)
  - Trends in incidence of emerging zoonotic diseases (C)
  - Trends in inclusive wealth (C)
  - Trends in nutritional contribution of biodiversity: Food consumption (C) (decision VII/30 and VIII/15)
  - Trends in prevalence of underweight children under-five years of age (C) (MDG indicator 1.8)
  - Trends in natural resource conflicts (C)
  - Trends in the condition of selected ecosystem services (C); Trends in bio-capacity (C)
- Trends in coverage, condition, representativeness and effectiveness of protected areas and other area-based approaches;

  (A) Trends in area of degraded ecosystems restored or being restored (B) for use at the global level, (B) possibly at the global level and (C) at national or other sub-global level.

Possible indicators and baseline information: the health and well-being of communities who depend directly on local ecosystem goods and services and biodiversity for food and medicine. Other possible indicators could include the status and trends of linguistic diversity, numbers of speakers of indigenous languages, and other indicators of the status of indigenous and traditional knowledge (http://www.cbd.int/sp/targets/rationale/target-14/).

II.2.15 Ecosystem Resilience and Restoration (Target 15)

Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

1. Technical Rationale

The conservation, restoration and sustainable management of forests, soils (especially peatlands), freshwater and coastal wetlands and other ecosystems are proven, cost-effective, safe and immediately-available means to sequester carbon dioxide and prevent the loss of other greenhouse gases. Deforestation, wetland drainage and other habitat change lead to the emission of carbon dioxide, methane and other greenhouse gases. For example, the world looses approximately 13 million hectares of forests annually including 6 million hectares of primary forests and, in the process, biodiversity is reduced, greenhouse gases are released and the livelihoods of millions of people, including indigenous peoples and local communities, are threatened. However, in many countries, degraded landscapes represent immense opportunity for both biodiversity restoration and carbon sequestration. For example, the World Resources Institute (WRI) and IUCN recently estimated the global potential for forest landscape restoration to be at 1 billion hectares, or about 25 per cent of the current global forest area. Recent scientific analyses indicate that the biodiversity potential of restored secondary forest is substantial. Forest landscape restoration, including of carbon-rich tropical peatlands, would also have significant co-benefits for climate change mitigation and adaptation. Preliminary analysis indicates that, by 2030, the restoration of degraded forestlands will make the same (or perhaps as much as double) contribution to the reduction of greenhouse gases as that which could be expected from avoided deforestation (70Gt of CO_2 emissions). Restored landscapes and seascapes can improve resilience including adaptive capacity of ecosystems and societies, and can contribute to climate change adaptation and generate additional benefits for people, in particular indigenous and local communities and the rural poor (http://www.cbd.int/sp/targets/rationale/target-15/).

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

This target is related to relevant decisions on climate change and biodiversity, forest biodiversity, and inland waters biodiversity. There are numerous decisions related to these topics.

GEF Guidance

COP 10: Decision X/24: Review of guidance to the financial mechanism
4.23 Climate change and biodiversity

(c) Country-driven activities, including pilot projects, aimed at projects related to ecosystem conservation, restoration of degraded lands and marine environments and overall ecosystem integrity that take into account impacts of climate change.

Proposed Milestones

Possible milestones for this Target include:

- By 2012, indicators on degradation and restoration have been developed and agreed upon;
- By 2014, information on the potential contribution of all ecosystems to carbon storage and sequestration is compiled and reviewed, and a national strategy for the enhancement of the contribution of biodiversity (including habitat, population, species and genetic diversity) to ecosystem resilience and carbon storage has been prepared and adopted, taking into account provisions under the United Nations Framework Convention on Climate Change and its Kyoto Protocol, as well as the United Nations Convention to Combat Desertification and its 10-year strategic plan and framework to enhance the implementation of the Convention (2008–2018);
- By 2014, a national plan for ecosystem restoration is in place and being implemented;
- By 2014, information on the potential contribution of biodiversity and the maintenance of ecosystem services to resilience and adaptive capacity in the face of impacts from climate change, is generated, compiled and reviewed, improved tools and methods for supporting ecosystem based adaptation have been developed and disseminated; and countries have begun integrating ecosystem restoration into national adaptation strategies and other relevant instruments;
- By 2014, national plans for ecosystem restoration are integrated into national biodiversity action plans and other national strategies (including REDD-plus) and are being implemented;
- By 2014, tools and methods for supporting ecosystem-based adaptation have been developed and disseminated; and countries have begun integrating ecosystem restoration into national adaptation strategies and other relevant instruments (http://www.cbd.int/sp/targets/rationale/target-15/).

3. Activities, Funding Needs and Incremental Reasoning

Forest, peatland, wetland, and marine habitat restoration activities, which contribute to ecosystem resilience and carbon stock enhancement, are already underway in many parts of the world. The wider application of these efforts will significantly add up to the achievement of the CBD objectives and generate synergies with the UNFCCC, the UNCCD, and the UNFF [11].

Restoring biodiversity rich forest ecosystems might generate the most significant impact on enhancing carbon stocks and at a minimum partially compensate for the ongoing deforestation and carbon storage loss. Regarding the scale of forest restoration, a specific commitment was launched by the "Bonn Challenge" Conference in September 2011 to restore 150 million hectares through afforestation and forest landscape restoration (FLR) by 2020, which will significantly contribute to enhance carbon stocks and forest ecosystem resilience and to reverse desertification in the long run.

The recent best estimates, resulting from new and more accurate analysis, indicate that more than 2 billion hectares of the world's deforested and degraded lands offer opportunities for restoration. This is almost double the previous estimate of over 1 billion hectares that was prepared for the high level roundtable in London in 2009 because more precise mapping of where forests can grow is now possible. Participants noted that the global assessment should be refined at the national and local levels in order to specify with more precision where and how many hectares could be restored and through what strategies. Recognizing that national circumstances and conditions in the landscape vary, the Bonn event launched the target to restore 150 million hectares by 2020 as a robust and achievable response".

[11] Trumper, K., Bertzky, M., Dickson, B., van der Heijden, G., Jenkins, M., Manning, P. June 2009. The Natural Fix? The role of ecosystems in climate mitigation. A UNEP rapid response assessment. United Nations Environment Programme, UNEPWCMC, Cambridge, UK

Many countries and regions will need public funding to restore degraded forest ecosystems (e.g. Mali, Uganda, India, Latin America countries).[12]

Peatland ecosystem restoration is also of crucial importance to enhance carbon stocks, but additional investigation on the amount of degraded peatland area need to be undertaken in order to calculate necessary global activities. It is suggested that Target 15 should cover peatland restoration as well, but due to lack of data, the issue is not further elaborated in this report.

Wetland habitat restoration is of critical importance, but different aspects should mainly be recognized with activities under Target 8 regarding nutrients, under Target 11 regarding protected areas, and Target 14 regarding ecosystem services others than carbon. However, wetlands like mangroves or sea grass ecosystems will also be relevant to enhance carbon stocks and needs to be considered for pilot projects under Target 15. Wetland habitat restoration is primarily covered by activities und funding under the Ramsar Convention (http://www.ramsar.org/cda/en/ramsar-home/main/ramsar/1_4000_0__) and hence not considered further in this report.

Restoration of coral reefs needs to be considered under Target 15. Coral reefs cover an area of between 280,000 km^2 to 300,000 km^2 in the world and support myriads of species in the 'rainforest of the sea'[13]. About 20%-30% of reefs are severely damaged and 60% could be lost by 2030[14]. At least another 20% are badly degraded or under probable risk of collapse (COPI, 2008). Due to the critical status of coral reefs a strong response is urgently needed to scale up restoration of at least 15% of damaged coral reefs. Reducing the multiple anthropogenic pressures on coral reefs, which is addressed with Target 10, is very important in supporting the efforts to achieve Target 15.

Restoration of degraded habitats demands long-term strategies and due to various significant constraints in implementation it is expected that the 2020 milestone may not be met. Therefore GEF's engagement is required in GEF-6, GEF-7 and beyond.

3.1 Activities and Funding Needs

Two major activities are identified for this target:

Activity 1: Support the Global Forest Restoration Programme

Scope: Focussing on this activity would contribute best to ecosystem resilience, climate change mitigation and adaptation, and combating desertification. Forest restoration activities should be based on the Forest Landscape Restoration approach (FLR) that was developed by the Global Partnership on Forest Landscape Restoration (GPFLR)[15] to guide restoration activities in the field, taking into account site-specific conditions.

Support of the Global Forest Restoration Programme should be strongly linked to the implementation of Target 5 which includes coordination and cooperation with national REDD+ programmes and REDD+ projects to also achieve the UNFCCC REDD+ goal to enhance carbon stocks. In that regard, biodiversity benefits need to be addressed and recognized to secure win-win results for climate change and biodiversity.

[12] http://www.bmu.de/files/pdfs/allgemein/application/pdf/bonn_challenge_summary.pdf
[13] http://www.globalissues.org/article/173/coral-reefs
[14] http://www.enn.com/top_stories/article/3542
[15] http://www.ideastransformlandscapes.org/

Funding estimates: As stated at the Bonn Challenge Conference 2011, an enormous amount of restoration activities are already taking place at the regional and local level, much of it with zero or minimal investment from external financial resources. On the other hand, restoration experiences in various regions show that funding ranges from a few hundred US$ up to several thousand US$ per ha. However, taking into account the enormous effort that is needed for forest restoration within the next six years, a strong push by the GEF to stimulate funding for restoration in different regions and eligible countries is considered very necessary.

Estimates of average expenditure per ha vary from region to region. The proposed global average amount of forest restoration activity per ha is drawn from several sources and may need to be refined. To calculate the funding need for this activity a conservative amount of $300 US/per ha is considered as a minimum investment.

Level of ambition: At the considered restoration expenditure of $300 US/ha, three levels of ambition were evaluated. The intervention may be carried out on 40 million hectares, 80 million hectares and 120 million hectares.

Activity: evaluated at three levels of ambition with an average expenditure of $300 US per hectare

a) Introduction of this activity on 40 million ha would require $12 billion US
b) Introduction of this activity on 80 million ha would require $24 billion US
c) Introduction of this activity on 120 million ha would require $36 billion US

Note: To verify the potential investment per hectare in different regions, additional research is currently being undertaken by IUCN. Additionally, more evidence on the funding requirements globally are expected based on a map on potential areas suitable for restoration being produced by the World Resources Institute (WRI http://www.wri.org/map/global-map-forest-landscape-restoration-opportunities), International Union of Forest Research Organizations (IUFRO – www.iufro.org), and Global Partnership on Landscape Restoration (http://ideastransformlandscapes.org/).

Once operational, the REDD+ incentive scheme currently under discussion in the context of the climate change negotiations can be used to promote co-financing restoration activities to enhance carbon stocks by contributing to restore degraded forest ecosystems (see Target 3 on incentive measures and 5 on habitat loss).

Activity 2: Start a Coral Reef Restoration Programme

Scope: A specific Coral Reef Restoration programme should be envisaged under the GEF Biodiversity, International Water and Climate Change Focal Areas to restore 15% of the world's coral reefs that are severely damaged. The programme should focus on the physical and biological restoration of coral reefs in order to address the impacts of mortality related to coral bleaching and physical degradation and destruction of coral reefs. This should include developing rapid response capabilities to implement measures to address coral-reef degradation, mortality, and subsequently achieve recovery.

The Coral Reef Targeted Research & Capacity Building for Management (CRTR) Program, which the GEF already works with, should be consulted to support the Coral Reef Restoration Programme.[16]

[16] (http://www.gefcoral.org/...)

Funding estimates: Depending on location and restoration type, coral reef restoration expenditures vary between a couple of thousand USD per hectare to about $13,000 US per hectare (e.g. in Tanzania, Fiji and the Philippines) in low cost active biological restoration projects to $6.5 million US per hectare in ship grounding projects in the Caribbean's (Edwards and Gomez, 2007). Coral transplantation may be the simple and cheap solution for reef restoration in some cases[17].

Examples of costs of restoration of coral reefs

Location	Restoration activity physical/biological	Cost
Caribbean	Ship grounding project	$2 - $6.5 million US/ha
Tanzania, Fiji & Philippines	Active biological restoration projects	$2,000 - $13,000 US/ha
Australia	Transplantation to replace 10% of the target coral density	$40,000 US/ha
1) Community based projects	Transplanting 2 corals per m^2	$2,000 US/ha
2) Community based projects	Increasing coral cover on patches of reef from 10% to 20% (transplanting)	$4,590 US/ha

Source: Based on Edward and Gomez, 2007

As of yet, coral reef restoration projects are not included in the GEF portfolio. However, before restoration activities can be successful, it is essential that the multiple human pressures cease, which is addressed with Target 10. According to Target 15 immediate intervention is required in 4.5% of the reefs that are severely damaged and cover an area between 12,600 km^2 (or 8,400,000ha x 15%=1,260,000 ha) to 13,500km^2 (or 9,000,000ha x 15% = 1,350,000 ha). Restoration activities of at least 2,000 ha should be carried out within a single project, if appropriate and necessary, assuming average costs of $5.000 US/ha. Hence, project costs to implement this activity might require a minimum of $10 million US.

Levels of ambition*:* It may not be feasible to accomplish the proposed Coral Reef Restoration Programme in all major coral reef regions around the world within the short timeframe set by COP 10. However, ecosystem-based implementation activities to minimize the multiple pressures on coral reefs should start as early as possible and should pursue ongoing initiatives. It is also likely that due to the huge size of some coral reef regions, several GEF projects will need to be conducted within the same region.
These funding levels are justifiable in the sense that they will help avoid costs of policy inaction by acting early to save the coral reef areas that are expected to be lost during the next years.

Activity 2: Restore the severely damaged of coral reefs at three levels of ambition

a) 6 new projects at $10 million US each would require $60 million US
b) 8 new projects at $10 million US each would require $80 million US
c) 10 new projects at $10 million US each would require $100 million US

[17] http://www.sciencedaily.com/releases/2007/03/070315171139.htm

3.2 Incremental Reasoning

Activity 1: Support the Global Forest Restoration Programme

Activity 2: Start a Coral Reef Restoration Programme

Forest and coral reef ecosystem restoration activities will generate substantial global benefit in addition to anticipated national and local benefits. Moreover, many livelihoods that depend on forests and coral reefs would become even more vulnerable than they currently are. Taking into account the global economic value of forests and coral reefs and the severe threats these ecosystems face, it is justifiable to propose 40% incremental reasoning.

For the biodiversity part, the GEF should act as a catalyst for leveraging funds from various other sources, especially from climate mitigation and adaptation funding.

Private sector finance may be available to support activity 1 on forest restoration.

4. Estimates of Funding Needs for the GEF-6 Period

This Target will require total funding amounts ranging between $12 billion to $36.1 billion US before accounting for incremental reasoning. At 50% GEF incremental reasoning, the restoration of forests and coral reefs would require $6 billion to $18 billion US during the GEF-6 period (**Table 15**).

It is obvious that due to many obstacles in planning and implementing restoration programmes in eligible countries, only a part of the programme will be feasible in GEF-6. However, it is necessary to encourage the biggest share of donors' contributions during GEF-6.

Table 15: Estimated Funding Needs of Aichi Target 15 for the GEF-6 Period

Target 15 - Ecosystem Resilience and Restoration	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1:							
A1. Support Global Forest Restoration Programme: 40 mio ha x $300 US/ha	12000,00			40%	4800,00		
A2: Start Coral Reef Restoration Programme with 6 new projects	60,00			40%	24,00		
Level of Ambition 2:							
A1. Support Global Forest Restoration Programme: 80 mio ha x $300 US/ha		24000,00		40%		9600,00	
A2: Start Coral Reef Restoration Programme with 8 new projects		80,00		40%		32,00	
Level of Ambition 3:							
A1. Support Global Forest Restoration Programme: 120 mio ha x $300 US/ha			36000,00	40%			14400,00
A2: Start Coral Reef Restoration Programme with 10 new projects			100,00	40%			40,00
Total for Target 15	**12060,00**	**24080,00**	**36100,00**		**4824,00**	**9632,00**	**14440,00**

5. Indicators and baseline information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in distribution, condition and sustainability of ecosystem services for equitable human well-being
  - Status and trends in extent and condition of habitats that provide carbon storage (A)
- Trends in coverage, condition, representativeness and effectiveness of protected area and other area-based approaches
  - Population trends of forest-dependant species in forest under restoration (C)

(A) for use at the global level and (C) at national or other sub-global level

Possible indicators and baseline information: Relevant indicators include the extent of native habitat types, the Ecological Footprint and related concepts as well as trophic integrity of all relevant ecosystems. Other possible indicators could include the storage of carbon and other greenhouse gas (GHG) (using UNFCCC inventories supplemented by scientific assessments) and assessments of vulnerability and adaptive capacity. In addition to biomass indicators, it is important to consider degradation and restoration metrics. (http://www.cbd.int/sp/targets/rationale/target-15/).

II.2.16 Access and Benefit Sharing (ABS) (Target 16)

Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

1. Technical Rationale

The third Objective of the Convention provides for "the fair and equitable sharing of the benefits arising out of the utilization of genetic resources…". Genetic resources, whether from plant, animal or microorganisms, are used for a variety of purposes ranging from basic research to the development of products. Users of genetic resources may include research institutes, universities and private companies operating in various sectors such as pharmaceuticals, agriculture, horticulture, cosmetics and biotechnology. The Convention, in its Article 15, sets out principles and obligations of Parties related to access to genetic resources and the fair and equitable sharing of benefits arising out of the utilization of genetic resources, on the basis of prior informed consent and mutually-agreed terms (http://www.cbd.int/sp/targets/rationale/target-16/).

2. Reference to Relevant COP Decisions and GEF Guidance

This target is related to Article 15 of the Convention.
Article 15. Access to Genetic Resources

….

7. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, and in accordance with Articles 16 and 19 and, where necessary, through the financial mechanism established by Articles 20 and 21 with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources. Such sharing shall be upon mutually agreed terms.

COP Decisions
This Target is closely related to the decisions on the Nagoya Protocol and its implementation (Decision X/1 http://www.cbd.int/decision/cop/?id=12267).

GEF Guidance
COP 10 - Decision X/25: Additional guidance to the financial mechanism
Access and benefit-sharing
13. *Invites* the Global Environment Facility to provide financial support to Parties to assist with the early ratification of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity and its implementation;

Proposed Milestones
Possible milestones for this Target include:
- By 2012, the international regime on access and benefit sharing enters into force;

- By 2014, all countries have developed domestic policies and initiated relevant measures in line with the Convention, and the international regime on access and benefit sharing, as appropriate (http://www.cbd.int/sp/targets/rationale/target-16/).

3. Activities, Funding Needs and Incremental Reasoning

CBD COP 10 adopted the Nagoya Protocol on ABS. Given that this protocol is an international regime, the Target aims to accelerate for its ratification and entry into force by 2015.

In 2011, the GEF Trust Fund began its support for the project *Strengthening the Implementation of Access to Genetic Resources and Benefit-Sharing Regimes in Latin America and the Caribbean,* which will a) strengthen the capacity of countries to develop, implement, and apply the CBD provisions on ABS, and b) increment the understanding and the negotiation skills of countries regarding ABS agreements /contracts in a way that will contribute to aligning bioprospecting projects and national ABS decisions with the CBD while also progressing the CBD's International ABS Regime (http://www.thegef.org/gef/node/4114). GEF's grant is 47% of the $1.8 million US project that will end in 2014.

Up to now the GEF has made an investment of $ 2.7 million US in the past two years to assist Parties bring into force the Nagoya Protocol on ABS, in the context of Strategic Target 16. The GEF investment has leveraged co-financing of US$ 4 million (UNEP/CBD/WG-RI/4/7).

In addition, the *Nagoya Protocol Implementation Fund (NPIF),* which is a multi-donor trust fund managed by the GEF, began operations on May 26th, 2011. The NPIF has been created to fund activities under the Nagoya Protocol on ABS in order to accelerate the ratification and implementation of the Protocol. The Fund supports, among others, existing opportunities leading to the development and implementation of concrete ABS agreements with private sector involvement. Through the implementation of such projects, countries should generate additional information that can help to understand their capacities and needs on ABS paying particular attention to the provisions from existing policies, laws, and regulations affecting genetic resources. So far, the total fund is worth approximately $15 million US, which has been provided by generous contributions from the Government of Japan, Norway, and Switzerland (http://www.thegef.org/gef/content/nagoya-protocol-implementation-fund-brochure).

The second meeting of the Open-ended Ad Hoc Intergovernmental Committee for the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ICNP), held in New Delhi, from 2 to 6 July 2012, has put forward extensive recommendations to COP 11 regarding the GEF 6 replenishment with a view to support the Nagoya Protocol. The GEF is invited to support a set of activities during its sixth replenishment period (2014-2018). In addition the second meeting of the ICNP invites donors to contribute to the NPIF with the view to ensuring continued support for the early entry into force and implementation of the Nagoya Protocol (UNEP/CBD/COP/11/6, Annex II).

3.1 Activities and Funding Needs

Activity 1: Accelerate the Nagoya Protocol ratification

Scope: At the 42nd GEF Council meeting in May 2012, a progress report of the Nagoya Protocol Implementation Fund (NPIF) was tabled. Until now, one project in Panama has been approved and the GEF Secretariat has identified

other potential NPIF projects in 14 countries in Latin America and the Caribbean, Africa, and Asia. Three projects are under development, three are in the concept note stage, and eight are under discussion with the potential executing partners (http://www.thegef.org/gef/sites/thegef.org/files/documents/C.42_Inf.07_Progress%20Report%20on%20the%20NPIF.pdf).

Funding estimates: Given that the NPIF is operational and potential projects have been identified to support countries in achieving Target 16 in time, additional funding from the GEF Trust Fund may only be considered if COP 11 takes a decision according to the recommendation drafted in UNEP/CBD/COP/11/6, Annex II. Hence, funding estimates are not included in this study for the time being.

3.2 Incremental Reasoning

Will be applied according to the GEF rules and those of the NPIF.

4. Estimates of Funding Needs for the GEF-6 Period

Funding should be provided by the NPIF, which is operated by the GEF.

Table 16: Estimated Funding Needs of Aichi Target 16 for the GEF-6 Period

Target 16 - ABS	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
A: Accelerate the Nagoya Protocol ratification							
Level of Ambition 1:				*covered*			
Level of Ambition 2:				*by*			
Level of Ambition 3:				*NPIF*			
Total for Target 16	0,0	0,0	0,0		0,0	0,0	0,0

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in access and equity of benefit-sharing of genetic resources
  - ABS indicator to be specified through the ABS process (indicator be used possibly at global level)

Possible indicators and baseline information: An indicator of access and benefit sharing (ABS) is under development. Possible measures could include the number of countries Party to the international regime, the number of countries with national ABS frameworks/legislation; the number of ABS agreements; the number of technical assistance programmes available for strengthening national ABS programmes; and, potentially, the value of benefits shared. Other possible indicators include the number of competent national authorities established to address issues related to access and benefit sharing as well as the number of academic collaboration projects on ABS (http://www.cbd.int/sp/targets/rationale/target-16/).

II.2.17 National Strategies and Action Plans (Target 17)

Target 17: By 2015, each Party has developed, adopted as a policy instrument, and has commenced implementing, an effective, participatory and updated national biodiversity strategy and action plan.

1. Technical Rationale

National biodiversity strategies and action plans (NBSAPs) are the key instrument for translating the Convention and decisions of the Conference of the Parties into national action. To date, 175 (91%) Parties have developed NBSAPs in line with Article 6. Under GEF-5, countries have mobilised important funding for updating and strengthening their NBSAPs. It is likely that following such efforts, Parties will thus have partly developed, adopted and commenced implementing as a policy instrument an updated NBSAP which is in line with the goals and targets set out in this Strategic Plan by 2015. To date, 171 Parties have prepared national biodiversity strategies. COP has adopted consolidated guidance for the development, updating and revision of NBSAPs (Decision IX/8). In line with this decision, NBSAPs should catalyze a number of strategic actions in countries including: Integration of biodiversity in broader national strategies (see target 2); CEPA; ensuring availability of information and knowledge for action, including through national CHM nodes; ensuring availability of appropriate tools for implementation; providing capacity building and facilitating access to financial resources; and ensuring monitoring, reporting and review, including identification and use of indicators as appropriate (http://www.cbd.int/sp/targets/rationale/target-17/).

2. Reference to Relevant COP Decisions and GEF Guidance

This target is related to Article 6 of the Convention:
Article 6. General Measures for Conservation and Sustainable Use: Each Contracting Party shall, in accordance with its particular conditions and capabilities:
(a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned; and
(b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

COP Decisions
The Target is also related to the relevant decisions on national biodiversity strategies and action plans. COP guidance on developing NBSAPs, COP 9 Decision IX/8 on the review of implementation of goals 2 and 3 of the Strategic Plan, paragraph 8, provides consolidated guidance to assist Parties in the development and revision of their NBSAP.

GEF Guidance
COP 10 – Decision X/25: Additional guidance to the financial mechanism
National biodiversity strategies and action plans
1. *Requests* the Global Environment Facility to provide adequate and timely financial support for the updating of national biodiversity strategies and action plans and related enabling activities, and *requests* the Global

Environment Facility and its implementing agencies to ensure that procedures are in place to ensure an expeditious disbursement of funds;

2. *Recalling* its "Four-year framework of programme priorities related to utilization of GEF resources for biodiversity for the period from 2010 to 2014" proposed in decision IX/31 and *noting* that objective 5 of the GEF-5 Biodiversity Focal Area Strategy is to "Integrate CBD obligations into national planning processes through enabling activities", *requests* the Global Environment Facility to provide support to eligible Parties in a expeditious manner, for revising their national biodiversity strategies and action plans in line with the Strategic Plan for Biodiversity 2011-2020;

Proposed Milestones

Consistent with the proposed multi-year programme of action, possible milestones for this Target include:

- By 2012, each Party has adopted a set of national targets to contribute to the global targets of this Strategic Plan and has begun to incorporate these into its national biodiversity strategy;
- By 2014, each Party has adopted an up-to-date, effective, participatory, and operational national biodiversity strategy which contributes to the Strategic Plan with responsibilities allocated among sectors, levels of government, and other stakeholders, and has coordination mechanisms in place to ensure implementation of the actions needed (http://www.cbd.int/sp/targets/rationale/target-17/).

