



for a living planet[®]

Public Funds to Protected Areas

Written by Stephanie Mansourian and Nigel Dudley

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Swiss National Park © PJ Stephenson

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***Protected Areas for a Living Planet* — delivering on CBD commitments.**

Developed with the support of MAVA *Fondation pour la Protection de la Nature*, WWF's *Protected Areas for a Living Planet* programme is working in key ecoregions to help governments meet bold targets for biodiversity conservation. Launched in January 2007, the programme brings together partners and stakeholders to support and monitor implementation of the Convention on Biological Diversity's Programme of Work on Protected Areas (PoWPA) — an historic commitment by 190 governments to create a global network of comprehensive, well-managed, and representative terrestrial and marine protected areas.

Protected Areas for a Living Planet is WWF's contribution to helping governments achieve the 2010 Target to reduce the current rate of biodiversity loss by 2010. Meeting this target is not only essential to safeguard our world's unique species and habitats, but also essential to improving the food security, health, and income of poor communities worldwide and therefore to achieving the Millennium Development Goals.

For more information, visit www.panda.org/pa4lp or contact Rolf Hogan, CBD Manager at WWF International, rhogan@wwfint.org, Tel: +41 22 364 9391

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Executive Summary

“Protected areas deserve significant financial support owing to the tremendous benefits they provide” (Recommendation 7 of the Vth World Parks’ Congress at Durban, IUCN, 2004)

Protected areas remain the cornerstone of conservation strategies and a key tool in sustainable development. Yet in most countries protected areas are vastly under-resourced. Estimates of global shortfalls reach USD 45 billion per year (Balmford *et al*, 2002). While many alternative funding options are being developed for conservation, protected areas will continue to require a core of public funding in the foreseeable future.

Governments in developing countries generally provide a certain proportion of funds to their own protected areas and make up the shortfall from alternative sources: conservation organisations, foundations, multilateral agencies or others. Nonetheless, there remains a core of government support, albeit sometimes relying on money raised by the government from visitors and other fees. In developed countries, governments usually cover a much larger proportion of protected area budgets.

While increasingly creative sources of funding are being tapped for protected areas, including debt for nature swaps, trust funds and payments for environmental services, ultimately as a public good protected areas are likely to continue being supported to a certain extent by public funds. Maintaining this core of funding at an acceptable level is essential to ensure that governments can meet their commitments under the CBD Programme of Work on Protected Areas.

This report analyses public funding to protected areas for 50 countries. It shows that:

- ✓ funding for protected areas is generally on the decrease despite commitments made by donor countries under the CBD Programme of Work on Protected Areas,
- ✓ funding is an insignificant proportion