3. Activities, Funding Needs and Incremental Reasoning

A revised NBSAP should not be a static planning document but a dynamic policy process that allows Parties to identify their needs, priorities and opportunities to achieve the goals of the CBD in light of their national circumstances. During SBSTTA-15 and WGRI-4, many developing country Parties expressed a strong need for strengthening the NBSAPs instrument, as a mobilising, active, mainstreamed policy instrument involving all stakeholders and delivering key changes in sectors with strong impacts on biodiversity.

The assessment of NBSAPs informing COP 10 stated "*The challenge, to which the energies of the CBD with the support of its partner organizations should be directed as a matter of urgency, is to ensure that as soon as possible all NBSAPs are comprehensive, strategic and being implemented. This will provide the best chance for reducing biodiversity loss and meeting the strategic goals and targets of the new Strategic Plan."*
Therefore, the first recommendation was that

*"**A new generation of NBSAPs should be prepared in response to the new Strategic Plan for Biodiversity.***

> *... A new generation of NBSAPs should be prepared as national policy tools for implementation of the CBD and the other biodiversity-related conventions. Many existing NBSAPs are outdated, have lost momentum or are insufficiently strategic or comprehensive. Countries should revise and update existing NBSAPs. Those that have no NBSAP in place should develop and adopt one as a matter of urgency. A new generation of NBSAPs should be adopted and under implementation at the earliest possible date, but no later than 2014.* (UNEP/CBD/COP/10/INF/11, http://www.cbd.int/doc/meetings/cop/cop-10/information/cop-10-inf-11-en.pdf)

The GEF reported at the WGRI-4 meeting that a total amount of almost $19 million US has been invested to assist 82 developing country Parties update its NBSAP to help them strengthen national planning process for implementing the 2011-2020 Strategic Plan. The GEF amount leveraged an additional $34 million US (UNEP/CBD/WG-RI/4/7).

According to the current GEF funded NBSAP revision 113 countries have submitted proposals to the GEF by July 2012, and the majority of these have been approved (source CBD Sec). It is envisaged that the current revision process of NBSAPs will not completely meet the recommendations expressed in the NBSAP assessment report or the guidance provided by the Conference of the Parties in decisions IX/8 and X/2. In addition, the national strategies, programmes and action plans that are proposed to be elaborated under several Target activities should be integrated and aligned at some stage. Therefore, further GEF support to NBSAP revision is considered to be necessary in the GEF-6 period in order to follow these recommendations and, more practically, to include thematically developed national strategies, such as related to:

Target 1: Activity 2: Implement priority activities of national CEPA programme
Target 2: Activity 1: Support national assessments of biodiversity values, together with *Target 14: Activity 1: Elaborate country specific assessments of ecosystem services*
Target 2: Activity 2: Facilitate strategic integration and programming to value biodiversity together with *Target 14: Activity 2: Support the development of-national strategies on ecosystem services*
Target 4: Activity 2: Carry out ecological footprint assessments
Target 9: Activity 1: Implement Invasive Alien Species Management Frameworks
Target 13: Activity 1: Develop and implement action plans for in situ-ex situ genetic diversity conservation
Target 14: Activity 2: Support the development of national strategies on ecosystem services
Target 18: Activity 1: Develop and implement national strategies for protecting traditional knowledge
Target 20: Activity 1: Develop country specific resource mobilization strategies and reporting

Given that the above-mentioned activities will be elaborated during the GEF-6 period, the next NBSAP revision should be envisaged to start in 2015 during the GEF-6 period.

3.1 Activities and Funding Needs

The following activity is selected for this Target:

Activity 1: Update NBSAP and align national strategies, programmes, and action plans of all Targets
Scope: Further support will allow the NBSAP to be fully updated in order to follow the guidance in Decision IX/8 and make full use of the recommendations of the NBSAP assessment and to align the national strategies, programmes, and action plans that are proposed to be elaborated under several Target activities. The aim is to develop a comprehensive NBSAP ("new generation") that meets the requirements of the Strategic Plan and the Aichi Targets.

Funding estimates: Under NBSAP funding provided by GEF-5, recipient countries have access to GEF resources (up to $500,000 US) to prepare inter alia the National Biodiversity Strategy and Action Plan (NBSAP) per their obligations as Parties to the CBD (http://www.thegef.org/gef/BD_direct_access). Therefore, the same amount should be allocated in GEF-6.

Levels of ambition: This activity should at the very least be introduced in 50 countries, it would even be better to introduce it in 100 or in all GEF eligible countries.

Activity 1: evaluated at three levels of ambition and $500,000 US per country

a) Implementing this activity in 50 countries would require $25million US
b) Implementing this activity in 100 countries would require $50 million US
c) Implementing this activity in 150 countries would require $75 million US

3.2 Incremental reasoning

Activity 1: Update NBSAP and align national strategies, programmes and action plans of all Targets

The substantial importance of the activities related to NBSAPs is well documented and highlighted in the NBSAP assessment report (UNEP/CBD/COP/10/INF/11, http://www.cbd.int/doc/meetings/cop/cop-10/information/cop-10-inf-11-en.pdf). The proposed activity is recommended for 100% incremental reasoning, as has been the practice for prior GEF funding of NBSAPs revision in order to fulfil the Convention's obligations.

4. Estimates of Funding Needs for the GEF-6 Period

Depending on how many countries are involved, Target 17 requires a total funding amount between $25 million US (Scenario 1) to $75 million US (Scenario 3) before and after incremental reasoning of 100% (**Table 17)**.

Table 17: Estimated Funding Needs of Aichi Target 17 for the GEF-6 Period

Target 17- NBSAPs	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 50 eligible countries							
A1. Update NBSAPs and merge with national strategies programmes and action plans of all Targets	25,00			*100%*	25,00		
Level of Ambition 2: 100 eligible countries							
A1. Update NBSAPs and merge with national strategies, programmes and action plans of all Targets		50,00		*100%*		50,00	
Level of Ambition 3: 150 eligible countries							
A1. Update NBSAPs and merge with national strategies, programmes and action plans of all Targets			75,00	*100%*			75,00
Total for Target 17	**25,0**	**50,0**	**75,0**		**25,0**	**50,0**	**75,0**

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trends in integration of biodiversity, ecosystem services and benefit-sharing into planning, policy formulation and implementation and incentives
  - Trends in implementation of national biodiversity strategies and action plans, including development, comprehensiveness, adoption and implementation (possibly at global level).

Possible indicators and baseline information: Indicators to measure progress towards this goal could include: the number of countries with revised NBSAPs; the number of stakeholders who participate in the revision and updating process of NBSAPs; national assessments of NBSAP implementation; the number of countries with national CHM websites; the number of visitors per year to national CHM websites; and the quality of content and on-line services national CHM websites offer, as well as web user feedback. Most of this information can be easily gathered through the existing national reporting process (http://www.cbd.int/sp/targets/rationale/target-17/).

II.2.18 Traditional Knowledge and Customary Use (Target 18)

Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

1. Technical rationale

In line with Article 8(j) of the Convention, traditional knowledge, innovations and practices should be respected, protected, maintained and promoted, and used in local ecosystem management, drawing upon experiences of customary use, with the prior and informed approval[18] of relevant communities. Likewise, in line with Article 10(c), customary use of biological resources that is compatible with conservation and sustainable use, should be protected and encouraged. The rights of indigenous and local communities over their traditional knowledge, innovations, practices and related biological resources, along with their rights to practice and pass on traditional knowledge, innovations and practices should be respected (http://www.cbd.int/sp/targets/rationale/target-18/).

2. Reference to Relevant COP Decisions and GEF Guidance

This Target is related to Article 8(j) as well as relevant decisions on traditional knowledge, innovations, and practices[19]. The CBD also contains three other provisions besides Article 8(j), which deal with the interests of indigenous and local communities. These are Articles 10 (c), Article 15.5, Article 17.2, and Article 18.4 (http://www.cbd.int/traditional/what.shtml).

COP Decisions

COP 10 Decision X/40 on the mechanisms to promote the effective participation of indigenous and local communities in the work of the Convention consisting of:

(a) Capacity building efforts;
(b) Development of communications, mechanisms and tools to facilitate the effective participation of indigenous and local communities in the work of the Convention;
(c) Participation of indigenous and local communities in the work of the Convention, including through the Voluntary Fund for facilitating the participation of indigenous and local communities in the Convention process; and
(d) Other initiatives.

[18] Note that Prior and informed approval has been interpreted in various COP decisions as prior and informed consent.

[19] There are numerous decisions related to Article 8(j). In addition to those mentioned above there are also Decisions IX/13, VIII/5, VII/16, VI/10, V/16 on Article 8(j), IV/9 on the Implementation of Article 8(j) and related provisions and Decision III/14 also on implementation of Article 8(J) (http://www.cbd.int/traditional/decisions.shtml).

Decision X/41: Elements of sui generis systems for the protection of traditional knowledge; Decision X/42: The Tkarihwaié:ri Code of Ethical Conduct to Ensure Respect for the Cultural and Intellectual Heritage of Indigenous and Local Communities; and Decision X/43. Multi-year programme of work on the implementation of Article 8(j) and related provisions of the CBD are also related to this Target among other COP decisions since COP 4.

GEF Guidance

COP 10 Decision X/24: Review of guidance to the financial mechanism

4.6 Traditional knowledge (Article 8(j) and related provisions)

(a) Building the capacity of indigenous and local communities to develop strategies and systems for the protection of traditional knowledge;

(b) Enhancement of national capacities for the establishment and maintenance of mechanisms to protect traditional knowledge at national and sub-national levels;

(c) Development of national action plans for the retention of traditional knowledge relevant to conservation and sustainable use of biological diversity;

(d) Implementation of the priority activities identified in the programme of work on Article 8(j) and related provisions;

(e) Projects that strengthen the involvement of local and indigenous people in the conservation of biological diversity and sustainable use of its components.

COP 10 Decision X/25: Additional guidance to the financial mechanism

Article 8(j) and related provisions

12. Invites the Global Environment Facility, international funding institutions and development agencies and relevant non-governmental organizations, where requested, and in accordance with their mandates and responsibilities, to consider providing assistance to indigenous and local communities, particularly women, to raise their awareness and to build capacity and understanding of the elements of the code of ethical conduct.

Proposed Milestones

Possible milestones for this Target include:

- By 2012, a gender-sensitive review of the use of traditional knowledge, innovations, and practices, and of the status and trends of customary use of biological resources, as they relate to the conservation and sustainable management of biodiversity, has been carried out in collaboration with indigenous and local communities;
- By 2014, adequate measures to respect and protect traditional knowledge and customary sustainable use and the rights of indigenous and local communities over their traditional knowledge, innovations and practices, have been put in place;
- By 2016, a strategy to promote traditional knowledge, innovations and practices, with the approval of the knowledge holders, and in line with their rights, as it relates to the conservation and sustainable management of biodiversity, has been developed and put in place (http://www.cbd.int/sp/targets/rationale/target-18/).

3. Activities, Funding Needs and Incremental Reasoning

The guidance on traditional knowledge (TK), innovations, and practices (Articles 8(j) and 10(c) and related provisions) developed as part of the Convention's cross-cutting issue provides advice on how this Target can be implemented. Capacity building and programmes for the recognition and mainstreaming of Articles 8(j) and 10(c) and related provisions is still a major gap and must be strengthened and further implemented. Attention should be given to direct funding of indigenous peoples' and local communities' (ILC) activities. Target 18 allows for the effective management of ecosystems and protected areas on the ground using TK by local communities.

There are currently two voluntary funding mechanisms established to support the engagement of ILC as well as other CSOs in the work of the CBD and GEF:

(a) The CBD has established a voluntary fund for facilitating the participation of indigenous and local communities in the Convention process. However, as a voluntary fund the resources are not predictable and have generally not been adequate to meet the requirements.

(b) In 2008 the GEF Council agreed to re-establish the GEF NGO Voluntary Fund (originally set up in 1996 http://www.thegef.org/gef/sites/thegef.org/files/documents/C.8.11.pdf) to finance the implementation of the GEF NGO Network Strategy and action plan and also support the expenditures of regional consultations of CSOs. However, the fund was only re-established in 2012 and currently has available funds of about $100,000 US. Further resources are needed to enable the fund to fully operate. An estimated $1-2 million US per year may be needed to facilitate basic work of meetings and consultations as well as additional funds to support targeted initiatives at country and regional level.

In addition to these voluntary funding mechanisms – it is important to establish or strengthen formal funding windows with GEF to support activities of ILCs. There is currently the Small Grants Fund (SGP), which supports significant activities at local level with ILCs. Until now the GEF funded 128 projects under GEF's/UNDP's Small Grants Program (SGP) which supports ILC's work on capacity building and managing TK. GEF grants range between $20,000 US and $40,000 US per phase (http://sgp.undp.org/index.php?option=com_sgpprojects&view=allprojects&Itemid=211).

The issue of TK and customary use is not specifically prioritised at present. In additional the funding mechanism is focussed on local implementation initiatives and would not in current form support activities at national level for strategy and action plan or for significant capacity development. One option would be to provide a specific sub window and additional resources in the SGP to support activities of ILCs on TK and customary use. Alternatively a separate, dedicated funding mechanism could be established at the global level through GEF similar to the grant schemes established under IFAD for indigenous peoples (http://www.ifad.org/english/indigenous/grants/index.htm).

3.1 Activities and Funding Needs

Three activities have been identified to serve the implementation of Target 18:

Activity 1: Develop and implement national strategies for protecting traditional knowledge

Scope: This may include such activities as reviews of legal frameworks and practices, adoption of law reform measures and/or sui generis systems for the protection of traditional knowledge, preservation and promotion of traditional knowledge, as well as CEPA activities with a focus on raising awareness on the value of traditional knowledge and customary sustainable use of biodiversity (covered under Target 1).

In particular, priority should be given to eligible countries who wish to develop national action plans for TK in collaboration with ILCs, as well as to promote the development of community level action plans by ILCs themselves for the respect, preservation, protection, and promotion of traditional knowledge. CBD Parties who have established national focal points for article 8(j) and related provisions (TK and customary sustainable use of biodiversity) should be given priority in accessing funding to develop and implement national TK strategies.

Funding estimates: The GEF granted national action plans inter alia to Micronesia, Vietnam, Thailand, Iran, Madagascar, and Ecuador ranging from $10,000 US to $50,000 US per project phase with a co-financing ratio of more than 50%. This activity should be financed with about $50,000 US per project phase following the range of the

Small Grants Programme (SGP) for developing a national strategy. The SGP funding mechanism is focussed on local implementation initiatives and would not in current form support activities at national level for strategy and action plan implementation. Therefore it is proposed to allocate an amount up to $1 million US per country to implement activity 2.

***Levels of ambition**:* To ensure that more countries achieve Target 18 in the run up to 2020, this activity should be introduced in at least 25, 50, or 75 countries.

Activity 1: evaluated at three levels of ambition and $1 million US per country

a) Implementing this activity in 10 countries would require $10 million US
b) Implementing this activity in 20 countries would require $20 million US
c) Implementing this activity in 30 countries would require $30 million US

Activity 2: Capacity building for ecosystem management based projects on TK

Scope: This consists of initiatives for promoting and/or protecting TK in the context of conservation and sustainable use of biodiversity, such as in the self-management or co-management of protected areas, inter alia in Indigenous Community Conserved Areas (ICCAs), management and support of endangered species, customary sustainable use and community conservation practices, among others, with emphasis in generation of income and sustainability for ILCs.

Such projects have been carried out under the Small Grants Programme (SGP) in the same range of GEF funding as activity 1 to facilitate i.e. *Local Community Participation in Managing and Enhancing Biological Diversity Conservation* in Malaysia, Sri Lanka, and other countries.

While this activity may overlap with Targets 3, 11, and 12's objectives, they may not generate positive incentives to support the livelihoods of ILCs as proposed under this activity.

Funding estimates: The GEF granted capacity building related to PA management ranging from $10,000 US to $50,000 US per project phase with a co-financing ratio of more than 50%. This activity should be financed with about $50,000 US per project phase following the range of the Small Grants Programme (SGP).

***Levels of ambition**:* To ensure that more countries achieve Target 18 in the run up to 2020, this activity should be introduced in at least 25, 50, or 75 countries.

Activity 2: evaluated at three levels of ambition and $50 000 US per country

a) Implementing this activity in 25 countries would require $1,25 million US
b) Implementing this activity in 50 countries would require $2,50 million US
c) Implementing this activity in 75 countries would require $3,75 million US

Activity 3: Capacity building initiatives to foster governance and political representation

Scope: The initiatives are to foster governance and political representation of indigenous and local communities in practices of institutional collective governance in the defence of their rights, traditional knowledge and habits and habitats, such as, indigenous schools, territorial governance fora, leadership encounters, documentation of traditional knowledge and uses as well as support capacity development for effective engagement of indigenous representatives in policy dialogues at local, national regional and international levels etc.

Funding estimates: The GEF granted capacity building activities ranging of $10,000 US to $50,000 US per project phase with a co-financing ratio of more than 50%. This activity is considered to be supported following the range of the Small Grants Programme (SGP) of about $50,000 US per project phase.

Levels of ambition*:* To further improve governance, participation and representation the activity should be introduced in at least 25 countries, 50 or 75 countries to engage more countries to achieve Target 18 in the run up to 2020.

Activity 3: evaluated at three levels of ambition and $50 000 US per country

a) Implementing this activity in 25 countries would require $1,25 million US
b) Implementing this activity in 50 countries would require $2,50 million US
c) Implementing this activity in 75 countries would require $3,75 million US

3.2 Incremental Reasoning

Activity 1: Develop and implement national strategies for protecting traditional knowledge

Activity 2: Capacity building for ecosystem management based projects on TK

Activity 3: Capacity building initiatives to foster governance and political representation

Indigenous communities are guardians of traditional knowledge to conserve and use biodiversity within and outside protected areas sustainably. There is a clear need for national strategies and action plans and capacity building to achieve Target 18, which would also help serve the implementation of Target 11 and 12. National strategies and action plans should be an essential part of NBSAPs if appropriate, and hence 100% incremental reasoning is required for all activities.

4. Estimates of Funding Needs for the GEF-6 Period

Depending on the scenario, Target 18 requires a total funding amount of $2.5 million US (Scenario 1) to $7.5 million US (Scenario 3) before incremental reasoning. After accounting for incremental reasoning of 100%, the estimated GEF-6 investment remains the same amount. The results are presented in **Table 18**.

Table 18: Estimated Funding Needs of Aichi Target 18 for the GEF-6 period

Target 18 - Traditional Knowledge (TK)	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1:							
A1: Develop and implement national strategies for protecting traditional knowledge (10 countries)	10,00			*100%*	10,00		
A2: Capacity building projects on TK (25 countr)	1,25			*100%*	1,25		
A3: Capacity building initiatives to foster governance and political representation (25 countries)	1,25			*100%*	1,25		
Level of Ambition 2:							
A1: Develop and implement national strategies for protecting traditional knowledge (20 countries)		20,00		*100%*		20,00	
A2: Capacity building projects on TK (50 countr)		2,50		*100%*		2,50	
A3: Capacity building initiatives to foster governance and political representation (50 countries)		2,50				2,50	
Level of Ambition 3:							
A1: Develop and implement national strategies for protecting traditional knowledge (30 countries)			30,00	*100%*			30,00
A2: Capacity building projects on TK (75 countr)			3,75	*100%*			3,75
A3: Capacity building initiatives to foster governance and political representation (75 countries)			3,75	*100%*			3,75
Total for Target 18	**12,50**	**25,00**	**37,50**		**12,50**	**25,00**	**37,50**

5. Indicators and Baseline Information

*Headline indicators (*UNEP/CBD/COP/11/2 - ANNEX 1):

- Trends in integration of biodiversity, ecosystem services and benefit-sharing into planning, policy formulation and implementation and incentives:
  - Trends in land-use change and land tenure in the traditional territories of indigenous and local communities (B) (Decision X/43)
  - Trends in the practice of traditional occupations (B) (Decision X/43)
- Trend in accessibility of scientific/technical/traditional knowledge and its application
  - Trends in which traditional knowledge and practices are respected through their full integration, safeguards and the full and effective participation of indigenous and local communities in the national implementation of the Strategic Plan (B)
  - Trends of linguistic diversity and numbers of speakers of indigenous language (B) (Decision VII/30 and VIII/15)

Possible indicators and baseline information: Indicators include the status and trends of linguistic diversity and numbers of speakers of indigenous languages. Other indicators for the status of indigenous and traditional knowledge are under development. While information on indigenous languages is limited, some national information is available and the work being conducted by UNESCO on endangered languages could serve as a starting point in developing an information baseline. The open-ended Working Group on Article 8(j) and Related Provisions is also investigating two additional indicators, one on the status and trends in land use change in the traditional territories of indigenous and local communities, and the other on the status and trends of the practice of traditional occupations. Once developed, these indicators could also help to monitor progress towards this goal (http://www.cbd.int/sp/targets/rationale/target-18/).

II.2.19 Knowledge, Science and Technology Improvement (Target 19)

Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

1. Technical Rationale

Each country needs access to information to identify threats to biodiversity and determine priorities for conservation and sustainable use. While nearly all Parties report that they are taking actions related to monitoring and research, most also indicate that the absence or difficulty in accessing scientific information is an obstacle to the implementation of the goals of the Convention. Action taken to reach this target will also benefit the other targets of the Strategic Plan by encouraging new research, the development of new technologies and improved monitoring. Such actions will strengthen the policy-science interface and will contribute to the fulfilment of the other Targets of the Strategic Plan. (http://www.cbd.int/sp/targets/rationale/target-19/).

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

This Target is related to relevant decisions on identification, monitoring, indicators and assessments, technology transfer and cooperation[20], and the Global Taxonomy Initiative.

GEF Guidance

COP 10: Decision X/24: Review of guidance to the financial mechanism
4.12 Access to and transfer of technology (Article 16)

(a) Implementation of the programme of work on technology transfer and technological and scientific cooperation, consistent with Articles 16 to 20 of the Convention and based on needs and priorities identified by developing country Parties and Parties with economies in transition, in particular:
   i. Building policy, legal, judicial and administrative capacity;
   ii. Facilitating access to relevant proprietary technologies;
   iii. Providing other financial and non-financial incentives for the diffusion of relevant technologies;
   iv. Building capacities of, and empowering, indigenous and local communities and all relevant stakeholders with respect to access to and use of relevant technologies;
   v. Improving the capacity of national research institutions for the development of technologies, as well as for adaptation, diffusion and the further development of imported technologies consistent with their transfer agreement and international law including through fellowships and international exchange programmes;
   vi. Supporting the development and operation of regional or international initiatives to assist technology transfer and cooperation as well as scientific and technical cooperation, including those initiatives designed to facilitate South-South cooperation and South-South joint development of new technologies and also such cooperation among countries with economies in transition;

[20] There are numerous decisions related to the transfer and development of technology: ex. II/4 on ways and means to promote and facilitate access to, and transfer and development of technology; III/16 on ways to promote and facilitate access to and transfer and development of technology, as envisaged in Articles 16 and 8 of the Convention; VII/29 on transfer of technology and technology cooperation (Articles 16 to 19); VIII/12, IX/14, X/16 also all on technology transfer and cooperation among other information.

(b) Preparation of national assessments of technology needs for implementation of the Convention;
(c) Ongoing national programmes for conservation and sustainable use of biodiversity through improved access to and transfer of technology and innovation;
(d) Provision of capacity building, where needed, on, inter alia: (i) technologies for conservation and sustainable use; (ii) governance and regulatory frameworks associated with access and transfer of technology and innovation;
(e) Projects that promote access to, transfer of, and cooperation for joint development of technology.

4.13Technical and scientific cooperation and Clearing-House Mechanism (Article 18)
(a) Capacity building for the clearing-house mechanism, such as training in information and communication technologies and web content management that enable developing countries and countries with economies in transition to fully benefit from modern communication, including the Internet;
(b) Establishing and strengthening biodiversity information systems such as, inter alia, training, technology and processes related to the collection, organization, maintenance and updating of data and information;
(c) Establishment and updating of national clearing-house mechanisms and participation in the clearing-house mechanism of the Convention;
(d) Activities that provide access to scientific and technical cooperation.

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Technology transfer and cooperation
14. Recalling the importance, as underlined in the preamble to decision VIII/12, of developing specific approaches to technology transfer and technological and scientific cooperation to address the prioritized needs of countries based on the priorities in national biodiversity strategies and action plans and to link technology needs assessments to those priorities, while avoiding non-specific, global approaches to this issue, invites funding institutions, including the Global Environment Facility, to provide financial support to the preparation of such technology needs assessments;

Clearing-house mechanism
15. Requests that the Executive Secretary and the Global Environment Facility cooperate to facilitate access to funding for the clearing-house mechanism as a key component to support the implementation of the Strategic Plan for Biodiversity 2011-2020, as well as the implementation of national biodiversity strategies and action plans;…

Proposed Milestones
Possible milestones for this Target include:
- By 2012, a review of the relevant knowledge and technologies available in-country and of the gaps in knowledge and technologies necessary to implement the Convention has been carried out;
- By 2014, a national clearing-house mechanism is established, together with a strategy to improve access to knowledge and technologies (http://www.cbd.int/sp/targets/rationale/target-19/).

3. Activities, Funding Needs and Incremental Reasoning

To improve the understanding of biodiversity and the relationship with ecosystem services, human well-being and consequences of its loss; to reduce uncertainties concerning the causes and consequences of biodiversity loss in future scenarios; to improve global monitoring and capacity to use indicators; and to improve the contribution to the science-policy interface, the following elements could be considered:

Element 1: The Clearing House Mechanism (CHM). For knowledge that is already available, access could be improved through the further development of the CHM at national levels and through a functional CHM supporting implementation. Relevant information includes biodiversity related data as well as tools and methodologies for biodiversity conservation, sustainable use, and benefit sharing, good practices, and lessons learned. Individual and institutional capacity building at the national level will constitute a major component and will particularly contribute to strengthening national knowledge and innovation networks including higher education and other research institutions. Institutional capacity building will also include concrete actions to establish and strengthen national nodes of the CHM. Furthermore if improved the CHM can better serve the implementation of NBSAPs and the entire Strategic Plan 2011-2020 (http://www.cbd.int/CHM/).

So far the GEF has supported 94 national projects in 83 countries to build capacity for a CHM. The GEF funded both enabling activities of the CHM with grants of about $10,000 US fully incremental (e.g in Mali http://www.thegef.org/gef/project_detail?projID=552) and assessment of capacity building needs to participate in the national CHM (e.g. in Barbados with a 80% grant of a $70,000 US project share for the CHM http://www.thegef.org/gef/project_detail?projID=1962). Such activities addressing the CHM are mostly a part of bigger projects on country specific assessments of capacity needs for NBSAPs. The funding of such projects ranges between $150,000 US and $300,000 US.

Element 2: Knowledge, science and technologies needs assessments. This is about developing specific approaches for technology transfer and technological, knowledge and scientific cooperation to address both the needs of countries based on the priorities in NBSAPs and the needs related to participation in global initiatives like the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). Needs assessments may review the relevant technologies, knowledge and science available in-country and gaps to address new global challenges with regard to IPBES and other processes. In the implementation phase this also may require substantial investment in national biodiversity observation networks and further investment in research, including modelling and participatory research

Element 3: Science-policy interface. Science-policy interface. In order for Parties to effectively participate in the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and to move it forward to become fully operational, improvements are also needed in specific country capacities. It is important to seek synergies with the CHM and the evolution of necessary institutions.

UNEP's Bali Strategic Plan for Technology Support and Capacity-building also supports the achievement of Target 19 through the inclusion of the following actions in its strategic plan: a) to develop national research, monitoring and assessment capacity; b) to support national institutions in data collection, analysis and monitoring of environmental trends and in establishing infrastructure for scientific development and environmental management, in order to ensure sustainability of capacity-building efforts; and c) development of national research, monitoring and assessment capacity, including training in assessment and early warning among other (UNEP, 2004).

3.1 Activities and Funding Needs

Given the COP guidance three activities are considered for GEF funding:

Activity 1: Strengthen the Clearing House Mechanism at national level

Scope: Developing and strengthening the Clearing House Mechanism (CHM) at national levels contains the following set of initiatives:

- Carrying out capacity building activities at higher education institutions on topics associated to public policy analysis and design and management of biodiversity conservation and sustainable use oriented towards the development of specialized professionals;
- Strengthening institutions and establishing infrastructure for scientific development and environmental management. Initiatives should be aimed at fostering national capacity on knowledge management concepts and tools and oriented to the development of CHM (file retrieval, analysis, processing and dissemination of information and knowledge);
- Collecting data, information, and knowledge generated as part of the effort to achieve other Targets and facilitating the improved support of planning and assessment processes, including NBSAPs, sub global ecosystem assessments (see Target 14) and thematic assessments and the national input to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem (IPBES).

Funding estimates: In order to improve the CHM and to meet future requirements $100,000 US per country is considered the minimum support for the CHM.

Levels of ambition: At $100,000 US per country for CHM improvement and given that about 60 countries may still require funding, this activity can be introduced in 20 countries at a minimum and to complete, this could be introduced in 40 or 60 countries.

Activity 1: evaluated at three levels of ambition and $100,000 US per country

a) Implementing this activity in 20 countries would require $2 million US
b) Implementing this activity in 40 countries would require $4 million US
c) Implementing this activity in 60 countries would require $6 million US

Activity 2: Carry out national knowledge, science and technologies needs assessments

Scope: Knowledge, science and technologies needs assessments at the national level will review relevant technologies available in-country and gaps in technologies necessary to address new global challenges in science-policy interaction with regard to IPBES and other processes. In the implementation phase, this may also require substantial investment in national biodiversity observation networks and further investment in research, which may run over into the GEF-7 period.

Funding estimates: The GEF hasn't funded knowledge, science and technologies needs assessments previously. Such an activity may require funding of about $50,000 US, depending on the scale of work and the country-specific situation.

Levels of ambition: At $50,000 US per country for knowledge, science and technologies needs assessments and assuming that only a few countries have the capacity to have already worked out their needs assessments, this activity can be introduced in 20 countries at a minimum. Assuming more ambition, technology needs assessments could also be introduced in 40 or 60 countries.

Activity 2: evaluated at three levels of ambition and $50,000 US per country

a) Implementing this activity in 20 countries would require $1 million US
b) Implementing this activity in 40 countries would require $2 million US
c) Implementing this activity in 60 countries would require $3 million US

Activity 3: Support country participation in the IPBES

Scope: To participate in the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), specific country capacity must be improved and linked to the CHM as outlined in activity 1. The issue of capacity building is strategically important and was discussed in the IPBES plenary meeting in Panama City, 16-21 April 2012. There was a broad agreement that IPBES should include building capacity in developing countries in respect of assessing and using knowledge.

> *1. "Capacity-building, as an integral component of the platform's work programme, will support assessment and knowledge generation and underpin the formulation and implementation of policy, as a cross-cutting activity for the platform. In particular, capacity-building is necessary for:*
> *(a) Building the capacity of scientists and institutions in developing countries, which will be essential in increasing the availability and use of science in decision-making at all levels, and in ensuring that the contribution of knowledge to assessments becomes more geographically balanced;*
> *(b) Promoting and supporting subglobal (including national) assessments which could draw on common methodologies and approaches, and take advantage of existing experience, contributing both knowledge and experience to the global, regional and thematic assessments that the platform might undertake;*
> *(c) Providing access to and building capacity to use policy support tools and methodologies, and improving access to data, information, scientific literature and knowledge relevant to both assessment and development and use of policy tools and methodologies (UNEP/IPBES.MI/2/2; http://www.ipbes.net/).*

All expenditures for this activity are not included here, and it is suggested to come back to this when the IPBES work programme is developed and agreed upon.

3.2. Incremental Reasoning

Activity 1: Strengthen the Clearing House Mechanism at national level

Activity 2: Carry out national knowledge, science and technologies needs assessments

Activity 3: Support country participation in the IPBES

The importance of the activities identified for achieving Target 19 is around capacity building and institutional strengthening that is expected to potentially generate global benefits. While serving to achieve many other Targets and to improve basic knowledge on biodiversity all the activities are considered to account for 100% incremental reasoning.

4. Estimates of Funding Needs for the GEF-6 Period

The funding requirements of Target 19 before and after accounting incremental reasoning of 100% are presented in **Table 19** and range from $3 million US to $9 million US depending on the number of countries involved. Activity 3 is not estimated due to pending discussions in the IPBES.

Table 19: Estimated Funding Needs of Aichi Target 19 for the GEF-6 Period

Target 19 - Knowledge, Science and Technology Improvement	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1:							
A1: Strengthen the Clearing House Mechanism on national level (20 countries)	2,00			*100%*	2,00		
A2: Carry out national knowledge, science and technologies needs assessments (in 20 countries)	1,00			*100%*	1,00		
A3: Support country participation in the IPBES				*pending to IPBES decision*			
Level of Ambition 2:							
A1: Strengthen the Clearing House Mechanism on national level (40 countries)		4,00		*100%*		4,00	
A2: Carry out national knowledge, science and technologies needs assessments (in 40 countries)		2,00		*100%*		2,00	
A3: Support country participation in the IPBES				*pending to IPBES decision*			
Level of Ambition 3:							
A1: Strengthen the Clearing House Mechanism on national level (60 countries)			6,00	*100%*			6,00
A2: Carry out national knowledge, science and technologies needs assessments (in 60 countries)			3,00	*100%*			3,00
A3: Support country participation in the IPBES				*pending to IPBES decision*			
Total for Target 19	**3,00**	**6,00**	**9,00**		**3,00**	**6,00**	**9,00**

5. Indicators and Baseline Information

Headline indicators: Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trend in accessibility of scientific/technical/traditional knowledge and its application
  - Trends in coverage of comprehensive policy-relevant sub-global assessments including related capacity-building and knowledge transfer, plus trends in uptake into policy (B)
  - Number of maintained species inventories being used to implement the Convention (C).

Possible indicators and baseline information: An indicator for technology transfer is under development. Possible process indicators include: the number of countries with national clearing-house mechanisms; visitors/per year at each national CHM website; a globally agreed set of status and trends metrics; extent of data coverage for global biodiversity indicators and measures; and the use of biodiversity-related information in the fifth and sixth national reports (http://www.cbd.int/sp/targets/rationale/target-19/).

II.2.20 Resources in Support of the Convention (Target 20)

Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties.

1. Technical Rationale

Most countries indicate in their fourth national reports that limited capacity both financial and human is a major obstacle to the implementation of one or more of the three goals of the Convention. National investment to strengthen capacity is poorly documented globally. However, in at least some biodiversity-rich countries, such as Mexico, that are documented, investment is increasing, and diversifying. Estimates for total current financing of biodiversity is in the order of $36-38 billion US annually with around $20-22 billion US being spent in developed countries and around $15-16 billion US being spent in developing countries.

Of this, some $24 billion US is from domestic government spending (around $16 billion US in developed countries and around $8 billion US in developing countries). Market-based spending on biodiversity is currently rather limited. International financing for biodiversity conservation has been increasing and has been estimated to have grown by approximately 38% in real terms since 1992. Despite this increase, the capacity for implementing the Convention, in terms of trained staff and financial resources, is limited in most countries, especially in developing countries, and in particular the least developed countries and small-island developing states. Currently, it is estimated that international financing for biodiversity, as reported to the OECD, is approximately $3.1 billion US per year[21] (http://www.cbd.int/sp/targets/rationale/target-20/).

The capacity for implementing the Convention in terms of trained staff and financial resources is limited in most countries, especially in developing countries, in particular the least developed countries and small island developing States, as well as countries with economies in transition. The capacity that currently exists in countries must be further built upon so that it can be substantially increased from current levels, and in line with the process laid out in the Strategy for Resource Mobilization, in order to meet the challenges of implementing this Strategic Plan. This target should be seen as a common commitment by donors and recipient countries to take action as appropriate to both increase development cooperation funds available for biodiversity relevant activities, consistent with the Paris Declaration and also to give appropriate priority in the use of those funds. The increase in capacity included as part of this target should be conducted bearing in mind the provisions of Article 20 of the Convention and on the resources needs assessment to be conducted and reported on by Parties during the eleventh meeting of the Conference of the Parties, in 2012 (http://www.cbd.int/sp/targets/rationale/target-20/).

2. Reference to Relevant COP Decisions and GEF Guidance

This target is related to Articles 20 and 21 of the CBD and decisions on the Strategy for Resource Mobilization.

[21] See for example Biodiversity and Ecosystem Insecurity – A planet in Peril by Djoghlaf, A. and F. Dodds. 2011, chapter 19 for more numbers.

COP Decisions

Main CBD decisions that give background to costs are:
COP 10: Decision X/3. Strategy for resource mobilization in support of the achievement of the Convention's three objectives;
COP 9: Decision IX/11-Strategy for Resource Mobilization.

GEF Guidance

COP-10 – Decision X/25: Additional guidance to the financial mechanism
Country-specific resource mobilization strategies,

6. *Requests* the Global Environment Facility to provide timely and adequate financial support to updating national biodiversity strategies and action plans, which may include the development of country-specific resource mobilization strategies.

Indicators and monitoring

8. *Requests* the Global Environment Facility to provide support to respond to the capacity needs of eligible Parties in developing national targets and monitoring frameworks in the context of updating their national biodiversity strategies and action plans;

Proposed Milestones

Possible milestones for this Target include:

- By 2014, all countries have developed country-specific strategies for resource mobilization as part of the process of updating their national biodiversity strategies and action plans (http://www.cbd.int/sp/targets/rationale/target-20/).

3. Activities, Funding Needs and Incremental reasoning

In 2011, with the support of the Japan Biodiversity Fund, the CBD Secretariat organized regional workshops for Parties to help them elaborate country-specific resource mobilization strategies in the framework of updated biodiversity strategies and action plans in response to Decisions X/2 and X/3 (source CBD Secretariat).

The GEF funded project *Support to GEF Eligible Parties (LDCs & SIDs) for the Revision of the NBSAPs and Development of Fifth National Report to the CBD- PHASE II* (http://www.thegef.org/gef/content/support-gef-eligible-parties-ldcs-sids-revision-nbsaps-and-development-fifth-national-report) has provided resources to a number of countries to update their NBSAPs, which should include a country-specific resource mobilization strategy, and supports Parties in achieving Target 17.

Currently, not a single GEF eligible country has already elaborated its country-specific resource mobilization strategy since COP 10, as reported by the CBD Secretariat (http://www.cbd.int/nbsap/about/latest/), although the GEF allocated funding for all GEF-eligible countries in GEF-5.

It is not envisaged that a complete country-specific strategy on resource mobilization that includes an assessment of funding needs and the establishing of a monitoring and reporting framework with required indicators will be fully finalized by all GEF eligible countries until 2015. A certain number of developing countries may require more time to complete their strategy, needs assessments and monitoring facilities and may also need additional financial support.

3.1 Activities and Funding Needs

Activity 1: Develop country specific resource mobilization strategies and reporting framework.
Scope: It is considered that a maximum of 100 countries will still need to finalize their strategy for resource mobilization and prepare the enabling environment including capacity building to establish a set of indicators and the required monitoring and reporting system during GEF-6.

Funding estimates: Similar to the GEF contribution for revising NBSAPs, a calculation of $200,000 US (for staff costs, workshops, material, institutional capacity building) per country should be considered for activities related to the development of country specific resource mobilization strategies and the respective monitoring and reporting system.

Levels of ambition: It is assumed that countries will have already developed their strategy using GEF-5 funding and established good institutional conditions for monitoring and reporting until 2014, while others will still need support to finalize it during GEF-6. Three scenarios can be expected to finally achieve coverage of Target 20 in all GEF eligible countries. If 30, 50, or 100 countries are considered, the total amount required for this activity would be $6 million US, $10 million US, or $20 million US respectively.

Activity 2: evaluated at three levels of ambition at $200,000 US per eligible country

a) Implementing this activity in 30 countries would require $6 million US
b) Implementing this activity in 50 countries would require $10 million US
c) Implementing this activity in 100 countries would require $20 million US

Activity 2: Implement country-specific resource mobilization strategies
Scope: The implementation of the country-specific strategy for resource mobilization falls under the responsibility of Parties and is closely linked to activities, such as to:

- Integrate biodiversity and ecosystems services into national accounting and reporting systems (Target 2)
- Develop financial mechanisms and positive incentives in the framework of fiscal reforms (Target 3)
- Create enabling environment and institutional capacity building as regulation and governance of funds and mechanisms that are created, including compliance measures and participatory approaches of governance of financial mechanisms (Activity 1)
- Improve efficiency in use of funds, both ODA and domestic funds (Activity 1)
- Develop indicators and a monitoring and reporting framework to follow up on the country-specific resource mobilizations strategies (Activity 1)

Basic information on financing is accessible at the CBD website (http://www.cbd.int). In addition, the results of the *Dialogue Seminar on Scaling up Biodiversity Finance, Quito 6-9 March 2012* are useful sources of information on how to scale up biodiversity funding (information, presentations and literature can be found at: http://www.dialogueseminars.net/). This information can be used to develop country-specific resource mobilization strategies.

Funding estimates: This activity is considered to be mainly funded under Target 2 and 3 and through domestic budgets.

Levels of ambition: see Target 3, Activities 1 and 2 (*Target 3 Activity 2: Capacity-building for incentive measure design and implementation).*

3.2 Incremental Reasoning

Activity 1: Develop country specific resource mobilization strategies and reporting framework.
Given the importance of the activities under Target 20 for implementation of other Targets and to achieve the entire Strategic Plan at the national and global level by 2020, the incremental reasoning rate is considered to be 100% of the total required funding during the GEF-6 period. The mobilization of additional funds from all sources at national levels, including additional and innovative financial mechanisms, is urgently needed to secure co-financing of current and future GEF projects to subsequently achieve global environmental benefits when using GEF grants.

Activity 2: Implement country specific resource mobilization strategies
See Target 2 and Target 3, activities 1 and 2.

4. Estimates of Funding Needs for the GEF-6 Period

This Target will require funding amounts ranging between $6 million and $20 million US for the GEF-6 period before and after applying incremental reasoning (**Table 20**).

Table 20: Estimated Funding Needs of Aichi Target 20 for the GEF-6 Period

Target 20 - Resource Mobilization	Estimated Total Needs 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1: 30 countries							
A1: Develop country-specific resource mobilization strategies and reporting framework	6,0			*100%*	6,0		
A2: Implement country-specific resource mobilization strategies	0,0			*covered by Target 2 and 3*	0,0		
Level of Ambition 2: 50 countries							
A1: Develop country-specific resource mobilization strategies and reporting framework		10,0		*100%*		10,0	
A2: Implement country-specific resource mobilization strategies		0,0		covered by *Target 2 and 3*		0,0	
Level of Ambition 3: 100 countries							
A1: Develop country-specific resource mobilization strategies and reporting framework			20,0	*100%*			20,0
A2: Implement country-specific resource mobilization strategies			0,0	covered by *Target 2 and 3*			0,0
Total for Target 20	**6,0**	**10,0**	**20,0**		**6,0**	**10,0**	**20,0**

5. Indicators and Baseline Information

For resource mobilisation under CBD:
Headline indicators - Relation to CBD decisions and SBSTTA 16 UNEP/CBD/COP/11/2 - ANNEX 1

- Trend in mobilisation of financial resources
  - Indicators agreed in decision X/3 (B: at possibly global level)

Possible indicators and baseline information: Presently under consideration.

II.2.21 Cartagena Protocol: Biosafety

1. Technical Rationale

The *Cartagena Protocol on Biosafety to the Convention on Biological Diversity* is an international treaty governing the movements of living modified organisms (LMOs) resulting from modern biotechnology from one country to another. On 29 January 2000, the Conference of the Parties to the Convention on Biological Diversity adopted a supplementary agreement to the Convention known as the *Cartagena Protocol on Biosafety* that entered into force on 11 September 2003. The Protocol seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. It establishes an *advance informed agreement (AIA)* procedure for ensuring that countries are provided with the information necessary to make informed decisions before agreeing to the import of such organisms into their territory. The Protocol contains reference to a *precautionary approach* and reaffirms the precaution language in Principle 15 of the Rio Declaration on Environment and Development. The Protocol also establishes a *Biosafety Clearing-House* to facilitate the exchange of information on living modified organisms and to assist countries in the implementation of the Protocol (http://bch.cbd.int/protocol/background/).

Overall Objective: To build the capacity of Parties to implement the Cartagena Protocol on Biosafety with a view to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health and specifically focusing on transboundary movements.

2. Reference to Relevant COP Decisions and GEF Guidance

COP Decisions

This is related to COP-MOP 5: Fifth meeting of the Conference of the Parties, which served as the meeting of the Parties to the Cartagena Protocol on Biosafety; BS5-1 to BS5-17 and COP-MOP 4, BSIV-1 to BSIV-3 among other (http://bch.cbd.int/protocol/decisions/).

GEF Guidance

COP 10 Decision X/24: Review of Guidance to the financial mechanism:
4.14 Biosafety, within its mandate

(a) In-country, regional and subregional stock-taking studies to enable:
   i. the better planning and customizing of future assistance to the respective needs of eligible countries, given the fact that a "one-size-fits-all" approach to biosafety has been demonstrated to be inappropriate;
   ii. the identification of clear and realistic targets;
   iii. the identification and provision of technical and adequately experienced expertise for the implementation of national biosafety frameworks;
   iv. the development of effective coordination which facilitates the support, ownership and involvement of all relevant national ministries and authorities, to ensure synergy and continuity;

(b) Development and implementation of capacity-building activities, including organization of national, regional and inter-regional capacity-building workshops and preparatory meetings. Development of technical, financial, and human capacity including postgraduate education, biosafety-related laboratories and relevant equipment. Implementation of the revised Action Plan for Building Capacities for the Effective Implementation of the Cartagena Protocol on Biosafety;

(c) Development and implementation of national biosafety frameworks. Coordination and harmonization of national Biosafety frameworks at regional and subregional levels;
(d) Awareness-raising, public participation and information sharing, including through the Biosafety Clearing-House;
(e) Sustainable national participation in the Biosafety Clearing-house, including capacity-building, to take into account the need for Parties to be able to provide summary information in the common formats for reporting information (particularly keywords for categorizing records) in an official language of the United Nations to enable registration of such information with the Central Portal;
(f) Building, consolidating and enhancing sustainable human resource capacity in risk assessment and risk management, and in developing detection techniques for identifying living modified organisms, including the setting up of laboratory facilities and training of local regulatory and scientific personnel. Transfer and joint development of technology in risk assessment, risk management, monitoring and detection of living modified organisms;
(g) Facilitation of the consultative information-gathering process leading to the preparation of national reports under the Protocol.

COP 10 Decision X/25: Additional guidance to the financial mechanism: Cartagena Protocol on Biosafety
20. *Urges* the Global Environment Facility to:
(a) Continue to implement all previous guidance to the financial mechanism with respect to biosafety;
(b) Consider, in the context of the replenishment process for GEF-6, supporting the implementation of the Protocol within the System for Transparent Allocation of Resources (STAR) by defining specific quotas for biosafety for each country, on the basis of the second national reports on the implementation of the Protocol;
(c) Make available, in a timely manner, financial resources to eligible Parties to facilitate the preparation of their second national reports under the Cartagena Protocol on Biosafety;
(d) Expand its support for capacity-building for effective participation in the Biosafety Clearing-House to all eligible Parties to the Protocol and to submit a report for consideration of the sixth meeting of the Parties to the Protocol;
(e) Ensure the inclusion of biosafety-related elements in the terms of reference for national capacity self-assessments (NCSAs) and other capacity assessment initiatives carried out with GEF funding;
(f) Ensure that identification requirements of paragraph 2 (a) of Article 18 and related decisions are taken into account in activities carried out with GEF funding;
(g) Ensure that the programme of work on public awareness, education and participation concerning the safe transfer, handling and use of living modified organisms is taken into account in activities carried out with GEF funding;
(h) Make funds available to eligible Parties in a facilitated manner and to monitor, as appropriate, the expeditious accessibility to those funds;

Milestones and Success
The vision is to adequately protect biological diversity from any adverse effects of living modified organisms.

Very slow progress on the implementation of the Protocol has been observed in most regions due to various reasons (http://www.cbd.int/doc/newsletters/bpn/bpn-08.pdf).

Examples of Measures of Success since 2010:

1. At least 10 countries report high-impact results on their island conservation commitments, which are widely publicized / shared
2. Sustainable funding targets met by at least two initiatives, with significant Global Island Partnership (GLISPA) assistance
3. Efficient mechanisms are in place to help islands rapidly share solutions, technology, capacity, and practices to address invasive species and sea level rise (e.g. exchanges, networks, database, etc)
4. More than 50% of active GLISPA partners report significant benefits from participating in the Partnership
5. At least 20 major media hits on island issues/leaders and measurable change in perception of island ecosystem challenges and progress/achievements
6. At least one partnership with the private sector announced to address a major island challenge, such as sustainable tourism, fisheries, forestry, agriculture, waste management, coastal development, invasive species management, and protected areas (http://www.cbd.int/island/milestones.shtml).

3. Activities, Funding Needs and Incremental Reasoning

A draft Strategic Plan, together with a new programme of work, were considered and adopted by the COP-MOP-5 in Nagoya, Japan in October 2010. The Strategic Plan consists of a vision, a mission statement and five strategic objectives. For each strategic objective there are a number of operational objectives, expected outcomes and indicators to be used to measure progress. The five strategic objectives are covered by main focal areas:

Main Focal Areas of Biosafety:

- **Focal area 1**: Facilitating the establishment and further development of effective biosafety systems for the implementation of the Protocol - To put in place further tools and guidance necessary to make the Protocol fully operational
- **Focal area 2**: Capacity building - To further develop and strengthen the capacity of Parties to implement the Protocol
- **Focal area 3**: Compliance and review - To achieve compliance with and effectiveness of the Protocol
- **Focal area 4**: Information sharing - To enhance the availability and exchange of relevant information
- **Focal area 5**: Outreach and cooperation - To expand the reach of the Protocol and promote cooperation.

The GEF supported the implementation of focal area activities, such as in Ethiopia in 2012: *Implementation of Cartagena Protocol on Biosafety through Effective Implementation of National Biosafety Frame work of Ethiopia* (http://www.thegef.org/gef/content/bs-implementation-cartagena-protocol-biosafety-through-effective-implementation-national-bio). The GEF granted 50% of this $1.3 million US project that allows the Government of Ethiopia to implement the National Biosafety Framework and comply with the Cartagena Protocol on Biosafety.

3.1 Activities and Funding Needs

Scope and funding estimates: The activities considered in the present study listed below and in **Annex Table 6,** which includes details on activities, outcomes, and the funding needs estimation per main activity:

Activity 1: Capacity Building. Capacity building, which includes numerous activities, is estimated to require about $156.2 million US in total during the period 2014-2018.

Activity 2: Compliance and Review. The total amount that would be required for this activity is estimated to be about $5.8 million US.

Activity 3: Facilitating the establishment and further development of effective biosafety systems for the implementation of the Protocol. This activity would require a total amount of $8 million US.

Levels of ambition: Given the goals that biosafety be achieved by the end of this decade, the 70 remaining Parties should be provided with funding to implement their National Biosafety Frameworks. Summing up activities 1 to 3 would require a total funding of $170 million US.

3.2 Incremental Reasoning

Given the substantial importance of biosafety and the significance of the problem at the global level, 80% incremental reasoning is considered to ensure potential global benefits through GEF funding. Though national benefits will also be generated, GEF's role is to accelerate the process of ensuring the Target's achievement by appropriately putting in place all the necessary measures, ensuring training, capacity building, and compliance, and improving the biosafety clearing house mechanism.

4. Estimates of Funding Needs for the GEF-6 Period

The overall funding required for biosafety during the GEF-6 period is expected to be $170 million US before accounting for incremental reasoning and $136.4 million US after (**Table 21**).

If Parties are behind schedule, continuity will also be important and the appropriate measures will need to be implemented. Thus, funding should also be planned for in GEF-7.

Table 21: Estimated Funding Needs of Biosafety for the GEF-6 Period

Biosafety	Estimated Total 2014-2018 (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding	Estimated Needs for GEF-6 Period after Incremental Reasoning (in Million US $)		
Levels of Ambition and Activities	Scenario				Scenario		
	1	2	3		1	2	3
Level of Ambition 1:							
A1: Capacity building	156,2	156,2	156,2	*80%*	125,0	125,0	125,0
A2: Compliance and review	5,8	5,8	5,8	*80%*	4,6	4,6	4,6
A3: Facilitating the establishment and further development of effective biosafety systems for the implementation of the Protocol	8,0	8,0	8,0	*80%*	6,4	6,4	6,4
Total for Biosafety	**170,0**	**170,0**	**170,0**		**136,0**	**136,0**	**136,0**

5. Indicators and Baseline Information

Biosafety has the largest number of indicators per Focal Area. The indicators and details are found at: http://bch.cbd.int/protocol/issues/cpb_stplan_txt.shtml.

II.3 Links and Possible Synergies of Selected Activities

Table 22 summarizes the selected activities for each Target and indicates linkages, potential overlaps, and possible synergies between different Targets' activities. This overview enables the identification of inter-related activities that could contribute to the implementation of more than one Target. Above all else, it is aimed at disclosing potential overlaps that could lead to double counting of necessary budgets to achieve the same objectives. In selecting appropriate activities with specific scopes, double counting was avoided as much as possible. Whenever an overlap was apparent, the respective activity's funding needs were only estimated under one Target.

In general, several activities are linked thematically to each other due to shared characteristics of their objectives. This does, however, not mean that these activities are redundant per se, but that they have to be carefully evaluated and defined in the design and implementation phase to avoid double investments. Furthermore, linked activities could be coordinated to generate synergies respectively.

This also is the case for activities that are already funded through other organizations and institutions focusing specifically on certain biodiversity conservation goals, such as the Ramsar Convention or the Nagoya Protocol Implementation Fund (NPIF).

The table also identifies activities that might build upon each other or whose success clearly depends on the implementation of other activities before or afterwards. The greatest positive result and impact can be generated by efficiently coordinating and combining these activities.

Table 22: Links and possible Synergies of all Selected Activities

Strategic Goals, Aichi Biodiversity Targets & Selected Activity for GEF-6 Period	Link of Selected Activities and Targets
Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	
Target 1: Awareness of Biodiversity Values	
Activity 1: ***Develop favourable conditions and capacity for CEPA***	Activity 1 and 2 are considered as prerequisites for all other Targets and support their implementation.
Activity 2: ***Implement priority activities of national CEPA programme***	
Activity 3: ***Integrate CEPA activities into projects or programmes as components***	Activity is linked to other project related activities, such as Target 11 and Activities 1 and 2 of this Target.
Target 2: Biodiversity Values	
Activity 1: ***Support national assessments of biodiversity values***	Activity is strongly linked to Target 20 and related to Target 1, Activity 2, since it supports raising awareness among policy-makers, and also Target 14 and Target 19. This Activity serves many other Targets by helping to establish a favourable policy environment and adequate institutional arrangements to allow change in other policy areas.

Activity 2: ***Facilitate strategic integration and programming to value biodiversity***	Activity exhibits a strong link to Target 20, but also Target 14 and Target 17.
Target 3: Incentive Measures	
Activity 1: ***Projects to promote incentive measures***	Activity supports Target 20 implementation. Results of this Activity would influence the needs of Target 20. The entire Target influences and depends on the progress of other Targets. Activity 1 is a prerequisite for Target 6 and Target 7. Activity 1 projects do not address incentives for sustainable use which should be covered under Target 4.
Activity 2: ***Capacity-building for incentive measure design and implementation***	Activity supports Target 20 implementation
Target 4: Sustainable Production and Consumption	
Activity 1: ***Carry out ecological footprint assessments***	Activity serves Target 2 by contributing to stakeholders' capacities to identify and implement ecological efficiency strategies.
Activity 2: ***Develop plans to serve sustainable production and consumption***	Activity is strongly linked to Target 1 through awareness raising and providing information for consumers at the national level.
Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use	
Target 5: Habitat Loss	
Activity 1: ***Develop a programme to stop deforestation in primary forests***	Activity exhibits synergies with Targets 2, 3, 4, 7, 11, 12, 14 and 15 through its comprehensive approach and because of the importance of primary forests in the objectives of other Targets.
Activity 2: ***Prevent wetland ecosystems' loss***	This amount of estimated funding needs correspond with Target 11 and may overlap.
Activity 3: ***Carry out pilot projects on regional landscape strategies based on the ecosystem approach***	Activity is linked to Target 7, Activity 1, and 3 due to its objective on sustainable use of landscapes in combination with conservation goals.
Target 6: Marine Resources	
Activity 1: ***Develop and promote globally relevant certification of fisheries***	Activity is linked to Activity 2 of Target 6, and Target 12, Activity 1 on endangered species
Activity 2: ***Carry out recovery plans for highly depleted fish species***	Activity is linked to Target 12 concerning the protection of endangered species, and to Target 11 regarding the establishment of marine protected areas for highly depleted marine species.

Target 7: Sustainable Agriculture, Forestry and Aquaculture	
Activity 1: ***Develop and promote sustainable agriculture***	Activity serves Target 12, and is related to Activities under Targets 3, 4, and 5.
Activity 2: ***Sustainable aquaculture (pending)***	No activity selected yet
Activity 3: ***Enhance the sustainable forest management programme***	Activity is linked to Target 5 Activity 1 on protection of primary forests as well as Target 15 Activity 1 on forest restoration.
Target 8: Pollution Reduction	
No activity considered under Target 8 in this study	
***Target 9*: Invasive Alien Species**	
Activity 1: ***Implement Invasive Alien Species Management Frameworks***	Activity serves Target 12 on Threatened Species.
Target 10: Coral Reefs	
Activity 1: ***Improve resilience of coral reefs***	Activity contributes to Target 5, 6, 7, and 8. The establishment of new or improvement of existing coastal and marine protected areas will be covered under Target 11.
Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity	
Target 11: Protected Areas	
Activity 1: ***Manage effectively and expand the Terrestrial PA system (PA)***	Activity serves Target 12 and 13, and is related to Target 3 on incentives for PA financing and avoiding harmful subsidies affecting PAs. Activity implementation also supports achieving Targets 1, 2, 5, 10, 12, 13, 14, 15 and 18.
Activity 2: ***Manage effectively and expand the Marine PA system (MPA)***	Activity serves Target 12, 13, and 14
Target 12: Threatened Species	
Activity 1: ***Support Critically Endangered Species Conservation Action Plans (Priorities)***	Activity will partly be implemented by activities under Target 11 on PAs. Activity is linked to Target 5 on prevention of habitat loss, to Target 6 on recovery plans for marine species and to Target 9 on invasive species management.
Target 13: Genetic Diversity	
Activity 1: ***Develop and implement action plans for in situ-ex situ genetic diversity conservation***	Activity is mainly linked to Targets 7, 11, and 12.

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services	
Target 14: Ecosystem Services	
Activity 1: ***Elaborate sub global assessments of ecosystem services in collaboration with indigenous and local knowledge holders***	Activity can also be covered by Target 19 (see Target assessment).
Activity 2: ***Support the development of-national strategies on ecosystem services***	Activity is covered by Target 2, Activity 2.
Activity 3: ***Restore essential ecosystem services related to water***	Activity is linked to Target 11, Activity 1, and Target 15, Activity 1; assumed to be primarily funded by the Ramsar Convention.
Target 15: Ecosystem Resilience and Restoration	
Activity 1: ***Support the Global Forest Restoration Programme***	Activity exhibits synergies with Target 5 Activity 1 regarding REDD+ as well as of Target 7, Activity 3 regarding sustainable forest management. Activity is also linked to Target 3 on incentive measures.
Activity 2: **Start a Coral Reef Restoration Programme**	Activity generally needs to be coordinated with Target 10.
Target 16: ABS	
Activity 1: ***Accelerate the Nagoya Protocol ratification***	Activity not linked to others, because it is considered to be financed by the NPIF.
Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building	
Target 17: NBSAPs	
Activity 1: ***Update NBSAP and align national strategies, programmes, and action plans of all Targets***	*Links to all other Targets, and results of the following activities:* *Target 1: Activity 2: Target 2: Activity 1; Target 2: Activity 2; Target 4: Activity 2; Target 9: Activity 1; Target 13: Activity 1; Target 14: Activity 1, Target 14: Activity 2; Target 18: Activity 1; Target 20: Activity 1.*
Target 18: Traditional Knowledge	
Activity 1: ***Develop and implement national strategies for protecting traditional knowledge***	Activity mostly serves the implementation of Target 11 and 12, and is linked to Target 17.
Activity 2: ***Capacity building for ecosystem management based projects***	Activity 2 and 3 are linked to Target 11 regarding capacity-building efforts to support management and conservation efforts in PAs.
Activity 3: ***Capacity building initiatives to foster governance and political representation***	

Target 19: Knowledge, Science and Technology Improvement	
Activity 1: ***Strengthen the Clearing House Mechanism at national level***	All Activities under this Target will also benefit the other Targets by encouraging new research and development of new technologies and improved monitoring.
Activity 2: ***Carry out national knowledge, science and technologies needs assessments***	
Activity 3: ***Support country participation in the IPBES***	
Target 20: Resource Mobilization	
Activity 1: ***Develop country specific resource mobilization strategies and reporting framework***	Target 20 influences and depends on the progress of other Targets. The fulfilment of Activity 1 and 2 has implications on the feasibility of achieving the other 19 Targets. Integration of SRM in NBSAP is covered under Target 17.
Activity 2: ***Implement country specific resource mobilization strategies***	Activity is closely linked to many other Activities to serve their implementation.

II.4 Estimated Funds Needed for the 6th Replenishment of GEF's Trust Fund

The following chapter summarises the main results of the study based on the methodological steps taken:

a) Incremental reasoning and rationale by selected activities, targets and strategic goals.
b) Total amount before and after applying incremental reasoning by targets and strategic goals.
c) Estimated funds needed for the 6th replenishment of GEF's Trust Fund.

II.4.1 Incremental Reasoning and Rationale by Selected Activities

According to the selected activities' potential to generate possible global environmental benefits (GEB), the percentage applied for incremental reasoning ranges from 10% to 100%. The Target-by-Target assessment chapters present the justification for the incremental reasoning percentages for the activities selected for each Target (see II.2). **Table 23** summarizes the percentage of incremental reasoning and rationale to generate possible global environmental benefits (GEB) for all activities that are selected in the present assessment.

Table 23: Incremental Reasoning and Rationale for all Selected Activities to Generate Possible Global Environmental Benefits (GEB)

Strategic Goal, Aichi Biodiversity Target and Selected Activity for GEF-6 Period	Incremental Reasoning %	Rationale on generating global environmental benefits (GEB)
Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society		
Target 1: Awareness of Biodiversity Values		
Activity 1: ***Develop favourable conditions and capacity for CEPA***	100%	Due to GEF rules, 100% incremental costs should be covered in order to support eligible countries to fulfil the Convention's obligations. This activity is related to Target 17 (NBSAPs).
Activity 2: ***Implement priority activities of national CEPA programme***	50%	Priority activities will focus on decision makers, key communication and media people, critical private sectors, and other highly relevant target groups, hence, substantial GEB are expected.
Activity 3: ***Integrate CEPA activities into projects or programmes as components***		Incremental reasoning percentage of the relevant project or programme is applied
Target 2: Biodiversity Values		
Activity 1: ***Support national assessments of biodiversity values***	50%	National assessments will provide a much better basis for decision making and picture on where global biodiversity and ecosystem values are located, hence, substantial GEB are expected.
Activity 2: ***Facilitate strategic integration and programming to value biodiversity***	50%	A strategic work programme to improve the recognition of the values of biodiversity and ecosystem services is considered to be an important activity to achieve the Strategic Plan and hence, potential GEB are expected.
Target 3: Incentive Measures		
Activity 1: ***Projects to promote incentive measures***	50%	Noting the importance of incentive measures for achieving CBD objectives, more emphasis should be put on projects that implement globally significant incentive measure schemes. Besides local and national benefits, all projects should be designed to contribute to generating significant GEB.
Activity 2: ***Capacity-building for incentive measure design and implementation***	50%	

Target 4: Sustainable Production and Consumption		
Activity 1: ***Carry out ecological footprint assessments***	50%	Since the selected activities imply very important first steps in the achievement of the crucial objectives of sustainable consumption and production, they would certainly generate significant GEB in avoiding an increase of the entire global ecological footprint.
Activity 2: ***Develop plans to serve sustainable production and consumption***	50%	
Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use		
Target 5: Habitat Loss		
Activity 1: ***Develop a programme to stop deforestation in primary forests***	60%	The activities to at least halve the rate of loss would come with significant GEB while preserving and protecting biodiversity, assisting in carbon sequestration, reducing the impacts of future climate change, and contribute to sustainable use.
Activity 2: ***Prevent wetland ecosystems' loss***	60%	
Activity 3: ***Carry out pilot projects on regional landscape strategies based on the ecosystem approach***	60%	
Target 6: Marine Resources		
Activity 1: ***Develop and promote globally relevant certification of fisheries***	10%	Although the GEB of sustainable fisheries are important, their benefits at the national level are even more significant (e.g. income, employment, livelihoods); hence, for this activity, a 10% level of generating potential GEB is assumed.
Activity 2: ***Carry out recovery plans for highly depleted fish species***	50%	Recovery plan implementation for highly depleted fish species, which will restore stocks to levels that can produce maximum sustainable yield, will contribute significantly to GEB and national, regional and local benefits.
Target 7: Sustainable Agriculture, Forestry and Aquaculture		
Activity 1: ***Develop and promote sustainable agriculture***	50%	Implementing the projects and programmes on sustainable agriculture, aquaculture, and forestry are expected to generate large amounts of local and national benefits, but also potential GEB.
Activity 2: ***Sustainable aquaculture (pending)***	50%	
Activity 3: ***Enhance the sustainable forest management programme***	50%	
Target 8: Pollution Reduction		
No activity considered under Target 8 in this study		
***Target 9*: Invasive Alien Species**		
Activity 1: ***Implement Invasive Alien Species Management Frameworks***	80%	Given the great threat that invasive alien species present to biodiversity and businesses not only at the national, but also at the global level, their control could generate great potential GEB.

Target 10: Coral Reefs		
Activity 1: ***Improve resilience of coral reefs***	80%	Taking into account the global economic value of coral reefs and the severe threats they face, it is envisaged that projects will generate significant GEB for biodiversity conservation, sustainable use, and livelihoods.
Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity		
Target 11: Protected Areas		
Activity 1: ***Manage effectively and expand the Terrestrial PA system (PA)***	50%	This activity will generate significant national and GEB regarding biodiversity conservation and large return to investments as evidenced in the literature.
Activity 2: ***Manage effectively and expand the Marine PA system (MPA)***	50% 100%	For MPAs in coastal waters (0-12 nautical miles) and in EEZ (12-200 nautical miles) local and regional benefits as well as GEB are expected to be generated. Since ABNJ relate to globally shared biodiversity MPAs will generate mainly GEB.
Target 12: Threatened Species		
Activity 1: ***Support Critically Endangered Species Conservation Action Plans (Priorities)***	100%	GEF funding should only be allocated to projects that are part of a multi-national species conservation programme in order to achieve GEB.
Target 13: Genetic Diversity		
Activity 1: ***Develop and implement action plans for in situ-ex situ genetic diversity conservation***	50%	The erosion of gene pools, varieties, and wild relatives of domesticated species has national/regional/local significance for food security and sustainable livelihoods, but also potential GEB to keep varieties for future development.
Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services		
Target 14: Ecosystem Services		
Activity 1: ***Elaborate sub global assessments of ecosystem services in collaboration with indigenous and local knowledge holders***	50%	This activity is considered to deliver both global and local / national benefits. Given the importance of the activity for accomplishment of other Targets, 50% of potential GEB is expected.
Activity 2: ***Support the development of-national strategies on ecosystem services***	50%	According to Activities of Target 2 (50%).
Activity 3: ***Restore essential ecosystem services related to***	varies	According to Activities of Targets 10 (80%) and Target 15 (40%).

water		
Target 15: Ecosystem Resilience and Restoration		
Activity 1: ***Support the Global Forest Restoration Programme***	40%	Forest and coral reef ecosystem restoration activities will generate substantial GEB in addition to anticipated national and local benefits. Moreover, many livelihoods that depend on forests and coral reefs would become even more vulnerable than they currently are. Taking into account the global economic value of forests and coral reefs and the severe threats these ecosystems face, substantial GEBs are expected.
Activity 2: **Start a Coral Reef Restoration Programme**	40%	
Target 16: ABS		
Activity 1: ***Accelerate the Nagoya Protocol ratification***		Will be applied according to the rules of the Nagoya Protocol Implementation Fund (NPIF).
Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building		
Target 17: NBSAPs		
Activity 1: ***Update NBSAP and align national strategies, programmes, and action plans of all Targets***	100%	This activity is recommended for 100% incremental reasoning to continue the GEF's practice of funding NBSAP revision in order to support eligible countries in fulfilling the Convention's obligations
Target 18: Traditional Knowledge		
Activity 1: ***Develop and implement national strategies for protecting traditional knowledge***	100%	Indigenous communities are guardians of traditional knowledge to conserve and use biodiversity within and outside protected areas sustainably. There is a clear need for national strategies, action plans and capacity building to achieve Target 18, which would also help serve the implementation of Target 11 and 12. Results of the activities should be an essential part of NBSAPs. The GEF should cover 100% incremental costs to support eligible countries in fulfilling the Convention's obligations.
Activity 2: ***Capacity building for ecosystem management based projects***	100%	
Activity 3: ***Capacity building initiatives to foster governance and political representation***	100%	
***Target 19*: Knowledge, Science and Technology Improvement**		
Activity 1: ***Strengthen the Clearing House Mechanism at national level***	100%	The importance of the activities is based on their aim to build capacity and strengthen institutions, which is expected to potentially generate GEBs. In addition, the activities serve to achieve many other Targets and to improve basic knowledge on biodiversity. The GEF should cover 100% incremental costs in order to support eligible countries in fulfilling the Convention's obligations.
Activity 2: ***Carry out national knowledge, science and technologies needs assessments***	100%	
Activity 3: ***Support country participation in the IPBES***	100%	

Target 20: Resource Mobilization		
Activity 1: ***Develop country specific resource mobilization strategies and reporting framework.***	100%	Given the importance of this activity for implementation of other Targets and to achieve the entire Strategic Plan at the national and global level by 2020, the GEF should cover 100% incremental costs in order to support eligible countries in fulfilling the Convention's obligations.
Activity 2: ***Implement country specific resource mobilization strategies***	50%	According to Activities of Target 2 and 3 (50%)
Biosafety	80%	Given the substantial importance and the significance of the problem at the global level.

II.4.2 Total Estimated Amount before and after applying Incremental Reasoning

Given three levels of ambition, the estimated total funding amount required for GEF eligible activities that support achieving the Aichi Targets and Biosafety during the period 2014-2018 ranges between $ 74 billion US to $ 191 billion US before applying incremental reasoning and $ 35 billion US to $ 87 billion US after accounting for incremental reasoning to generate global environmental benefits (see I.1.4 on incremental reasoning and I.2 on methodology).

Estimated Total Amount Needed for 2014-2018 **before applying incremental reasoning** (IR) by Scenarios:

Scenario 1: Total estimated amount required in 2014-2018 **before IR**: $ 74 billion US
Scenario 2: Total estimated amount required in 2014-2018 **before IR**: $131 billion US
Scenario 3: Total estimated amount required in 2014-2018 **before IR**: $191 billion US

Estimated Amount Needed for 2014-2018 **after applying incremental reasoning** (IR) by Scenarios:

Scenario 1: Estimated amount needed in 2014-2018 **after IR**: $35 billion US
Scenario 2: Estimated amount needed in 2014-2018 **after IR**: $60 billion US
Scenario 3: Estimated amount needed in 2014-2018 **after IR**: $87 billion US

The results presented in **Table 24** summarize the estimated amount required for each Target and Biosafety during the GEF-6 period and reflect three scenarios that differ in their level of ambition before and after applying incremental reasoning.

Table 24: Estimated Funding Amounts for Aichi Targets 1-20 and Biosafety for the GEF-6 Period 2014-2018 Before and After Applying Incremental Reasoning for 3 Scenarios

TARGETS	Estimated Total Amounts for GEF eligible activities 2014-2018 (in Million US $)			Estimated Amounts for GEF-6 Period after Incremental Reasoning (in Million US $)			Incremental Reasoning to achieve global benefits without co-funding (%)
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3	
Target 1: Awareness	24,00	48,00	72,00	12,00	24,00	36,00	50%
Target 2: Biodiversity Values	7,00	21,00	35,00	3,50	10,50	17,50	50%
Target 3: Incentive Measures	100,00	200,00	300,00	50,00	100,00	150,00	50%
Target 4: Production/consumption	7,00	14,00	21,00	3,50	7,00	10,50	50%
Target 5: Habitat Loss	2.092,00	3.139,00	5.186,00	1.255,20	1.883,40	3.111,60	60%
Target 6: Marine Resources	10.025,00	20.050,00	30.075,00	1.012,50	2.025,50	3.037,50	10%, 50%
Target 7: Agriculture etc.	10.200,00	20.400,00	30.600,00	5.100,00	10.200,00	15.300,00	50%
Target 8: Pollution	0,00	0,00	0,00	0,00	0,00	0,00	covered by others
Target 9: Invasive Alien Species	50,00	100,00	150,00	40,00	80,00	120,00	80%
Target 10: Coral Reefs	120,00	160,00	200,00	96,00	128,00	160,00	80%
Target 11: Protected Areas							
Terrestrial PAs	12.000,00	14.000,00	16.000,00	6.000,00	7.000,00	8.000,00	50%
Marine PA (0-200 nm)	20.000,00	40.000,00	60.000,00	10.000,00	20.000,00	30.000,00	50%
Marine PA in ABNJ	7.000,00	9.000,00	12.000,00	7.000,00	9.000,00	12.000,00	100%
Target 12: Threatened Species	100,00	200,00	300,00	100,00	200,00	300,00	100%
Target 13: Genetic Diversity	15,00	30,00	45,00	7,50	15,00	22,50	50%
Target 14: Ecosystem Services	60,00	120,00	180,00	30,00	60,00	90,00	50%
Target 15: Ecosystem Resilience	12.060,00	24.080,00	36.100,00	4.824,00	9.632,00	14.440,00	40%
Target 16: ABS	0,00	0,00	0,00	0,00	0,00	0,00	covered by NPIF
Target 17: NBSAPs	25,00	50,00	75,00	25,00	50,00	75,00	100%
Target 18: Traditional Knowledge	12,50	25,00	37,50	12,50	25,00	37,50	100%
Target 19: Knowledge, Science	3,00	6,00	9,00	3,00	6,00	9,00	100%
Target 20: Resource Mobilization	6,00	10,00	20,00	6,00	10,00	20,00	100%
BIOSAFETY	170,00	170,00	170,00	136,00	136,00	136,00	80%
Total	**74.076,50**	**131.823,00**	**191.575,50**	**35.716,70**	**60.592,40**	**87.073,10**	

It was not considered necessary that GEF supports any activity for Target 8 since the tasks are assumed to be covered by other international financing mechanisms. The Nagoya Protocol Implementing Fund (NPIF), which covers activities that accelerate the Protocol's ratification according to Target 16, is currently a separate funding mechanism operated by the GEF. Hence, it is assumed that this fund would continue to assist in achieving Target 16 and as a result no estimate is included in this needs assessment for the GEF Trust Fund. If at some point, the NPIF is to be included in the GEF Trust Fund its amounts should be calculated and added to the total amount so that funding needs are covered until 2015.

Aggregated by the CBD's Strategic Goals, **Table 25** presents the estimated amounts before and after applying incremental reasoning. There are significant differences in the relative scale of funding required to implement the various activities during the 2014-2018 period:

***a) Very high amount required for Strategic Goal C*:**
Activities associated with conservation work to enhance the establishment of more terrestrial, coastal, and marine protected areas (Target 11) and to support species conservation (Target 12) will require significant amounts of funding.

***b) High amount required for Strategic Goals B and D*:**
Activities specifically aimed at addressing the drivers of biodiversity loss and ecosystem restoration will also require high funding amounts; however, this very much depends on the absorptive capacities of GEF-eligible countries. Implementing these activities will significantly contribute to mainstreaming biodiversity into other sectors. Thus, activities may not only deliver on biodiversity objectives, but can also have major positive impacts on other key policy goals (i.e. water security, climate change mitigation and adaptation, etc) while also securing livelihoods, reducing or avoiding future poverty, and supporting sustainable development.

***c) Low amount required for Strategic Goals A and E, and Biosafety*:**
Activities related to improving and creating the necessary enabling conditions and capacities are likely to be much less resource-intensive. This may include, for instance, the integration of biodiversity values into strategic plans and national accounting systems and the promotion of incentive measures and sustainable production and consumption. Additionally, activities recognizing Traditional Knowledge, fostering good governance, and improving conditions for participation in science and research, and biosafety fall under this group. Activities on raising awareness amongst key stakeholders and the wider public may require higher amounts if CEPA programmes are to be implemented with GEF support.

Table 25: Estimated Amounts Required Before and After Applying Incremental Reasoning According to the CBD's Strategic Goals and by Scenario

GOAL AND TARGETS	Estimated Total Amounts for GEF-eligible activities in GEF-6 (in Million US$)			Estimated Amounts for GEF-eligible Activities in GEF-6 after applying Incremental Reasoning (IR) (in Million US$)			
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3	IR %
GOAL A: Mainstreaming Biodiversity (T 1-4)	138,00	283,00	428,00	69,00	141,50	214,00	50%
GOAL B: Reduction of Pressure on BD (T 5-10)	22.487,00	43.849,00	66.211,00	7.503,70	14.361,90	21.729,10	10-80%
GOAL C: Safeguarding Ecosystems (T 11-13)	39.115,00	63.230,00	88.345,00	23.107,50	36.215,00	50.322,50	50-100%
GOAL D: Enhancing the Benefits to All (T 14-16)	12.120,00	24.200,00	36.280,00	4.854,00	9.692,00	14.530,00	40-50%
GOAL E: Enhancing Implementation (T 17-20)	46,50	91,00	141,50	46,00	91,00	141,50	100%
BIOSAFETY	170,00	170,00	170,00	136,00	136,00	136,00	80%
Total	**74.076,50**	**131.823,00**	**191.575,50**	**35.716,20**	**60.592,40**	**87.073,10**	

II.4.3 Estimated Amount of Expected Incremental Costs for the GEF-6 Trust Fund

The analysis of GEF projects in this study has shown that the incremental costs covered with grants from the GEF Trust Fund can vary considerably within the same project category and are dependent on several factors. The applied percentage of incremental costs is a possible result of negotiations with the Implementing Agencies, the eligible countries, and other donors. The amount of incremental costs that can be covered by the Trust Fund is not equivalent to the amount calculated after applying incremental reasoning to generate global environmental benefits (GEB) for each selected activity (see II.4.1). The amount after applying incremental reasoning is a calculated intermediate size, which outlines the magnitude of the potential total cost to generate global environmental benefits (GEB).

In order to effectively implement the Trust Fund's resources and to achieve maximum impact in the delivery of global biodiversity benefits, the GEF Secretariat is keen to reduce the incremental costs that the GEF Trust Fund finances by leveraging as much as possible from other sources. So far, this has been achieved quite successfully by increasing the co-financing rate for GEF projects. The GEF Secretariat reported to COP 11 (UNEP/CBD/COP/11/8) on the ongoing funding for the Biodiversity Focal Area amongst others for the period July 1, 2010 to June 30, 2012, which reflects the first two years of GEF-5. Depending on the focal area, the achieved average co-financing ratios range between 1:4 and 1:5. Since the Trust Fund's pilot phase, the co-financing ratio has increased significantly (see III.1.).

Expected Incremental Costs for All Targets and Biosafety for 3 Scenarios

Applying various financing rates and based on amounts required after incremental reasoning, several options for the amount required to cover the incremental costs expected in 2014-2018 are presented. This amount is considered to be the total required level for the GEF-6 replenishment of the Trust Fund.

Given the fact that the co-financing ratio is subject to possible negotiations and hence cannot be predicted a lower (1:2) and higher (1:6) co-financing ratio is presented alternatively to the current level of 1:4. The three options comprise a conservative approach with a possible co-financing ratio of 1:2; the currently achieved co-financing average of over 1:4; and the rate of 1:6, which would imply a significant increase in the effectiveness of the GEF Trust Fund to leverage additional funds from different sources. If the third option with an increased co-financing ratio were to be achieved, the required amount that would accomplish the same results could be reduced for GEF-6.

Table 26 presents nine options for the amount required from the GEF Trust Fund during the GEF-6 replenishment to cover expected incremental costs. According to the three scenarios and three co-financing ratios, the amounts range from a minimum of $5 billion US (Scenario 1 and 1:6 co-financing ratio) to a maximum of $ 29 billion US (Scenario 3 and 1:2 co-financing). **If the most likely co-financing ratio of 1:4 is applied to the three Scenarios, the funding amount needed ranges from $7 billion US to $17 billion US**.

Table 26: Estimated Amount Required for All Targets and Biosafety during the GEF-6 Replenishment Period for 3 Scenarios and 3 Co-financing Ratios

Estimated Amount Required for the GEF-6 period 2014-2018 *before* applying incremental reasoning	Estimated Amount Required for the GEF-6 period 2014-2018 *after* applying incremental reasoning	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs		
		Applied co-financing ratios		
		1:2	1:4	1:6
Scenario 1: US$ 74 billion	Scenario 1: US$ 35 billion	US$ 11 billion	US$ 7 billion	US$ 5 billion
Scenario 2: US$131 billion	Scenario 2: US$ 60 billion	US$ 20 billion	US$ 12 billion	US$ 8 billion
Scenario 3: US$191 billion	Scenario 3: US$ 87 billion	US$ 29 billion	US$ 17 billion	US$ 12 billion

The break-down of the nine funding options for the five Strategic Goals and Biosafety are presented in the following chapters and **Tables 27-29**.

Expected Incremental Costs for Strategic Goals A-E and Biosafety for Scenario 1

The break-down of the amount required to implement activities for Strategic Goals A-E and Biosafety for Scenario 1 is presented in **Table 27**. Following the current GEF co-financing ratio of 1:4, a total $7 billion US would be needed during the GEF-6 replenishment. Strategic Goal C: *Safeguarding Ecosystems* (Target 11-13) would require approximately 65% of the total amount, while Strategic Goal B: *Reducing Pressures on Biodiversity* and Strategic Goal D: *Enhancing the Benefits to All* 21% and 14% respectively. The amounts needed for Strategic Goal A and E and Biosafety would be less than 1% of this coverage.

Table 27: Estimated Amount Required for Strategic Goals A-E and Biosafety during the GEF-6 Replenishment Period for Scenario 1

Estimated Amount Required for the GEF-6 period 2014-2018 *before* applying incremental reasoning	**Estimated Amount Required for the GEF-6 period 2014-2018 *after* applying incremental reasoning**	**Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs**			
		Applied co-financing ratios			**Strategic Goal and Biosafety**
		1:2	**1:4**	**1:6**	**in % of the total**
Scenario 1: Total US$ 74 billion	**Scenario 1: Total US$ 35 billion**	**US$ 11 bn**	**US$ 7 bn**	**US$ 5 bn**	**100%**
Goal A: US$ 0.14 billion	Goal A: US$ 0,07 billion	0,023 bn	0,014 bn	0.010 bn	~0.2%
Goal B: US$ 22.5 billion	Goal B: US$ 7.5 billion	2.50 bn	1.50 bn	1.10 bn	~21%
Goal C: US$ 39.1 billion	Goal C: US$ 23.1 billion	7.70 bn	4.60 bn	3.30 bn	~65%
Goal D: US$ 12.1 billion	Goal D: US$ 4.8 billion	1.60 bn	1.00 bn	0.70 bn	~14%
Goal E: US$ 0.05 billion	Goal E: US$ 0.05 billion	0.02 bn	0.01 bn	0.007 bn	~0,1%
Biosafety US$ 0.17 billion	Biosafety US$ 0.14 billion	0.05 bn	0.03 bn	0.02 bn	~0.45%
* Rounding errors might occur when adding %					

Expected Incremental Costs for Strategic Goals A-E and Biosafety for Scenario 2

The break-down of the amount required to implement activities for Strategic Goals A-E and Biosafety for Scenario 2 is presented in **Table 28**. The most likely GEF co-financing ratio of 1:4 shows a total of $ 12 billion US amount for the GEF-6 replenishment. Strategic Goal C: *Safeguarding Ecosystems* (Target 11-13) comprises approximately 60% of the total amount, while Strategic Goal B: *Reducing Pressures on Biodiversity* and Strategic Goal D: *Enhancing the Benefits to All* 25% and 15% respectively. The amounts needed for Strategic Goal A and E and Biosafety require less than 1% of this coverage.

Table 28: Estimated Amount Required for Strategic Goals A-E and Biosafety during the GEF-6 Replenishment Period for Scenario 2

Estimated Amount Required for the GEF-6 period 2014-2018 *before* applying incremental reasoning	Estimated Amount Required for the GEF-6 period 2014-2018 *after* applying incremental reasoning	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs			
		Applied co-financing ratios			Strategic Goal and Biosafety
		1:2	1:4	1:6	in % of the total
Scenario 2: Total US$131 billion	**Scenario 2: Total US$ 60 billion**	**US$ 20.00 bn**	**US$ 12.00 bn**	**US$ 8.00 bn**	**100%**
Goal A US$ 0.3 billion	Goal A US$ 0.14 billion	0.05 bn	0,03 bn	0.02 bn	~0,25%
Goal B US$ 43.9 billion	Goal B US$ 14.4 billion	4.80 bn	2.90 bn	2.10 bn	~25%
Goal C US$ 63.2 billion	Goal C US$ 36.2 billion	12.10 bn	7.20 bn	5.20 bn	~60%
Goal D US$ 24.2 billion	Goal D US$ 9.7 billion	3.20 bn	1.90 bn	1.40 bn	~15%
Goal E US$ 0.09 billion	Goal E US$ 0.09 billion	0.03 bn	0.02 bn	0.01 bn	~0.15%
Biosafety US$ 0.17 billion	Biosafety US$ 0.14 billion	0.05 bn	0.03 bn	0.02 bn	~0,25%
* Rounding errors might occur when adding %					

Expected Incremental Costs for Strategic Goals A-E and Biosafety for Scenario 3

The break-down of the amount required to implement activities for Strategic Goals A-E and Biosafety for Scenario 3 is presented in **Table 29**. The current GEF co-financing ratio of 1:4 shows a total of $ 17 billion US option for the GEF-6 replenishment. Strategic Goal C: *Safeguarding Ecosystems* (Target 11-13) comprises approximately 58% of the total amount, while Strategic Goal B: *Reducing Pressures on Biodiversity* and Strategic Goal D: *Enhancing the Benefits to All* encompass 25% and 17% respectively. The amounts needed for Strategic Goal A and E and Biosafety require less than 1% of this coverage.

Table 29: Estimated Amounts Required for Strategic Goals A-E and Biosafety during the GEF-6 Replenishment Period for Scenario 3

Estimated Amount Required for the GEF-6 period 2014-2018 *before* applying incremental reasoning	Estimated Amount Required for the GEF-6 period 2014-2018 *after* applying incremental reasoning	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs			
		Applied co-financing ratios			Strategic Goal and Biosafety
		1:2	1:4	1:6	in % of the total
Scenario 3: Total US$191 billion	**Scenario 3: Total US$ 87 billion**	**US$ 29 bn**	**US$ 17 bn**	**US$ 12 bn**	**100%**
Goal A: US$ 0.4 billion	Goal A: US$ 0.2 billion	0.07 bn	0.04 bn	0.03 bn	~0.23%
Goal B: US$ 66.2 billion	Goal B: US$ 21.7 billion	7.2 bn	4.3 bn	3.1 bn	~25%
Goal C: US$ 88.3 billion	Goal C: US$ 50.3 billion	16.8 bn	10.1 bn	7.2 bn	~58%
Goal D: US$ 36.3 billion	Goal D: US$ 14.5 billion	4.8 bn	2.9 bn	2.1 bn	~17%
Goal E: US$ 0.14 billion	Goal E: US$ 0.14 billion	0.05 bn	0.03 bn	0.02 bn	~0,15%
Biosafety US$ 0.17 billion	Biosafety US$ 0.14 billion	0.05 bn	0.03 bn	0.02 bn	~0.15%

* Rounding errors might occur when adding %

Expected Incremental Costs for all Targets and Biosafety for all Scenarios

Table 30 presents expected incremental costs for all Targets and Biosafety. It summarizes amounts after applying incremental reasoning and the 1:4 co-financing ratio assuming that GEF's current co-financing ratio is also achieved in the future.

Table 30: Estimated Amounts Required for each Aichi Target and Biosafety during the GEF-6 Replenishment Period for all Scenarios and 1:4 Co-financing Ratio

TARGETS	GEF Trust Fund Share per Aichi Target & Biosafety for GEF-6 Replenishment 2014-2018 After Applying Incremental Reasoning & 1:4 Co-Financing Ratio (= Expected Incremental Costs in Million US $)					
	Scenario 1	1:4	Scenario 2	1:4	Scenario 3	1:4
Target 1: Awareness	12,00	2,40	24,00	4,80	36,00	7,20
Target 2: Biodiversity Values	3,50	0,70	10,50	2,10	17,50	3,50
Target 3: Incentive Measures	50,00	10,00	100,00	20,00	150,00	30,00
Target 4: Production/consumption	3,50	0,70	7,00	1,40	10,50	2,10
Target 5: Habitat Loss	1.255,20	251,00	1.883,40	376,70	3.111,60	622,30
Target 6: Marine Resources	1.012,50	202,50	2.025,50	405,10	3.037,50	607,50
Target 7: Agriculture, forestry etc.	5.100,00	1.020,00	10.200,00	2.040,00	15.300,00	3.060,00
Target 8: Pollution	0,00	0,00	0,00	0,00	0,00	0,00
Target 9: Invasive Alien Species	40,00	8,00	80,00	16,00	120,00	24,00
Target 10: Coral Reefs	96,00		128,00	25,60	160,00	32,00
Target 11: Protected Areas						
Terrestrial PAs	6.000,00	1.200,00	7.000,00	1.400,00	8.000,00	1.600,00
Marine PA (0-200 nm)	10.000,00	2.000,00	20.000,00	4.000,00	30.000,00	6.000,00
Marine PA in ABNJ	7.000,00	1.400,00	9.000,00	1.800,00	12.000,00	2.400,00
Target 12: Threatened Species	100,00	20,00	200,00	40,00	300,00	60,00
Target 13: Genetic Diversity	7,50	1,50	15,00	3,00	22,50	4,50
Target 14: Ecosystem Services	30,00	6,00	60,00	12,00	90,00	18,00
Target 15: Ecosystem Resilience	4.824,00	964,80	9.632,00	1.926,40	14.440,00	2.888,00
Target 16: ABS	0,00	0,00	0,00	0,00	0,00	0,00
Target 17: NBSAPs	25,00	5,00	50,00	10,00	75,00	15,00
Target 18: Traditional Knowledge	12,50	2,50	25,00	5,00	37,50	7,50
Target 19: Knowledge, Science	3,00	0,60	6,00	1,20	9,00	1,80
Target 20: Resource Mobilization	6,00	1,20	10,00	2,00	20,00	4,00
BIOSAFETY	136,00	27,20	136,00	27,20	136,00	27,20
Total	**35.716,70**	**7.124,10**	**60.592,40**	**12.118,50**	**87.073,10**	**17.414,60**

Conclusion

Based on the results of the needs assessment, the following conclusions can be drawn regarding the funds needed for the 6th replenishment of the GEF Trust Fund:

1. To implement selected activities, the total amount required to cover expected incremental costs for the GEF-6 period 2014-2018 is likely to **range between $ 7 billion US to $ 17 billion US.** This assumes that the GEF's current co-financing ratio of **1:4** will be achieved during that period.
2. Expected incremental costs for implementing selected activities under Strategic Goal C: ***Safeguarding Ecosystems*** will likely cover **approximately 60%** of the funds needed**.**
3. Expected incremental costs for implementing selected activities under Strategic Goal B: ***Reduction of Pressure on Biodiversity*** will likely absorb **approximately 25%** of the funds needed**.**
4. Expected Incremental Costs for implementing selected activities under Strategic Goal D: ***Enhancing the Benefits to All*** will likely require **approximately 15%** of the funds needed**.**
5. Expected Incremental Costs for implementing selected activities under Strategic Goal A: ***Mainstreaming Biodiversity***, Strategic Goal E: ***Enhancing Implementation*** **and** ***Biosafety*** will likely not account for more than **1%** of the total amount required for the GEF-6 period, but investing in these important prerequisites is essential for achieving all Targets and thus may potentially save future funding of other Target activities.
6. The highest amounts will be required by activities to implement **Target 11** on improving protected area systems, followed by activities of **Target 7** on sustainable agriculture and forestry, and on **Target 15** with activities of ecosystem resilience and restoration.

II.5 Questionnaire to CBD Parties

All GEF-eligible Parties were asked what proportion of their total funding needs they expected from the GEF or other external and domestic sources and from which sources they expected to get the funds. In order to have better overview of funding gaps, questions were included on how much funds Parties needed during the recent past and the proportions they received from different sources as well as information about the GEF-4 and GEF-5 period. This information also served to understand their *unmet qualified needs,* if any. Parties were also requested to estimate the amount they would need for each of the Aichi Targets in accordance to the relevance of the Target to their country and their priorities and to give some strategic analysis for the use of different funding sources for their different biodiversity funding needs. The questionnaire and the submitted responses are attached in **Annex Table 7 and 8.**

At the WGRI-4 meeting in Montreal, 7-20 May 2012, all eligible countries have been reminded and encouraged to participate. Nine countries responded to the questionnaire: Ecuador, Madagascar, India, Bangladesh, Grenada, Federated States of Micronesia, Myanmar, Colombia, and Brazil. Some of the responses were highly incomplete or presented with some format change. The number of responses is statistically not representative. However, they provide some insight:

- Nearly half of the amount needed for the period 2011-2020 to achieve the Aichi Target may be required during 2014-2018,
- Although Target 3 is often mentioned as a problem of OECD countries, and that developing countries do not need funding for this, the need for some level of funding for this Target was indicated.

While the questionnaire was not used by Parties to support the Expert Team with country-level perspectives to better calculate the GEF-6 funding needs estimates, some general observations can be drawn:

- The amount expected from the GEF-6 replenishment could have been arrived at with a higher level of confidence by involving the direct participation of Parties through a bottom-up process,
- If a significant number of countries would have responded to the questionnaire, meaningful results could have been obtained for the assessment of funding needs for 2011-2020 and the GEF-6 period 2014-2018;
- The GEF-6 period is of strategic importance for eligible countries in order to achieve the Targets on time,
- The results showed very high funding expectations from GEF-6 for each Target.

Ultimately, the Expert Team wants to state that in the follow-up to this report, more countries should submit their completed questionnaires to identify their country specific funding needs in order to broaden the evidence for guiding the GEF-6 replenishment process.

II.6 Country Case Studies: India

Professor A. Damodaran, The Indian Institute of Management, Bangalore, India, and member of the Expert Team, presented the approach to estimate the funding needs for India at the Quito Seminar on Scaling up Biodiversity Finance, 6-9 March 2012 (http://www.dialogueseminars.net/quito/presentations/presentations.html).

The following note is designed to reflect only the basic approach and principal findings.

Assessment Exercise on Financial Resources required for Biodiversity Conservation in India

INTRODUCTION

Being a mega-biodiversity nation, India has endeavoured to preserve its biological heritage over the last six decades through various policies and legislations. Since India is committed to contributing towards achieving objectives of the Convention, the Aichi targets and the Strategic Plan an effort was made to work out resources required to implement the Aichi Targets in the Indian context.

METHODOLOGY

The financial framework of biodiversity conservation rests centrally on the pillar of public financing. Public financing of biodiversity conservation assumes the shape of annual budgetary flows for conservation activities from the Central (Federal) Government and the Governments of States. Private investments in biodiversity conservation are largely opportunity driven. They are associated with business ventures like eco-tourism, or are compensatory in nature (in lieu of forests or biodiversity regimes lost on account of development and infrastructure projects). The sole market instrument used in India is the 'water cess', which is oriented to minimizing water use, prevention of pollution of streams, lakes and rivers by industrial and civic activities. That the cess indirectly helps to conserve biodiversity degradation is not questioned. However, this is an externality than an explicit objective of the water cess.

Given the above facts, the methodology adopted for the assessment exercise was to:

(a) Focus on flows of public financing towards biodiversity conservation activities in India and extrapolate the flows for the period 2010-20 assuming increase in funding levels by 50% and 100%. In the past a increase of nearly 100% was noticed in outlays between successive five year plans insofar budgetary flows for biodiversity conservation schemes were concerned.

(b) The second plank of methodology adopted by the study was to categorize the scale and source of biodiversity financing in terms of 'core', 'non core' and peripheral segments. By 'core funds', is meant funds that are directly deployed for biodiversity conservation activities / schemes and projects on conservation activities. By 'non core' funding is meant funding of schemes/ projects that have biodiversity conservation externalities. These include activities in the areas of pollution control and hazardous substances that indirectly contribute to conservation of forests, agro-ecosystems wetlands, mangroves and coral reefs. By peripheral fund flows is meant fund flows on development activities that have biodiversity impacts of a peripheral nature. Core funding originates in the schemes and activities of the Government of India and States that had biodiversity conservation as the main objective, while 'non core' funding included schemes and activities of Government of India and States in the domains of pollution abatement and hazardous management which had biodiversity conservation as a secondary objective. Core and non core funding can be traced to the Annual Budgets of the Ministry of Environment and Forests of the Government of India (MoEF) and the Forests , Wildlife and the Ecology and Environment Departments of State Governments. Peripheral fund flows were traced to the Ministries of the Government of India administering Development Schemes that had incidental or peripheral impacts on biodiversity conservation. These Ministries included the Agriculture, Rural Development, Health, Science and Technology, Ocean Development, Urban Development etc. Care was taken to segregate schemes of these Ministries that were of biodiversity relevance. A multiplier co-efficient was adopted to further chisel down the likely biodiversity impacts of these schemes. Since the Aichi Targets were framed in the year 2010, the baseline adopted was financial flows in the years 2010-11.

The results are discussed in the ensuing sections.

TOTAL BUDGETARY OUTLAY FOR BIODIVERSITY CONSERVATION SCHEMES FOR 2010-11

By combining budget outlays of MoEF, other Ministries of Government of India and State Governments for the year 2010-11, we get the total Budgetary Outlay of USD 3,583.51 million per annum. This includes budgetary outlay of USD 482.99 million of MoEF for the year 2010-11, the annual budget outlay of USD 1,917.87 million by States and the biodiversity component of net leveragable peripheral funding to the tune of INR 1,182.67 million for the year 2010-11.

Further in case we add the biodiversity share of net peripheral funding by the Central Government / GOI is INR 50,000 million, the aggregate of core, non-core and peripheral funding will amount to USD 3,583.61 million. Table 1 provides the break-up in this regard.

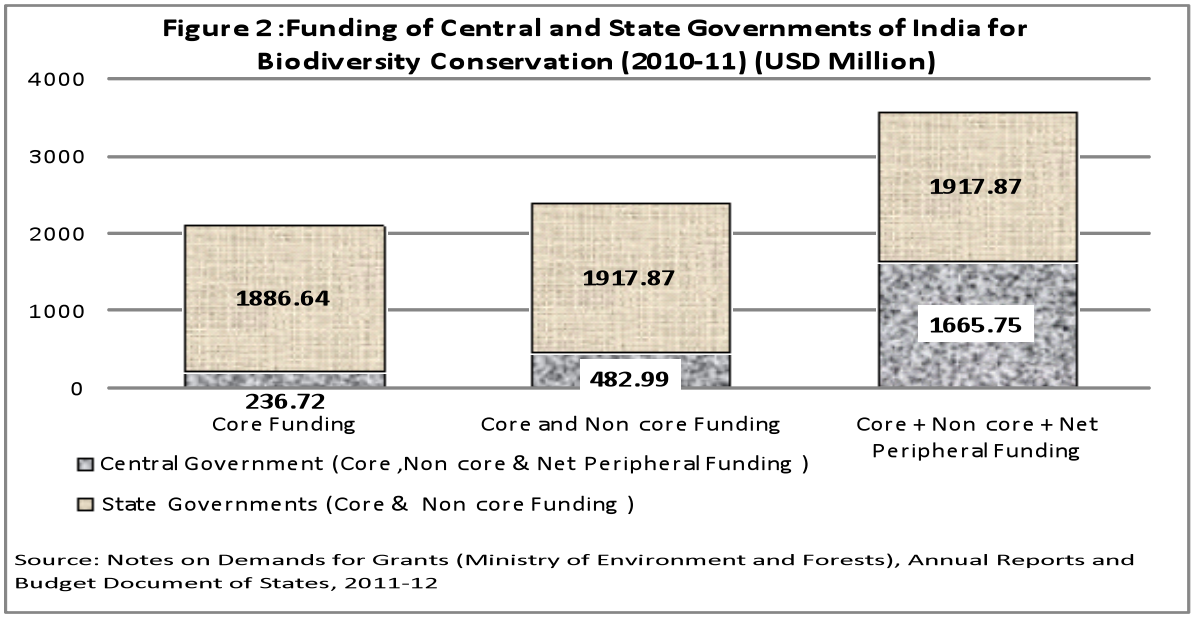
Case Study Table 1: Funding of Central and State Governments of India for Biodiversity Conservation (2010-11) (Million USD)

Governments	Core and Noncore Funding	Net Peripheral Funding	Total
Central Government	482.99	1,182.76	1,665.75
State Governments	1,917.87	Cannot be estimated satisfactorily	1,917.87
Total	2,400.85	1,182.76	3,583.61

Source: Notes on Demands for Grants (Ministry of Environment and Forests), Annual Reports and Budget Document of States, 2011-12.

Note: Average Exchange rate for the year 2010-11 was INR 45.55

The Figure below provides the distribution of core, non –core and net peripheral funding.



PROJECTIONS FOR 2012-20 (8 YEAR PERIOD)

For the period 2012-20 we have extrapolated flow of core, non-core and net peripheral funding for biodiversity conservation in India based on the base line figures for 2010-11. The past trend has been for outlays on environment and forests to increase by nearly 100% both for Central and State Governments between successive Five Year Plans. However we have assumed only a modest increase of 50% for 2012-17 (12th Five Year Plan) over 2010-11 (11th Five Year Plan). For the period 2017-20 with coincides with 13th Five Year Plan, we have assumed 50% increase over average annual outlays for the three components of Biodiversity funding over the annual outlay figures of 12th Five Year Plan. It is estimated that an amount of USD 4,6521.55 million will form flow of funds towards biodiversity conservation in its core, non-core and net peripheral components.

GAPS AND LIMITATIONS

The exercise described is an effort at assessing current and likely flows of public financing for biodiversity activities specified in the Aichi Targets, in the Indian context. The exercise specifies a methodology for assessment of biodiversity conservation in India by not only looking at conventional fund flows for direct conservation activities but also looking at sources of biodiversity financing from development activities, thus attempting to arrive at biodiversity impacts of development activities. The primary contribution of the exercise is to afford an understanding of resource mobilization avenues and resource leveraging opportunities for achieving the Aichi Targets. This way it seeks to complement the resource assessment exercise undertaken by the Expert Group with regard to GEF-6. The implicit assumption of this study is that public financing of biodiversity conservation activities is based on needs assessments as specified in NBSAPs and the Aichi Targets. This assumption holds for India though not necessarily to all other developing countries.

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Ministry of Environment and Forests (2011-12) "*Notes on Demands for Grants*", Government of India, New Delhi. http://www.indiabudget.nic.in/ub2011-12/eb/sbe30.pdf

Ministry of Environment and Forests (2011-12) "*Outcome Budget of Ministry of Environment & Forests 2011-12*", Government of India, New Delhi. http://moef.nic.in/OutcomeBudget/outcome_budget_1112.htm

III. FUNDING NEEDS VERSUS AVAILABILITY OF FUNDS

According to Decision X/26's terms of reference, this study should assess the available funding:
The approaches to assessing the funding necessary and available for the implementation of the Convention should be transparent, reliable and replicable,... In addition information should be presented … on the number of eligible programmes and projects that were submitted to the Global Environment Facility, the number that were approved for funding, and the number that were turned down owing to lack of resources … (also see ToR I.1.2)

This chapter provides information on available funding from various public sources for biodiversity:

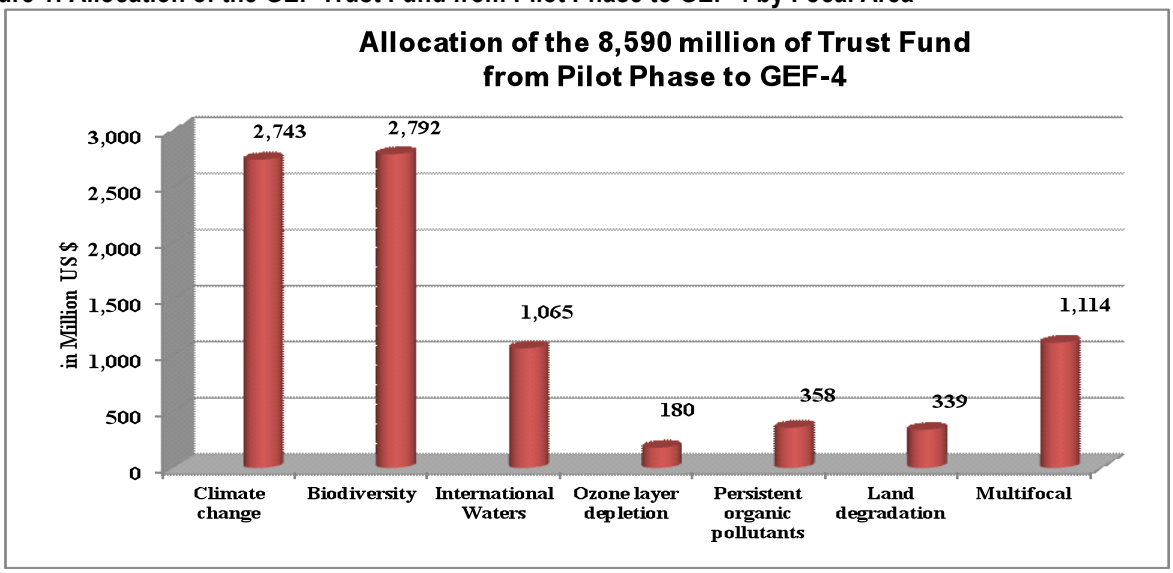
a. Available GEF funding for biodiversity comprised of GEF's Trust Fund and co-financing allocations during the different replenishment periods from the Pilot Phase (1991-1994) to GEF-5 (2010-2014.
b. Available funding for biodiversity from OECD countries' bilateral aid commitments.
c. Biodiversity funding from other sectors.
d. Domestic biodiversity funding in developing countries.
e. Conclusions on funding needs versus availability of funds.

III.1. Available GEF Funding for Biodiversity

Since its inception in 1991 to 2010, the GEF has, provided about $8.82 billion in funding, of which 97.6% ($8.6 billion) came from the GEF Trust Fund and the remainder from the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF). Biodiversity funding totalled $2.79 billion and was provided solely through the GEF Trust Fund (GEF-Online, 1991-2010, http://www.gefonline.org/projectListSQL.cfm). Through its Small Grants Programme (SGP), the GEF has also awarded more than 10,000 small grants directly to nongovernmental and community organizations (OPS-4, 2010).

In dollar terms, the biodiversity share ($2,792 million US) was almost identical to that of the climate change ($2,743 million US) focal area. These two account for 32.5% and 31.9% of the total fund respectively (**Figure 1**).

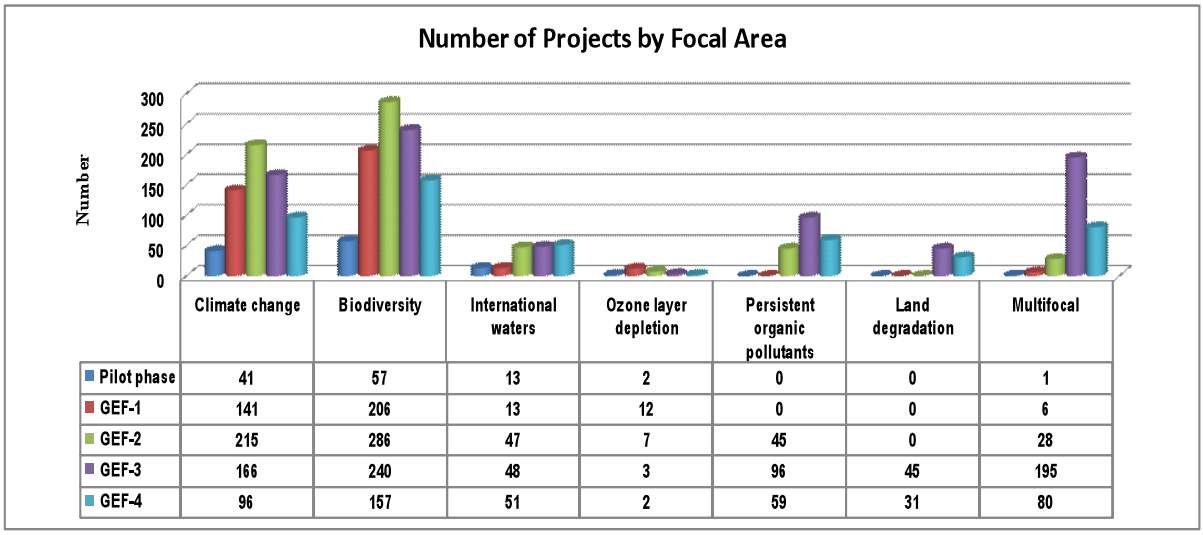
Figure 1: Allocation of the GEF Trust Fund from Pilot Phase to GEF-4 by Focal Area



Source: GEF Project Management Information System (PMIS) though June 30, 2009 – OPS-4.

Between the Pilot Phase and the GEF 4 period, the majority of projects funded through the GEF Trust Fund were in the biodiversity focal area (946 or 39.6%) (**Figure 2**).

Figure 2: Number of GEF Approved Projects by Focal Area



	Climate change	Biodiversity	International waters	Ozone layer depletion	Persistent organic pollutants	Land degradation	Multifocal
Pilot phase	41	57	13	2	0	0	1
GEF-1	141	206	13	12	0	0	6
GEF-2	215	286	47	7	45	0	28
GEF-3	166	240	48	3	96	45	195
GEF-4	96	157	51	2	59	31	80

Source: GEF Project Management Information System (PMIS) though June 30, 2009 – OPS-4.

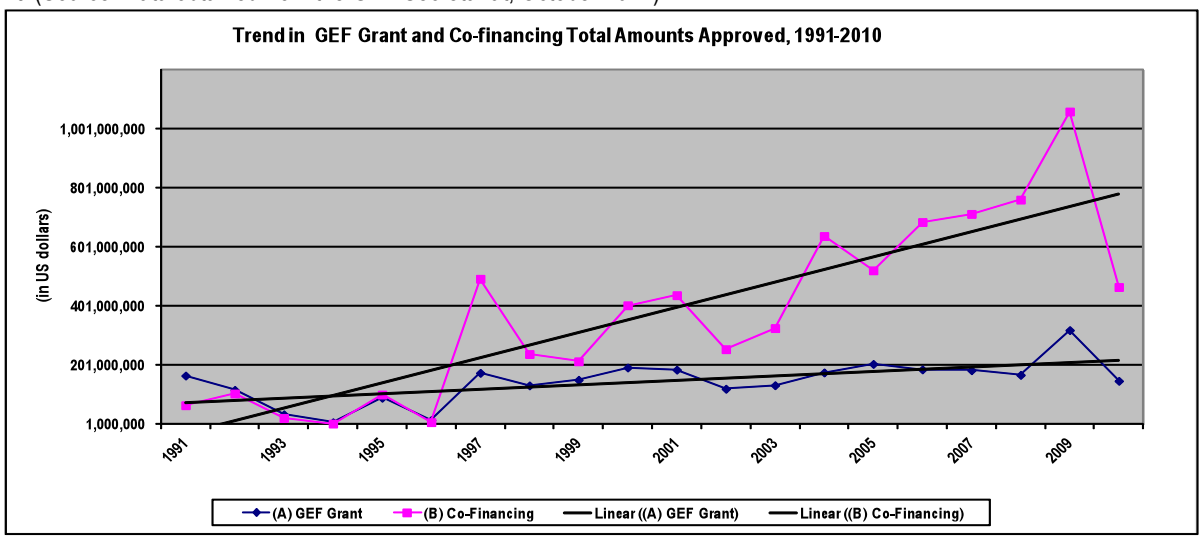
Approved GEF Trust Fund Project Amounts

In the Biodiversity Focal Area, the GEF has approved over 1,043 projects and granted over $2.9 billion US of its Trust Fund and leveraged nearly $7.5 billion US in co-financing over the last two decades (1991-2010; Data obtained from the GEF Secretariat, October 2011). Up to 2011, the total GEF project approvals amounted to $10.4 billion US.

Even though both the Trust Fund and co-financing grew over the years, it is the co-financing that has substantially increased especially during the last decade (**Figure 3)**. The average annual contribution of co-financing for the period 1991-2010 was over $370 million US and nearly $586 million US over the last decade (2001-2010), while that of the GEF Trust Fund was $143 million US and slightly above $182 US million during the same two periods respectively. The GEF Trust Fund accounted for 28% and co-financing 72% for the respective contribution to project costs from 1991 to 2010. This equals an average co-financing ratio of 1:2.5, though this ratio has increased over the last years.

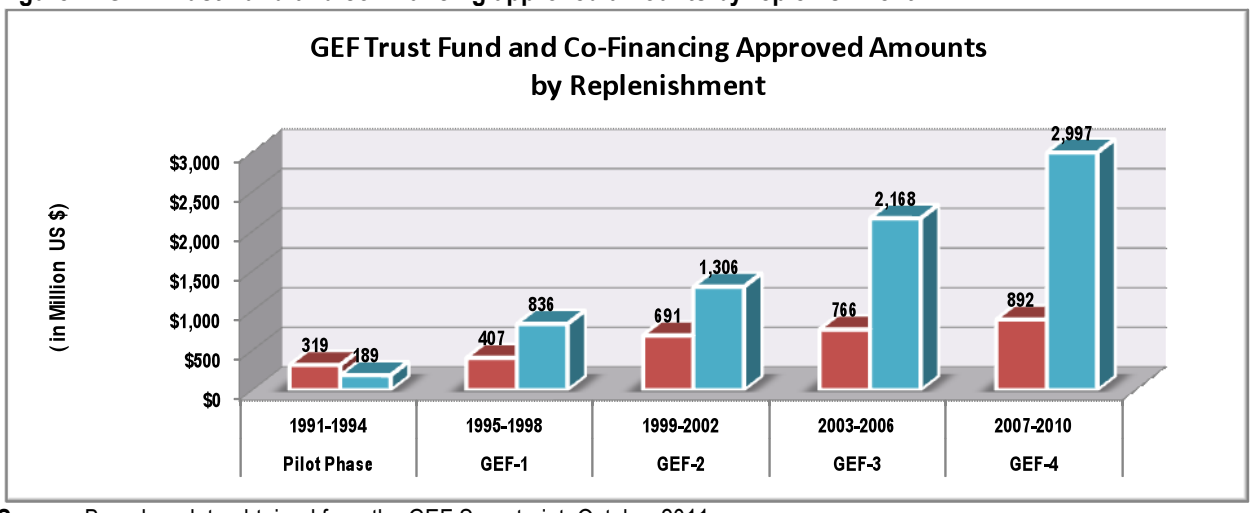
Figure 3 illustrates the trends in the amounts approved between 1991 and 2010. Overall, the growth of approved biodiversity funding under the GEF Trust Fund has been stable but slightly sluggish over the entire period. This is particularly true when compared to the fast growth in co-financing, especially during GEF-4. The amount of co-financing during 1991-2010 showed more variability compared to the total GEF grant amount. Since 1997, more stability in funding is observed for the GEF Trust Fund. During the last decade (2000-2010), the GEF appears to have provided more stable and predictable funding.

Figure 3: Trend in GEF Trust Fund Grant and Co-Financing Total Amounts Approved for Biodiversity, 1991-2010 (Source: Data obtained from the GEF Secretariat, October 2011)



GEF's funds for biodiversity during replenishments grew from $319 million US during the Pilot Phase to $892 million US during GEF-4, which represents a 179.6% change in the approved amount **(Figure 4)**. After a relatively large increase in GEF-2, the Trust Fund's growth was much less during the last replenishments. The average percentage change was 27.7% from replenishment to replenishment. Co-financing grew from $189 million US during the Pilot Phase to $2.997 billion US during GEF-4, a percentage change of 1,485.3% **(Figure 4)**. Average percentage change in co-financing was 125.6% from replenishment to replenishment. However, the largest increase occurred during GEF-1 (342%). If we exclude this, the average percentage change would be just 53.5%

Figure 4: GEF Trust Fund and co-financing approved amounts by replenishment



Source: Based on data obtained from the GEF Secretariat, October 2011.
Note: Annual Trust fund including agency fees coverage and co-financing from 1991-2010 were used to estimate the replenishment amounts.

Regional Distribution of GEF Funds

Table 31 shows that the GEF funding is primarily country-driven. On average, 77% of GEF grants (over $2.2 billion US) and 85% of co-financing (over $6.44 billion US) was allocated to biodiversity projects on a country-by-country basis. Regional projects received on average near 15% ($433 million US) in the form of grants and 10% ($740 million US) in the form of grants co-financing, while global projects received near 8% ($232 million US) in the form of grants and approximately 5% ($364 million US) in the form of co-financing.

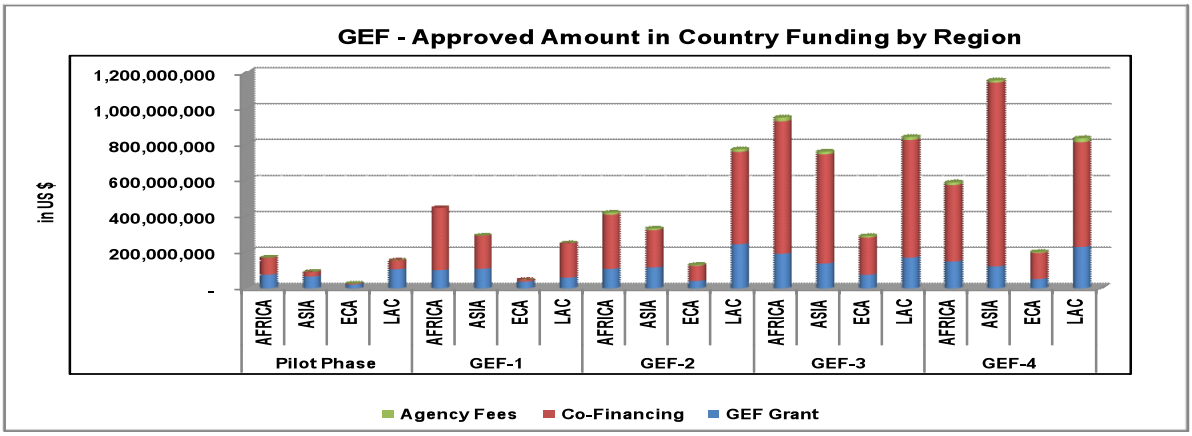
Table 31: Total Approved GEF Funds for Biodiversity in Country, Regional and Global Allocations

Type of	Total Approved Funds (in $ US)					Share in	Share in
				Sources of Fund for IA fees		GEF grant	Co-finance
Allocation	GEF Grant	Co-Financing	Impl. Agency(IA) fees	Project Grant	Total PPG	(%)	(%)
Country	2,240,004,101	6,442,481,288	154,444,663	*153,720,243*	*724,420*	77.1%	85.4%
Regional	432,663,063	739,605,180	28,262,627	*28,083,177*	*179,450*	14.9%	9.8%
Global	231,625,937	363,687,637	14,377,756	*14,319,256*	*58,500*	8.0%	4.8%
TOTAL	**2,904,293,101**	**7,545,774,105**	**197,085,047**	***196,122,677***	***962,370***	***100.0%***	***100.0%***
	Percentage Shares in the total of GEF-Grant, Co-financing and Grant for agency fees						
	27.3%	**70.9%**	**1.9%**				
	Perecentage Shares in the total of GEF-Grant and Co-financing						
	27.8%	**72.2%**					

Source: Based on data supplied by the GEF, October, 2011. PPG = Project Preparation Grant

In the case of regional allocation, Latin America and the Caribbean (LAC) and African projects received the most GEF grants and co-financing compared to other regions (**Figure 5**). During GEF-4, the largest amount of financing went to Asia, though what predominantly stands out in the funding share is the amount of co-financing rather than the GEF grant (**Figure 5**).

Figure 5: GEF Trust Fund and Co-Financing Approved Amount for Biodiversity in Country Funding by Region



Source: Data obtained from the GEF Secretariat, October, 2011

Ongoing GEF-5 Funding

The GEF Secretariat reported to COP 11 about the ongoing funding in the focal area of biodiversity and other areas for the period July 1, 2010 to June 30, 2012; the first 2 years of GEF-5, hereafter referred to as the "reporting period" (UNEP/CBD/COP/11/8):

1. *In sum, during the reporting period, the totality of GEF investments that have contributed to the achievement of the objectives of the CBD, including direct investments from the biodiversity focal area, projects funded through the international waters and land degradation focal areas, and the LDCF and the SCCF, totalled $747 million, which leveraged $3.8 billion, for a total investment of $4.5 billion and an overall cofinancing ratio of 1 (GEF): 5 (cofinancing).*

2. *During the reporting period, the GEF approved 155 projects that addressed biological diversity and biosafety objectives. The total GEF allocation for these projects was $572 million, or about 53% of the resources allocated to the biodiversity focal area during GEF-5 (inclusive of agency fees and project preparation grants). These resources leveraged an additional $ 2.478 billion in co-financing for the projects from partners including the GEF Agencies, bilateral agencies, recipient countries, private foundations, and the private sector for a total of more than $3 billion. This resulted in a cofinancing ratio of 1 (GEF): 4.3 (cofinancing).*

3. *During the reporting period, the GEF approved 46 multi-focal area projects and programs, including SFM-REDD+ projects, with significant contributions from the biodiversity focal area. Out of a total GEF allocation of $ 638 million to these multi-focal area projects, $ 249 million or 39% came from the biodiversity focal area. These 46 projects leveraged $ 5.1 billion for a cofinancing ratio of 1 (GEF) to 8 (cofinancing).*

4. *During the reporting period, the SGP financed approximately 746 biodiversity-related projects (including 144 projects with multi-focal area benefits contributing to climate change mitigation, international waters and land degradation), totaling $20.75 million in financing from the GEF, in addition to $17.76 million in cash and in-kind co-financing from partners and grantees, GEF agencies, bilateral agencies, national and local governments, and the private sector.*

5. *During the reporting period, the Save Our Species Program (SOS) provided funding for 28 projects to conserve 75 threatened species in 34 countries amounting to $3,983,610 and leveraging $ 6,997,791 in cofinance.*

6. *Six projects funded under the Special Climate Change Fund (SCCF) during the reporting period contribute to biodiversity conservation and sustainable use totaling $22,425,750 million of SCCF resources, which leveraged an additional $201,547,000 million of cofinance, for a total of almost $224 million.*

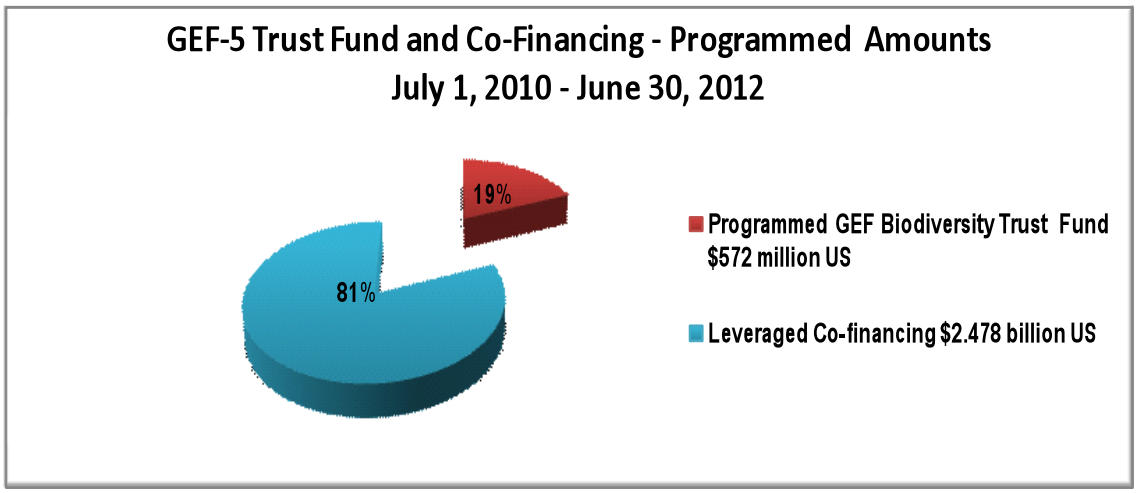
7. *Under the Least Developed Countries Fund (LDCF) eight projects funded during the reporting period contribute to biodiversity conservation and sustainable use totaling $43,730,566 of LDCF resources, which leveraged an additional $164,412,158 of cofinance, for a total of $208 million.*

8. *During the reporting period, the Critical Ecosystem Partnership Fund (CEPF) provided funding for 172 projects in 41 countries, amounting to $16 million, bringing the program's global investment portfolio since inception to $143 million in grants awarded to 1,667 civil society organizations, and leveraging $323 million from partners around the world.*

9. *In sum, during the reporting period about $676 million were programmed to advance the objectives of the convention. In total, this investment leveraged an additional $3.4 billion, resulting in a cofinancing ratio of 1 (GEF) to 5 (cofinancing) and a grand total of more than $4 billion.*

Figure 6 presents the status of GEF-5 on the programmed amount and on the achieved leveraged co-financing in the period July 1, 2010 to June 30, 2012.

Figure 6: GEF-5 Trust Fund Programmed Amount and Leveraged Co-financing



Source: Based on data obtained from the GEF Secretariat, 2012.

Rejected GEF-projects

According to the Terms of Reference in Decision X/26 the GEF Secretariat has conducted an analysis of the biodiversity portfolio since 1991 in order to answer the question about the turned down projects.

Since the GEF Pilot Phase, 1,043 biodiversity projects have been approved. During that same period, 308 biodiversity projects were dropped or cancelled.

Of the 308 biodiversity projects, 278 were dropped. Projects that were characterized as "dropped" have never received funding, but were stopped during the design phase for a variety of reasons (Government deciding not to continue with the project, conditions within country changing such that project was no longer viable, etc.). Of these 278 projects, it is important to note 159 were dropped in 2009 as they had been in the GEF system since GEF-3 and no progress was being made in their development.

Projects that the GEF Secretariat characterizes as "cancelled" are ones that are actually under implementation and are cancelled for a variety of reasons similar to the ones listed above.

Of the 308 biodiversity projects, 30 were cancelled totalling an expenditure of $40 million US. This amount represents the resources spent on these projects during their implementation life up to the point of cancellation.

Finally, there were no projects turned down due to lack of GEF resources. For some cases this could mean that the capacity to mobilise co-financing, especially at national level, appears limited, even GEF Trust Fund grants have been available. On the other hand it appears that eligible countries dimension their GEF projects according to availability of funding through the GEF STAR allocation system. This is not an indication that funding volumes by the GEF Trust Fund are appropriate to answer needs at national levels. If more GEF Trust Fund grants will be available at some point more request from eligible countries may certainly be expected.

The GEF Secretariat noted that funds that end up not being used in a particular year or replenishment are used during the following year or replenishment.

III.2 Available Biodiversity Funding from OECD Countries

Bilateral aid commitments from the Development Assistance Committee (DAC) members to the Organisation for Economic Co-operation and Development (OECD) targeted at the objectives of the Rio Conventions are an important funding source for Biodiversity (http://www.oecd.org/investment/aidstatistics/42819225.pdf). Available funding since 1998 to 2010 is given in **Table 32**. Since 2000, the funding commitment to biodiversity grew substantially and reached $6,567 million US in 2010, an increase of 36.6% from its 2009 level. The overall percentage change of the commitment to biodiversity between 1998 and 2010 was 483% and that of climate change was even more - 622% - during the same period. The commitment to climate change mitigation more than doubled in 2008 ($8,452 million US) from its 2007 level ($3,990 million US) and further increased in 2009 and in 2010 to $17,641 million US (a 75% change from its 2009 level).

Table 32: Aid Commitments by OECD Members Targeted at the Objectives of the Rio Conventions

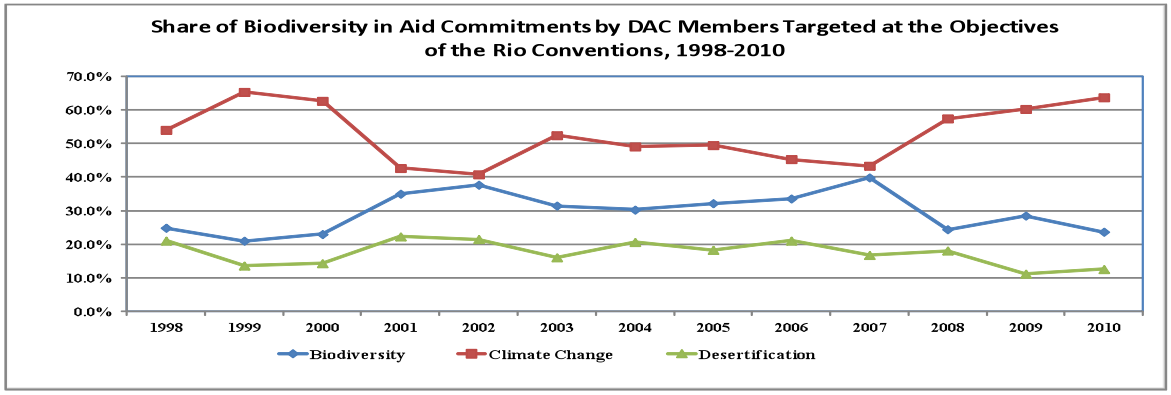
Focal Areas/ Rio Conventions	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% change 1998-2010
	Amount in $ million US													
Biodiversity	1126	1048	890	1433	1476	2085	2012	2590	2943	3669	3598	4808	6567	**483%**
Climate Change mitigation	2444	3254	2424	1745	1597	3472	3261	3979	3969	3990	8452	10158	17641	**622%**
Desertification	953	680	554	912	843	1065	1371	1474	1846	1544	2667	1895	3486	**266%**
Total Aid Commitments	**4523**	**4982**	**3869**	**4090**	**3916**	**6623**	**6644**	**8043**	**8758**	**9204**	**14717**	**16861**	**27694**	**512%**
	Share in the total funds for the Conventions													
Biodiversity	25%	21%	23%	35%	38%	31%	30%	32%	34%	40%	24%	29%	24%	**-5%**
Climate Change mitigation	54%	65%	63%	43%	41%	52%	49%	49%	45%	43%	57%	60%	64%	**18%**
Desertification	21%	14%	14%	22%	22%	16%	21%	18%	21%	17%	18%	11%	13%	**-40%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

Note: 1) Amounts relate to aid activities marked as targeting the objective of biodiversity (score significant '1' or principal '2' 2007-2009, in US $ million, commitments by DAC members).
2) There were no data for Luxembourg and in the case of the United States there was no reporting on the Rio markers, and reporting on the Rio markers by Netherlands was delayed for 2009.

Source: Based on data from OECD-DAC – Rio Marker data updated in April 2012
http://www.oecd.org/searchResult/0,3400,en_2649_34447_1_1_1_1_1,00.html

The share of biodiversity in the total funds for the Conventions increased from 24.9% in 1998 to 40% in 2007 and declined back to 24% in 2010, while the share of climate change decreased from 54% to 43% during the same period and increased since then to reach 64% in 2010. Overall, the average share in the total amount for the period 1998 to 2010 was about 29.7% for biodiversity, 52.8% for climate change, and 17.5% for desertification (**Table 32** and **Figure 7**). However, the significant decline of biodiversity's share since 2007 may indicate that biodiversity funding has to compete with climate change funding.

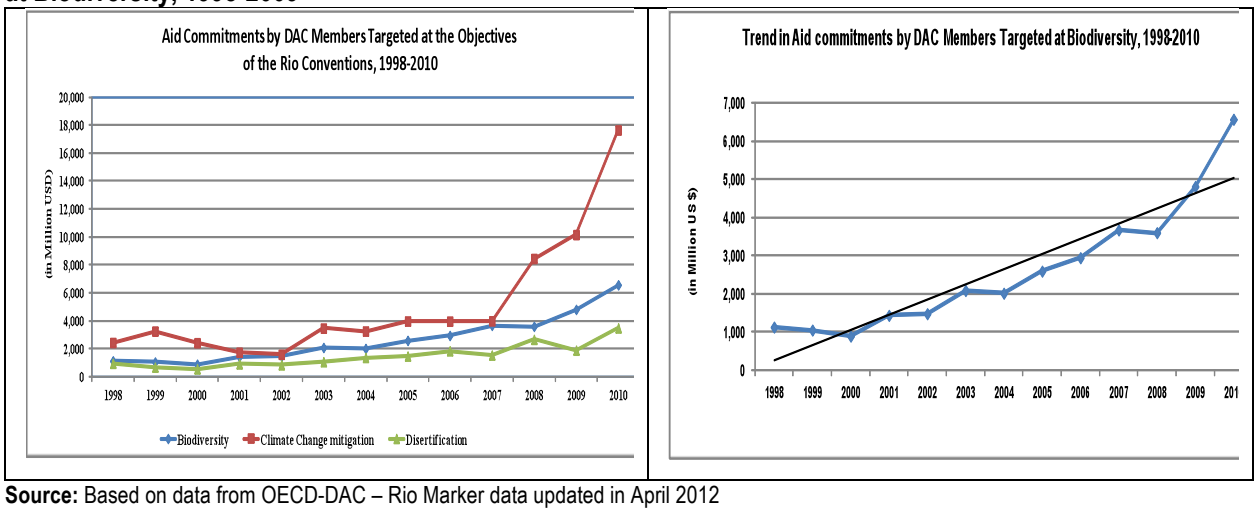
Figure 7: Share of Biodiversity in Aid Commitments by OECD DAC Members Targeted at the Objectives of the Rio Conventions



Source: Based on data from OECD-DAC – Rio Marker data updated in April 2012

Figure 8 illustrates the positive trend in the funding from OECD countries targeted at biodiversity, particularly since 2000. With continuously increasing expenditures, the sustainability of available biodiversity funds from OECD countries may also be expected in the future. However, due to the way in which the Rio Markers are used - score significant '1' or principal '2' both accounted for at 100%, while score 1 engagements might have the most important part of their budget allocated to non-biodiversity activities - it is hard to examine exactly what amount was strictly devoted to biodiversity.

Figure 8: Aid Commitments by OECD DAC Members Targeted at the Objectives of the Rio Conventions and at Biodiversity, 1998-2009



Source: Based on data from OECD-DAC – Rio Marker data updated in April 2012

The aid commitments targeted at biodiversity by donor country is shown in **Table 33**. Of the total $34.25 billion US for the entire reporting period (1998-2010), Japan has contributed 31.4%, followed by Germany (10.3%), the European Union (9.3%), and the Netherlands (7.7%).

Table 33: Aid Commitments Targeted at Biodiversity by OECD Donor Country

Countries	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total	Share 1998-2010
							(in million US $)								
Australia	8	29	26	10	6	0	1	12	55	62	97.1	159.1	428.4	894	**2.61%**
Austria	2	..	4	5	6	3	8	13	15	15	32.1	30.4	*16.4*	151	**0.44%**
Belgium	21	14	23	3	4	4	16	26	33	68	126.4	161.9	178.7	679	**1.98%**
Canada	27	7	12	26	49	73	186	5	78	62	52.3	180.6	86.6	844	**2.47%**
Denmark	36	38	15	80	62	70	139	159	140	103	162.5	120.6	253.2	1,379	**4.03%**
Finland	29	22	24	21	9	3	16	*3*	*3*	50	129.8	118.8	118.9	547	**1.60%**
France	102	20	12	36	73	53	104	65	131	165	222.0	244.7	859.6	2,087	**6.09%**
Germany	251	314	269	96	157	150	244	283	278	243	284.8	382.6	583.9	3,535	**10.32%**
Greece	0	0	0	0	2	6	4	4	2	4	4.3	8.7	4.4	39	**0.11%**
Ireland	1	1	5	2	1	1	1	*0*	..	29	20.0	107.8	41.3	209	**0.61%**
Italy	..	..	..	..	..	..	*0*	..	12	115	78.2	64.3	5.8	276	**0.81%**
Japan	164	125	144	719	637	1,153	616	1,149	1,177	1,778	876.7	1134.8	1082.7	10,757	**31.41%**
Korea										12	24.1	42.2	4.0	83	**0.24%**
Luxembourg	..	..	..	..	..	..	..	..	..	..	..	..	3.3	3	**0.01%**
Netherlands	237	149	126	240	204	229	280	325	283	226	245.4	..	99.2	2,643	**7.72%**
New Zealand	1	1	1	..	1	5	4	9	20	3	8.9	3.0	11.3	67	**0.20%**
Norway	76	117	81	62	36	58	63	47	82	77	103.5	226.5	584.1	1,612	**4.71%**
Portugal	0	0	0	1	1	1	1	1	1	2	2.1	3.9	4.3	17	**0.05%**
Spain	5	12	26	21	25	30	*3*	65	79	97	346.0	298.7	303.1	1,312	**3.83%**
Sweden	52	46	17	17	30	32	10	3	28	0	14.9	6.5	198.5	455	**1.33%**
Switzerland	27	14	9	27	51	19	47	25	26	47	27.2	39.2	54.8	415	**1.21%**
United Kingdom	22	39	11	..	*1*	*5*	0	0	12	10	178.4	517.8	597.9	1,394	**4.07%**
United States	66	100	87	69	107	127	158	*35*	*40*	202	216.7	210.7	255.0	1,671	**4.88%**
EU institutions	..	..	..	*0*	*14*	63	111	361	448	299	344.3	745.3	791.5	3,176	**9.28%**
Total	***1,126***	***1,048***	***890***	***1,433***	***1,476***	***2,085***	***2,012***	***2,590***	***2,943***	***3,669***	***3,598***	***4,808***	***6,567***	***34,247***	**100.00%**

Note: 1) Amounts relate to aid activities marked as targeting the objective of biodiversity. (score significant '1' or principal '2' 2007-2009, in US $ million, commitments by DAC members).
2) There were no data for Luxembourg and in the case of the United States there was no reporting on the Rio markers, and reporting on the Rio markers by Netherlands was delayed for 2009.
Source: Based on data from OECD-DAC – Rio Marker data updated in April 2012,
http://www.oecd.org/searchResult/0,3400,en_2649_34447_1_1_1_1_1,00.html

In recent years, some countries have started contributing much more than they used to, for example, significant increases were made by Spain from $5.3 million US in 1998 to $303 million US in 2010 and by the European Union from $14 million US in 2002 to $791.5 million US in 2010. Since 2005, Japan has consistently contributed on average over $1 billion US per year. **In 2010, overall $6.5 billion US bilateral have been allocated to biodiversity**. Again, it is noted that because of the way the Rio Markers are classified (score significant '1' or principal '2') it is hard to examine exactly what amount was strictly devoted to biodiversity by the donor countries.

III.3 Biodiversity Funding in other Sectors

A thorough analysis of available funding for biodiversity from other sources couldn't be conducted in the framework of this study and hence must be left to further research. However, the Expert Team notes that the potential of biodiversity targeted funding from other sectors, especially those with direct economic returns such as agriculture, forest, fishery, and water is significant and must be taken into account when implementing the Aichi Targets. When looking at available funding sources financing for development, climate change mitigation and adaptation policies including REDD+ play a crucial role to achieve multi benefits of public funding.

An *Assessment Exercise on Financial Resources required for Biodiversity Conservation in India*, conducted by Professor A. Damodaran from the Indian Institute of Management and a member of the Expert Team, presents an example of analysing potential additional funding for biodiversity in countries:

> *The exercise specifies a methodology for assessment of biodiversity conservation in India by not only looking at conventional fund flows for direct conservation activities but also looking at sources of biodiversity financing in development activities, thus attempting to arrive at biodiversity impacts of development activities. The primary contribution of the exercise is to afford an understanding of resource mobilization avenues and resource leveraging opportunities for achieving the Aichi Targets. This way it seeks to complement the resource assessment exercise undertaken by the Expert Group with regard to GEF-6* (see II.6).

It is recommended to conduct similar studies in GEF-eligible countries to mobilize additional co-financing to implement the Aichi Targets and contribute to achieving Target 20 at national level.

III.4 Domestic Funding for Biodiversity

The current scale of public biodiversity finance through domestic sources in GEF-eligible countries is unknown and very difficult to obtain due to a lack of data from Parties. According to the Little Biodiversity Finance Book, government funding for biodiversity from developing countries in 2010 is estimated to be $10.6 billion US (http://www.globalcanopy.org/materials/little-biodiversity-finance-book). It is assumed that all GEF-eligible countries are included in this country group.

Further research and basic data from Parties are needed to ultimately estimate the available domestic funding, which may serve as co-financing for the GEF Trust Fund grants. While public budgets of GEF-eligible countries may be seriously constrained and quantitatively small, especially in the Least Developed Countries, they play a unique role regarding national responsibility, governance, and country ownership. This is essential to achieving the Aichi Targets at national level.

III.5 Conclusion: Needs versus Availability

Financing needs versus GEF Trust Fund's availability

Based on three scenarios and the Target-by-Target assessment (see II.2), the nine options presented in **Table 26** (see II.4.3, repeated below) reflect the financing needs based on the expected incremental costs for the GEF-6 Trust Fund.

(repeated from II.4.3) Table 26: Estimated Amount Required for All Targets and Biosafety during the GEF-6 Replenishment Period for 3 Scenarios and 3 Co-financing Ratios

Estimated Amount Required for the GEF-6 period 2014-2018 *before* applying incremental reasoning	Estimated Amount Required for the GEF-6 period 2014-2018 *after* applying incremental reasoning	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs		
		Applied co-financing ratios		
		1:2	1:4	1:6
Scenario 1: US$ 74 billion	Scenario 1: US$ 35 billion	US$ 11 billion	US$ 7 billion	US$ 5 billion
Scenario 2: US$131 billion	Scenario 2: US$ 60 billion	US$ 20 billion	US$ 12 billion	US$ 8 billion
Scenario 3: US$191 billion	Scenario 3: US$ 87 billion	US$ 29 billion	US$ 17 billion	US$ 12 billion

In order to compare needs versus availability of future GEF funding, the amount available for biodiversity in GEF-5 was analysed. In addition to the $ 1.2 billion US sum for the Biodiversity Focal Area, other financing that can contribute to the 20 Aichi Targets is allocated to *Sustainable Forest Management / REDD+* ($ 0.13 billion US) and partial instalments for the *International Waters, Land Degradation,* LDCF, and SCCF. Based on the numbers from the GEF Secretariat's report to COP 11 for the period of July 1, 2010 to June 30, 2012 (UNEP/CBD/COP/11/8), it can be expected that an additional 30% could be provided for biodiversity from these areas through project expenditures (figures according to UNEP/CBD/COP/11/8: total spending $ 747 million US for biodiversity, $ 175 million US from the other focal areas or funds, and $ 572 million US from biodiversity focal area; see III.1). This means that the amount available for biodiversity during GEF-5 may increase to approximately $ 1.6 billion US.

Table 34 presents the calculated increase in funding needs from GEF-5 to GEF-6 according to the three scenarios and co-financing ratios respectively. Given past trends of co-financing in the previous GEF periods, the co-financing ratios of 1:2, 1:4 and 1:6 are credible assumptions to make. Based on the available amounts in GEF-5, the increase ranges from **3-fold** with Scenario 1 and a 1:6 co-financing ratio to **18-fold** under Scenario 3 and a 1:2 co-financing ratio. Under Scenario 2 and a 1:4 co-financing ratio, there would be a need for **7.5 fold** increase in trust fund compared to what is currently available in GEF-5.

In the history of the GEF, the average percentage change from replenishment to replenishment was 27.7%. Based on GEF-4's[22] approved amount of $ 892 million US and the Biodiversity Focal Area allocation of $ 1.2 billion US in GEF-5 (http://www.thegef.org/gef/sites/thegef.org/files/documents/document/GEF-5_Bio_strategy_0.pdf), the change was even greater between GEF-4 to GEF-5 with a 35% increase.

Considering the GEF Trust Fund's historical average growth rate from replenishment to replenishment, even the lowest scenario in the needs assessment indicate needs for much higher growth rate in funding for GEF-6.

Table 34: Calculated Increase from GEF-5 to GEF-6 on Required Funding Amounts

Scenario For GEF-6 Period 2014-2018	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs			Available Amount of the GEF Trust Fund in GEF-5 period 2010-2014 to cover Incremental Costs	Calculated Increase from GEF-5 to GEF-6 based on available Amounts in GEF-5		
	Applied co-financing ratio			Biodiversity Focal Area US$ 1.2 bn	Applied co-financing ratio		
	1:2	1:4	1:6	Expected contributions from other GEF Focal Areas & Funds: ~ US$ 0.4 bn	1:2	1:4	1:6
Scenario 1	US$ 11 bn	US$ 7 bn	US$ 5 bn	US$ 1.6 bn	~ 7 fold	~4.5 fold	~ 3 fold
Scenario 2	US$ 20 bn	US$ 12 bn	US$ 8 bn	US$ 1.6 bn	~ 12.5 fold	~7.5 fold	~ 5 fold
Scenario 3	US$ 29 bn	US$ 17 bn	US$ 12 bn	US$ 1.6 bn	~ 18 fold	~11 fold	~ 7.5 fold
* Rounding errors might occur							

Needs versus availability of co-financing from domestic public sources

For the selected activities to be implemented, it is necessary to also review the prospects for co-financing. However, the data on possible co-financing amounts is very limited and reliable figures are lacking. Thus, the comparison between co-financing needs and availability is difficult to make. Time series data on co-financing amounts by source are not readily available to evaluate and predict future possible sources of funding and amounts. **Table 35** shows the calculated co-financing needed to match the expected amounts of incremental costs covered by the GEF Trust Fund in GEF-6 according to the nine scenarios.

[22] This growth in approved amounts from replenishment to replenishment was based on replenishment estimates based on annual approved amounts instead of July-June replenishment period.

Table 35: Calculated Co-financing Needed to Match Expected Amount of Incremental Cost Coverage by the GEF-6 Trust Fund

Scenario For GEF-6 Period 2014-2018	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs			Calculated Co-financing Needs in GEF-6 period*		
	Applied co-financing ratio			Applied co-financing ratio		
	1:2	1:4	1:6	1:2	1:4	1:6
Scenario 1	US$ 11 bn	US$ 7 bn	US$ 5 bn	US$ 22 bn	US$ 28 bn	US$ 30 bn
Scenario 2	US$ 20 bn	US$ 12 bn	US$ 8 bn	US$ 40 bn	US$ 48 bn	US$ 48 bn
Scenario 3	US$ 29 bn	US$ 17 bn	US$ 12 bn	US$ 58 bn	US$ 68 bn	US$ 72 bn
* rounding errors might occur						

Given the $1.6 billion US available for biodiversity and the current implemented co-financing ratio of 1:4, a minimum of $6.4 billion US in co-financing is required in GEF-5. During GEF-4, various levels of recipient country governments contributed on average almost 50% of co-financing (source: GEF Secretariat). The remaining half was provided from other sources.

Based on the assumption that recipient country governments will continue to provide on average 50% of the total co-financing required, which is plausible given the observed rise in national level public biodiversity investments in many countries since GEF-4, co-financing needs from domestic public sources can be estimated (**Table 36)**.

Table 36: Calculated Co-financing Needs in GEF-6 Period from Domestic Public Funding

Scenario For GEF-6 Period 2014-2018	Options on the Amount Required of the GEF Trust Fund for the GEF-6 Replenishment to cover Expected Incremental Costs			Calculated Co-financing Needs in GEF-6 period* from domestic public funding (assuming 50%)		
	Applied co-financing ratio			Applied co-financing ratio		
	1:2	1:4	1:6	1:2	1:4	1:6
Scenario 1	US$ 11 bn	US$ 7 bn	US$ 5 bn	US$ 11 bn	US$ 14 bn	US$ 15 bn
Scenario 2	US$ 20 bn	US$ 12 bn	US$ 8 bn	US$ 20 bn	US$ 24 bn	US$ 24 bn
Scenario 3	US$ 29 bn	US$ 17 bn	US$ 12 bn	US$ 29 bn	US$ 34 bn	US$ 36 bn
* rounding errors might occur						

In terms of availability of co-financing from domestic sources, it is noted that government expenditures in developing countries in 2010 was reported to be approximately $10.6 billion US per year (LBFB 2012). Assuming that this sum remains constant during GEF-6, $ 42.4 billion US is expected to be available for potential co-financing from domestic public sources in GEF-6. This is only if domestic public funding remains at this possible level, which is questionable in light of the current global economic crisis and potential budget cuts in recipient countries. In addition, available domestic public funding can vary from country to country. Finally, it must be noted that the methods to calculate the amounts has to be further developed to be robust.

Needs versus availability of co-financing from other sources

Amounts that can be interpreted as co-financing in GEF-6 from other sources includes *inter alia* bilateral ODA of OECD countries (US $6.5 billion, see **Table 33** in chapter III.2), philanthropy (US $1.8 billion, source LBFB), funding from other sectors, and private sector financing. However, limited data is available on the various funding sources.

Potentially more co-financing could be available from other sectors, such as agriculture, forestry, fisheries, and development. In the case study from India (see II.6), it was demonstrated that there is great potential for leveraging funds from development sectors for biodiversity conservation with imaginative re-tuning of development programmes to deliver on biodiversity conservation and sustainable use. In such an eventuality the possibility of obtaining additional funds from new co-financing sources could be helpful in achieving multiple benefits and supporting the implementation of several Aichi Targets during the GEF-6 period.

IV. REFLECTIONS ON THE ASSESSMENT

Given the results of the assessment, the Expert Team is aware that some assumptions, choices, and hypothesis, as well as data quality can be criticised, as well as to some extent the overall approach and results. The GEF-6 funding needs assessment has indeed been a challenge to perform. However, the Expert Team is confident that this report constitutes an important first step in the current global efforts to assess funding needs, both for the GEF-6 replenishment and more broadly, to achieve the CBD's objectives by 2020.

For accurate backing of the "top-down" GEF-6 needs assessment, the Expert Team believes that a "bottom-up" assessment of global needs must also be conducted with appropriate sourcing and time frame, possibly prior to COP 12. All countries need to identify their needs and priorities, set goals and targets, and estimate the amount they need to achieve such goals following the guidance provided by the COP of the CBD. Parties also need to provide information on how much they can provide from domestic sources and need from external sources for which activities, in order to enable the CBD Secretariat to can more accurately aggregate and assess overall needs.

The Expert Team notes that this study appears just as such needs assessments are being developed under the CBD and that the overall approach has to be refined over time for potential future needs assessments.

In the meantime, the Expert Team hopes that this study will provide a suitable basis for discussion at COP-11.

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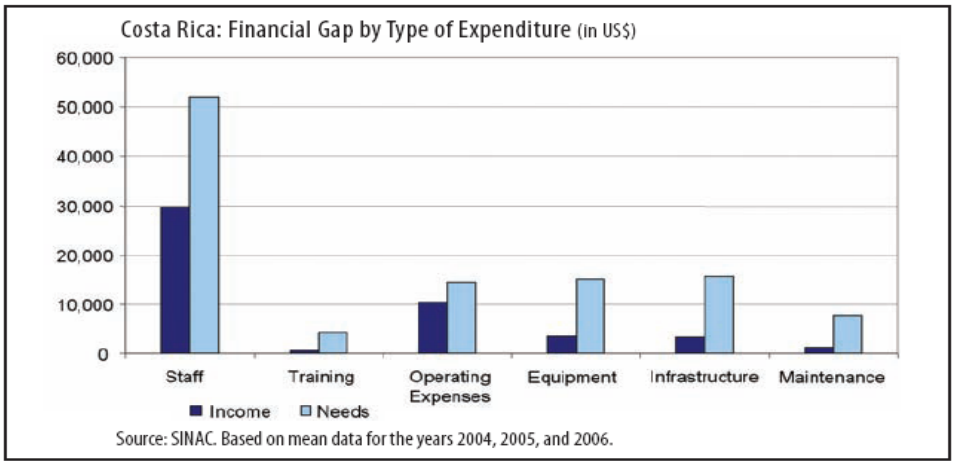
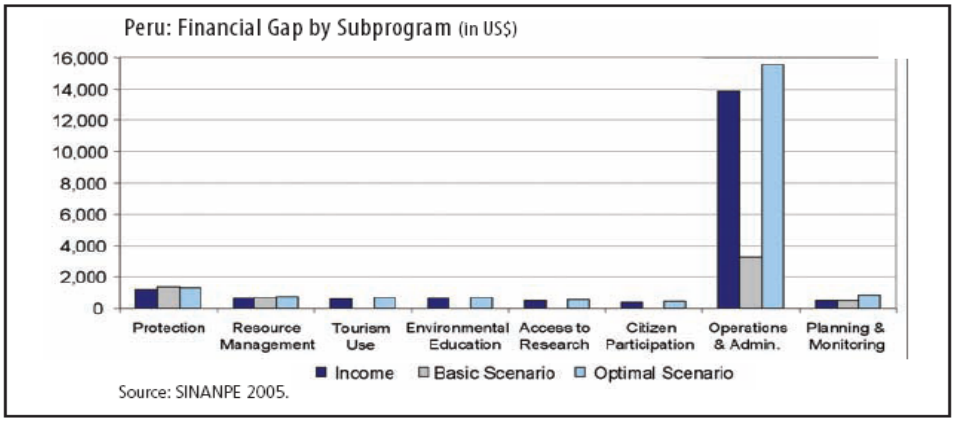
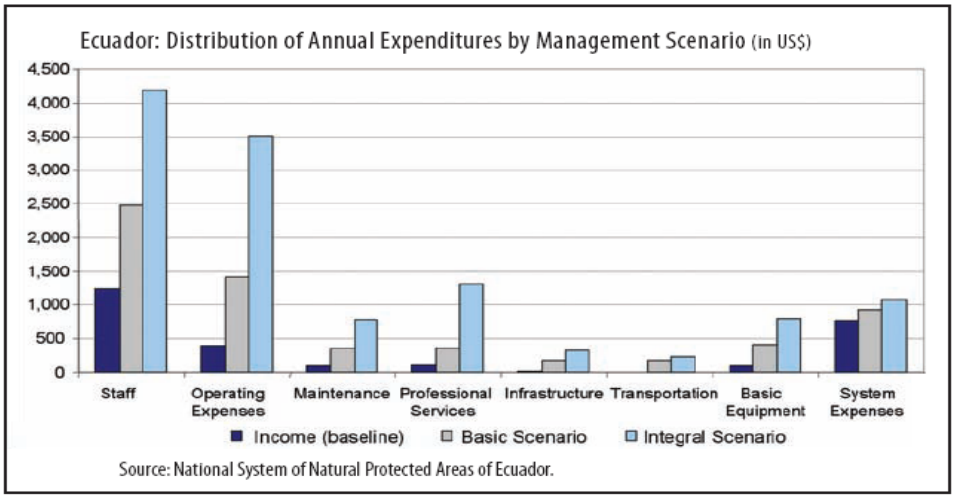
Annexes

Annex Figure 1. Categories of Costs of Protected Areas in Costa Rica, Peru, and Ecuador







Annex Figure 2: Total estimated running costs of MPA systems covering 1-40% of the world's seas.

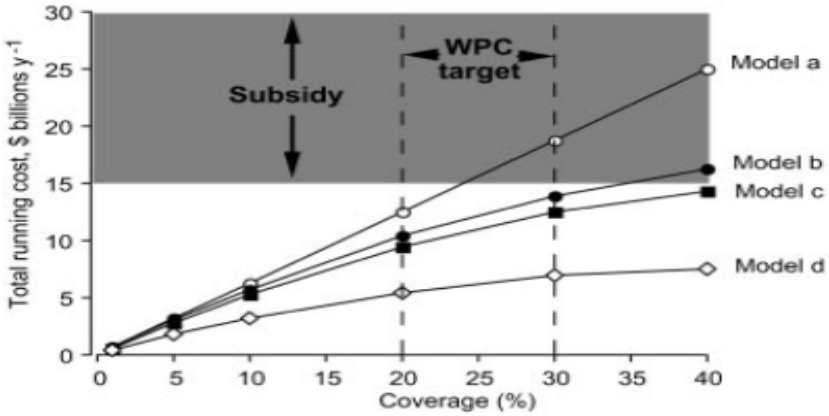


Fig. 3. Total estimated running costs of MPA systems covering 1–40% of the world's seas, according to four different models of system expansion. The shaded area denotes recent estimates of global subsidies to industrial fisheries (see text), whereas the vertical dashed lines show the MPA coverage recently recommended by the World Parks Congress. Model a, new MPAs randomly located, with no coalescence allowed; model b, new MPAs randomly located, but with all neighboring MPAs allowed to coalesce; model c, currently unprotected cells adjacent to already protected cells being 10% more likely than others to be picked for reservation, and with coalescence allowed; model d, as for model c, but with 50% greater likelihood of adjacent cells being picked.

Source: Adapted from McCrea-Strub, et al. 2011.

Annex Table 1: Overview of financial needs estimates, available financial resources and funding gaps for implementing the programme of work on protected areas (in million US$) in selected countries

Country	Financial Needs Estimates	Available Financial Resources	Funding Gaps
Least Developed Countries Liberia [23]	7.00	NA	NA
Small Island Developing States Bahamas [24]	30.20	2.11	28.09
Cuba [25]	32.00	3.00	29.00
Palau	2.50	NA	NA
Trinidad &Tobago	42.32	4.21	39.26
Other developing countries Brazil[26]	700 for structural investments & 450 per year for running costs. Additional investment of 500 for expansion of PAs (30% of Amazon and 10% each of other biomes, plus 150 annual running costs of expanded PAs)	NA	NA
China [27]	60.00	NA	NA
India [28]	840.00	NA	NA
Indonesia	40.50	5.50	35.00
Panama	36.00	NA	NA
Philippines	110.40	24.90	85.50
Countries with economies in transition Belarus	4.42	1.14	3.28
Russian Federation 29	95.00	62.00	33.00

Source: Based on information from various sources.

[23] UNEP/CBD/COP/8/INF/26, per year
[24] UNEP/CBD/COP/8/INF/6
[25] UNEP/CBD/COP/8/INF/26, per year.
[26] Implementation of CBD in Brazil: Issues on the agenda of COP 9, Ministry of Environment, Government of Brazil 2008.
[27] Submission to the Secretariat on the review of implementation of the programme of work in 2007, per year up to 2010.
[28] Submission to the Secretariat on the review of implementation of the programme of work in 2007, per year up to 2012.
[29] UNEP/CBD/COP/8/INF/26, per year at federation level only.

Annex Table 2. Financial gaps under basic and optimal management scenarios for 18 LAC countries (in US$)

COUNTRY	BAU (Current	Financial Needs (Costs)		Financial Gaps	
		Basic Scenario	Optimal	Basic Scenario	Optimal
Argentina	31,309,584	39,512,820	60,366,666	8,203,236	29,057,082
Bolivia	5,102,653	5,374,940	9,000,000	272,287	3,897,347
Brazil	133,415,026	302,573,314	471,731,602	169,158,288	338316576
Chile	9,194,339	17,974,193	26,754,046	8,779,854	17,559,707
Colombia	18,026,595	25,150,153	42,755,260	7,123,558	24,728,665
Costa Rica	29,645,948	31,934,374	44,000,000	2,288,426	14,354,052
Cuba	14,587,030	21,639,821	36,787,695	7,052,791	22,200,665
Dominican Republic	10,380,071	22,574,294	27,974,294	12,194,223	17,594,223
Ecuador	3,977,600	6,730,054	14,040,147	2,752,454	10,062,547
El Salvador	3,803,223	4,445,738	7,557,755	642,515	3,754,532
Guatemala	8,339,504	16,118,443	27,401,353	7,778,939	19,061,849
Honduras	4,122,552	6,618,629	11,251,670	2,496,077	7,129,118
Mexico	80,214,239	120,321,358	160,428,478	40,107,119	80,214,239
Nicaragua	5,314,245	19,546,456	43,321,382	14,232,211	38,007,137
Panama	9,506,948	19,880,360	33,796,612	10,373,412	24,289,664
Paraguay	1,240,665	9,700,000	19,500,000	8,459,335	18,259,335
Peru	13,067,100	25,172,664	41,842,414	12105564	28,775,314
Uruguay	816,000	3,409,002	4,355,947	2,593,002	3,539,947
TOTAL	**382,063,322**	**698,676,613**	**1,082,865,321**	**316,613,291**	**700,801,999**

Note: Federal level PAs only
Source: UNDP, 2010 as cited by M. Flores. Chapter 10 Protected Areas http://web.undp.org/latinamerica/biodiversity-superpower/Report/Protected_Areas_(chapter_10)_ENG.pdf

Annex Table 3. Estimation of the financing gap for the protected area system in Namibia under two expenditure scenarios (N$ millions, 2008 values).

	Minimum expenditure scenario to maintain the status quo			Optimal expenditure scenario to achieve the Vision		
(Constant 2008 prices, N$ millions)	**2008-2012**	**2013-2017**	**2017-2022**	**2008-2012**	**2013-2017**	**2017-2022**
(i) Estimated financing needs for management costs and investments to be covered	766.5	766.5	766.5	1331	929.5	929.5
(ii) Projected revenues (over 5 year period)						
Entrance fees (current estimate + 5% growth rate)	287	366	468	287	366	468
Concessions	10	10	10	99	214	296
Live sales & other	12	12	12	12	12	12
Total projected revenues	309	388	490	398	592	776
(iii) Amount of PA generated revenues retained in the PA system for re-investment	83.75	103.5	129	83.75	103.5	129
(iv) Total government budget (incl donor funds)	638.8	638.8	638.8	683.5	683.5	683.5
(v) Financing gap for 5-year period	44	24	-1	564	143	117
(vi) Estimated **average annual financing gap** (financial needs – *available* finances)	**8.8**	**4.9**	**-0.2**	**113**	**29**	**23**

Source: Ministry of Environment and Tourism, 2010 – pp 31.

Annex Table 4. Projected total public sector costs attributable parks system (excluding NWR) with implementation of the Parks vision in Namibia (N$ millions, 2008 constant values).

Measure of costs	Year 1 2007/8	Year 2	Year 3	Year 4	Year 5	Year 6-20*
Current costs						
Capital costs	6.2	6.2	6.2	6.2	6.2	6.2
Recurrent costs	84.4	84.4	84.4	84.4	84.4	84.4
Total	90.6	90.6	90.6	90.6	90.6	90.6
Additional costs to implement the vision						
Capital costs	72.7	99.9	173.9	119.6	43.9	20.8
Recurrent costs	73.0	73.2	73.6	73.9	74.2	74.4
Total	145.7	173.1	247.5	193.6	118.1	95.3
Total costs of implementing the parks vision						
Capital costs	78.9	106.1	180.1	125.9	50.1	27.1
Recurrent costs	157.4	157.6	158.0	158.3	158.6	158.8
Total	236.3	263.7	338.1	284.2	208.7	185.9
* Year 6 includes replacement capital costs prorated, in constant prices, to year 20						

Source: Ministry of Environment and Tourism, 2010. pp 30.

Annex Table 5. Estimated total establishment cost (*EC*) and annual maintenance cost (*MC*) for MPAs of increasing size.

MPA size (Km^2)	Total ECa		MCb	
	2005 USD	2005 USD per Km^2	2005 USD per year	2005 USD per Km^2 and per year
0.5	31,876	63,752	146,819	293,639
5	105,551	21,110	238,113	47,623
50	349,514	6,990	386,175	7,723
500	1,157,349	2,315	626,302	1,253
5,000	3,832,343	766	1,015,743	203
50,000	12,690,081	254	1,647,342	33
500,000	42,020,808	84	2,671,675	5
1,000,000	60,255,959	60	3,090,295	3

Note: ECa refers to establishment cost estimated according to Eq. (2) or (4); b, maintenance cost estimated according to Eq. (1) or (3).
Source: Adapted from McCrea-Strub et al, 2011

Annex Table 6: GEF-6 funding needs estimates for supporting the implementation of the Cartagena Protocol on Biosafety (Based on elements of the Strategic Plan for the Protocol, 2011-2020, based on estimates by CBD Secretariat)

Strategic Objective	*Operational Objectives*	*Outcomes*	*Targets/Indicators (by 2020)*	*Estimated Funding Needs under GEF- 6 (in US$)*
Focal area 2: Capacity building 2. To further develop and strengthen the capacity of Parties to implement the Protocol	**2.1 National Biosafety Frameworks** To further support the development and implementation of national regulatory and administrative systems for the implementation of the Protocol	• National Biosafety Frameworks (NBFs) developed and implemented • Decisions regarding the safety of a LMO are based on established regulatory and administrative rules consistent with the Protocol • Biosafety issues and the implementation of the Biosafety Protocol are integrated into the relevant sectors	• At least 70 remaining Parties provided with funding to implement their NBFs • Number of Parties that have in place approved national biosafety laws and implementing guidelines • Number of the Parties that have in place functional administrative arrangements for handling notifications for imports or release of LMOs in accordance with Advance Informed Agreement procedure • Number of Parties that have taken import decisions in accordance with Article 10 of the Protocol or domestic legislation • Number of Parties that have in place a monitoring and enforcement system	84,000,000 *(70 MSPs for NBF Implementation, each estimated at $1.2 million)*
	2.2 Risk assessment and risk management To enable Parties to evaluate, apply, share and carry out risk assessments and establish local science-based capacities to regulate, manage, monitor and control risks of LMOs	• Resources, including human resources required to assess risks of LMOs are available and administrative mechanisms are in place • Training materials and technical guidance on risk assessment and risk management developed and used by Parties • Infrastructure and administrative mechanisms established for the	• Number of people trained in risk assessment and in monitoring, management and control of LMOs • Number of Parties with infrastructure, including laboratories for LMO monitoring, management and control • Number of training materials and guidance documents developed and the number of Parties using them • Number of Parties performing their own risk assessment and risk management pursuant to the Protocol • Number of Parties evaluating risk	28,000,000 *(4 Full-size regional projects)*

Strategic Objective	*Operational Objectives*	*Outcomes*	*Targets/Indicators (by 2020)*	*Estimated Funding Needs under GEF- 6 (in US$)*
		management of risks of LMOs at national, subregional or regional level	assessment reports submitted by notifiers • Number of risk assessment summary reports submitted to the BCH that are in compliance with the Protocol	
	2.3 Handling, transport, packaging and identification To develop capacity for handling, transport, packaging and identification of LMOs	• All shipments of LMOs are identified through accompanying documentation in accordance with the Protocol requirements and COP-MOP decisions • Reliable easy to use tools for the detection of unauthorized LMOs are made available • Customs/border officials trained and are able to enforce the Protocol's requirements related to handling, transport, packaging and identification of LMOs • Personnel are trained and equipped for sampling, detection and identification of LMOs	• Number of Parties that have in place documentation requirements for LMOs • Number of Parties with access to certified laboratories for detecting and identifying LMOs. • Number of Parties using guidance developed for the handling, transport and packaging of LMOs • Number of customs officers and laboratory personnel trained • Percentage of Parties that have established or have reliable access to detection laboratories • National and regional laboratories certified with the capacity to detect LMOs • Number of certified laboratories in operation	24,000,000 *(4 Full-sized regional projects)*
	2.4 Liability and Redress To assist Parties to	• An institutional mechanism or process identified or established to facilitate the	• Number of Parties to the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress prior to MOP-7	

Strategic Objective	*Operational Objectives*	*Outcomes*	*Targets/Indicators (by 2020)*	*Estimated Funding Needs under GEF- 6 (in US$)*
	the Protocol in their efforts to establish and apply the rules and procedures on liability and redress for damage resulting from the transboundary movements of LMOs	implementation of the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress at the national level • Each Party takes administrative and legal measures necessary to implement the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress at the domestic level	• Number of Parties to the Nagoya – Kuala Lumpur Supplementary Protocol that have in place national administrative and legal frameworks incorporating rules and procedures on liability and redress for damage caused by LMOs • Number of eligible Parties that received capacity building support in the area of liability and redress involving LMOs • Number of domestic administrative or legal instruments identified, amended or newly enacted that fulfil the objective of the international rules and procedures in the field of liability and redress	8,000,000 *(4 medium-sized regional projects*)
	2.5 Public awareness, education and participation To enhance capacity at the national, regional and international levels that would facilitate efforts to raise public awareness, and promote education and participation concerning the safe transfer, handling	• Parties have access to guidance and training materials on public awareness, education and participation concerning the safe transfer, handling and use of LMOs • Parties are enabled to promote and facilitate public awareness, education and participation in biosafety • All Parties have designed and implemented awareness and education programmes	• Number of Parties that have in place mechanisms for ensuring public participation in decision-making concerning LMOs • Number of Parties that have in place national websites and searchable archives, national resource centres or sections in existing national libraries dedicated to biosafety educational materials • Number of national awareness and outreach programmes on biosafety implemented • Number of Parties that have in place national biosafety communication	8,000,000 *(4 MSP regional projects to support implementation of the programme of work on public awareness, education and participation concerning the safe transfer, handling and use of LMOs*

Strategic Objective	*Operational Objectives*	*Outcomes*	*Targets/Indicators (by 2020)*	*Estimated Funding Needs under GEF- 6 (in US$)*
	and use of LMOs	• Increased understanding of the relationship between the Protocol and the CBD and other biosafety-related agreements	strategies • Number of Parties with awareness and educational materials on biosafety and the Protocol available and accessible to the public, including the diversity of these materials	
	2.6 Information sharing To ensure that the BCH is easily accessed by all established stakeholders, in particular in developing countries and countries with economies in transition	• Increased access to information in the BCH and sharing of information through the BCH • Tools to facilitate implementation of the Protocol easily accessible through the BCH • Information on the BCH is easily accessible to stakeholders including the general public • Information submitted to the BCH is accurate, complete and timely • A larger number of countries submit and retrieve information • Countries are better equipped to use tools made available through the BCH	• Number of submissions to the BCH from developing countries and countries with economies in transition • Number of national users from developing countries and countries with economies in transition using the BCH • Number of Parties that have made available all mandatory information through the BCH • Ratio of risk assessment summary reports as against number of decisions on LMOs reported through BCH • Number of national users from Parties accessing the BCH • Number of countries/regions having published biosafety laws and or regulations on the BCH • Number of AIA/domestic decisions available through BCH	4,200,000 *(1 Global full-sized project to further help strengthen the capacity of Parties to effectively use the BCH)*

Strategic Objective	*Operational Objectives*	*Outcomes*	*Targets/Indicators (by 2020)*	*Estimated Funding Needs under GEF- 6 (in US$)*
Focal area 3: Compliance and review To achieve Protocol compliance with and effectiveness of the Protocol	**3.1 Compliance with the Protocol** To strengthen the mechanisms for achieving compliance	• Improved and complete reporting by all Parties to the Protocol • All Parties able to submit their third national reports in a timely manner	• Number of third national reports on the implementation of the Protocol received on time	5,800,000 *(3 MSP projects to support preparation of the third national reports)*
Focal area 1: Facilitating the establishment and further development of effective biosafety systems for the implementation of the Protocol To put in place further tools/guidance necessary to make Protocol fully operational	**1.7 Socio-economic considerations** To, on the basis of research and information exchange, provide relevant guidance on socio-economic considerations that may be taken into account in reaching decisions on the import of LMOs	• Peer reviewed research relevant to socio-economic considerations, taking into account the modality of peer review as specified in section E, Annex III of decision VIII/10 • Guidelines regarding socio-economic considerations of LMOs developed and used, as appropriate, by Parties • Socio-economic considerations applied, where appropriate, by Parties	• Number of peer reviewed research papers published, made available and used by Parties in considering socio-economic impacts of LMOs • Number of Parties reporting on their approaches to taking socioeconomic considerations into account • Number of Parties reporting on their experiences in taking socio-economic considerations into account in reaching decisions on import of LMOs • Number of Parties using guidelines on socio-economic considerations	8,000,000 *(4 Medium-sized regional projects)*
TOTAL ESTIMATED FUNDING NEEDS				**170,000,000**

Annex Table 7: Questionnaire to CBD Parties

FIVE QUESTIONS FOR ASSESSING GEF-6 FINANCIAL NEEDS

Secretariat of the Convention for Biological Diversity

We request you to assess the financial needs for the implementation of the Convention during the sixth replenishment period of the Global Environment Facility (GEF-6) covering the period 2014-2018 (Decision X/26). This assessment takes into account the Strategic Plan for Biodiversity 2011-2020 based on its Aichi Targets, and the Strategy for Resource Mobilization with its specific missions and goals (Decision X/3 and IX/11). Please note the following while making your assessment:

1) In absence of precise figures, best estimates are acceptable. Methods used to cost specific programs or outcomes need to be indicated in the comment section, where applicable.

2) An indicative list of funding categories, based on the indicators for monitoring the Strategy for Resource Mobilization, is provided to guide you. Alternatively, you can use your NBSAP, the detailed Aichi Goals and Targets and other sources to calculate your estimations.

3) Domestic sources of funding include: Government and public budgets (national/Central, state/private, or local/municipal), private Sector/Market, other non-profit (NGOs, foundations, and academia)

4) Other external funding sources refer to: international financial flows including ODA (bilateral or multilateral), other public funds, non-ODA public funding, South-South cooperation, Private sector/Market and Not for profit organizations (NGOs, foundations, and academia)

5) Please refer to the enclosed annexes for further information on the questions.

You are kindly requested to submit your response by **November 30th, 2011** for consideration by the five members Expert Team to conduct the needs assessment. Any *additional and relevant information* or documents are welcome.

We thank you in advance for your prompt response and valuable contribution!

Identification of Respondent		
Country		
Contact Info	**Name**	
	Title and Department	
	E-mail	
	Date	

1. What is the total funding required by the country to meet CBD's three objectives and the 2020 biodiversity targets? (National and International)

Indicative List for Your Use

1. Biodiversity protection *1.1. Safeguarding biodiversity*	***2. Policy development and administration*** *2.1.Biodiversity planning* *2.2.Access and Benefit Sharing (ABS)* *2.3..Biosafety*	***3. Sustainable use and management*** *3.1. Sustainable management of ecosystems* *3.2. Land use and climate related activities*	***4. Sustainable production and consumption*** *4.1. Measures in the wider economy and society*

Planned Outcomes	Total Amount Needed for 2011-2020 (in Million US$) (From all sources)	Proportion of the total amount expected from external sources (in %)	*Please indicate the source of funding by external sources*	Proportion of total amount expected from domestic sources (%)	*Please indicate the source of funding from domestic sources*
Biodiversity protection					
Policy development and administration					
Sustainable use and management					
Sustainable production and consumption					
Total Amount needed					

Comments:

2. What is the total funding required by the country to meet CBD's three objectives and the 2020 biodiversity targets during 2014-2018 (GEF-6)?						
Indicative List for Your Use						
1. Biodiversity protection 2.1. Safeguarding biodiversity	**2. Policy development and administration** 2.1.Biodiversity planning 2.2.Access and Benefit Sharing (ABS) 2.3..Biosafety	**3. Sustainable use and management** 3.1. Sustainable management of ecosystems 3.2. Land use and climate related activities		**4. Sustainable production and consumption** 4.1. Measures in the wider economy and society		
Planned Outcomes	**Total Amount Needed for 2014-2018 (in Million US$)** (From all sources)	**Proportion of the total amount expected from GEF-6 July 2014-June 2018 (in Million US$)**	**Proportion of the total amount expected from other external sources (non-GEF) (%)**	***Please indicate the source of funding from other external sources (non-GEF)***	**Proportion of the total amount expected from domestic sources (%)**	**Please indicate the source of funding from domestic sources**
Biodiversity protection						
Policy development and administration						
Sustainable use and management						
Sustainable production and consumption						
Total Amount needed						

Comments:

3. How would you allocate the total funding required by the country among the 2020 biodiversity targets?

Financial Needs by Aichi Targets

Funding needs by target Indicate planned outcome when possible	Total Amount Needed for 2011-2020 (in Million US$)	Total Amount Needed for 2014-2018 (in Million US$)	Proportion expected from GEF-6 July 2014 - June 2018 (when applicable)	Proportion expected from other external sources (%) 2014-2018	*Please indicate the source of funding*	Proportion expected from domestic sources (%) 2014-2018	*Please indicate the source of funding*
Target 1: Awareness of biodiversity values							
Target 2: Integration of biodiversity value							
Target 3: Incentives							
Target 4: Sustainable production and consumption							
Target 5: Habitat loss, fragmentation and degradation							
Target 6: Sustainable exploitation of marine resources							
Target 7: Biodiversity-friendly agriculture, forestry							

and aquaculture							
Target 8: Pollution reduction							
Target 9: Control of invasive alien species							
Target 10: Coral reefs and other vulnerable ecosystems							
Target 11: Protected areas							
Target 12: Prevented extinction of threatened species							
Target 13: Genetic diversity of socio-economically and culturally valuable species							
Target 14: Ecosystem services							
Target 15: Climate change and resilience							
Target 16: Access and Benefit Sharing (ABS)							
Target 17: National strategies and action plans							
Target 18: Traditional knowledge and customary use							
Target 19: Biodiversity knowledge improvement & transfer							

Target 20: Resources in support of the Convention							
Total Amount needed							
Comments:							

4. Assessment of needs and funding patterns during 2010-2014 (GEF-5)

Indicative List for Your Use

1. Biodiversity protection	**2. Policy development and administration**	**3. Sustainable use and management**	**4. Sustainable production and consumption**
4.1. Safeguarding biodiversity	2.1.Biodiversity planning 2.2.Access and Benefit Sharing (ABS) 2.3..Biosafety	3.1. Sustainable management of ecosystems 3.2. Land use and climate related activities	4.1. Measures in the wider economy and society

Planned Outcomes	**What were your total needs for funds on biodiversity for the period 2010-2014? (in Million US$)**	**What amount is expected to be covered by domestic sources (in Million US$)**	***Please indicate the source of funding***	**What percentage is expected to be met by non-GEF external sources? (%)**	***Please indicate the source of funding***
Biodiversity protection					
Policy development and administration					
Sustainable use and management					
Sustainable production and consumption					

Total Amount needed					
Comments:					

5. Assessment of needs and funding patterns during 2006-2010 (GEF-4)					
Indicative List for Your Use					
1. Biodiversity protection 5.1. Safeguarding biodiversity	**2. Policy development and administration** 2.1.Biodiversity planning 2.2.Access and Benefit Sharing (ABS) 2.3..Biosafety	**3. Sustainable use and management** 3.1. Sustainable management of ecosystems 3.2. Land use and climate related activities		**4. Sustainable production and consumption** 4.1. Measures in the wider economy and society	
Planned Outcomes	**What were your total needs for funds on biodiversity for the period 2006-2010? (in Million US$)**	**What amount was covered by domestic sources (in Million US$)**	***Please indicate the source of funding***	**What percentage was met by non-GEF external sources? (%)**	***Please indicate the source of funding***
Biodiversity protection					
Policy development and administration					
Sustainable use and management					
Sustainable production and consumption					

Total Amount needed					
Comments:					

Feedback

If you have any comments or suggestions regarding the content of this questionnaire or additional information, please do not hesitate to let us know:

Question 3: Target-by-Target Funding Needs

Aichi Targets	# of Responses	Range of Amount Needed per Country for 2011-2020 (in Million US$)		Range of Amount Needed per Country for 2014-2018 (in Million US$)		Share of the Target in the Amount Needed for 2014-2018 per country	# of Responses	Range of Amount Expected from the GEF-6 per country (in Million US$)	
		Lowest	Highest	Lowest	Highest			Lowest	Highest
Target 1	6	1.2	6.1 - 12.1	0.2	3.5	0.02% - 4.9%	6	0	1.5
Target 2	6	1.2	40.3 - 80.5	0.2	17.9	0.2% - 4.2%	6	0.2	8
Target 3	6	0.2	180.1 - 360.2	0.2	80.1	0.2% - 4.9%	6	0.2	24
Target 4	7	3.8	3,221.6 - 6443.1	1.9	1,431.80	1.8% - 12.7%	5	1	14.2
Target 5	6	3	1,141.4 -2282.9	1	507.3	0.9% - 18.4%	4	1	12
Target 6	6	1.5	195.1 - 390.3	0.94	86.7	0.8% - 4.2%	4	1	7
Target 7	6	2	50.6 - 101.2	1	22.5	0.2% - 8.1%	4	1	3.5
Target 8	6	1	971.8 - 1943.5	0.94	431.9	2.4% - 10.6%	4	0.75	18
Target 9	6	2	121.4 - 242.9	1	54	0.2% - 8.1%	5	0.2	5
Target 10	6	1.5	12.1 - 24.3	1.5	16	0.05% - 10.5%	5	1.5	5
Target 11	7	3	401.7 - 803.45	2	178.5	1.6% - 70.7%	5	0.7	64
Target 12	6	3.1	1,198.3 - 2396.6	1	532.6	0.9% - 9.8%	4	1.5	7
Target 13	6	3	202.4 - 404.8	1.6	89.9	0.8% - 5.1%	6	0.6	22.5
Target 14	6	2	1214.3 - 2428.5	2	539.7	1.8% - 8.5%	6	1	53.9
Target 15	6	1.9	15,218.5 - 30437.1	0.94	6,764.00	2.6% - 60.1%	6	0.8	1691
Target 16	6	2.5	899.5 - 1798.9	1.5	399.8	1.3% - 9.8%	6	0.75	8
Target 17	6	1	202.4 - 404.8	0.94	89.9	0.8% - 4.2%	5	0.57	18
Target 18	6	1	40.5 - 80.95	0.5	18	0.2% - 6.1%	6	0.5	10.8
Target 19	6	1	20	0.94	8.4	0.1% - 4.9%	5	0.44	5
Target 20	6	1	20	0.94	2.2	0.02% - 4.2%	6	0.3	5
Total Target 1-20	**7**	**52**	**25,342 - 50,684**	**30.99**	**11,263**	**n.a.**	**5**	**9.71**	**1,852.60**

Note: Range of Amount needed per country: higher range is provided as a range (because of different format of response.)
A large portion of the fund seem to be needed during 2014-2018.Range of amount needed from GEF-6 appear to be low because the large resource requiring country has relatively very low share of needs expected from GEF, particularly for Target 5-12 where NA is marked for the amount needed from the GEF except for Target 8 for which nearly 24% is expected from external sources and for the remaining of these Targets 100% funding is expected from domestic sources. These answers are more incomplete.

Annex Table 8: Information on funding needs of countries provided with the questionnaire

	Number of Responses	Range of Amount Needed per Country for 2011-2020 (in Million US$)		Proportion of the Amount Expected from External Sources		Expected Sources of Domestic Funding
		Lowest	Highest	Lowest	Highest	
A. Biodiversity Protection	7	7.72	1246.7 -2493.4	5.50%	95%	Various levels of Government (national subnational accounts...), private, GOB/ Climate Change Trust Fund
B. Policy Development and Administration	6	2.25	226.7 - 453.3	2.21%	95%	
C. Sustainable Use and Management	6	17	2721.7 - 5445.4	11%	95%	
D. Sustainable Production and Consumption	5	2.25	3221.6 - 6443.1	2.20%	95%	

Note: A) refers to Targets 9, 11-13; B) Targets 16-20; C) Targets 5, 6, 7, 8, 10, 14 and 15; and D) Targets 1-4.
(These categories are based on the information provided with the questionnaire).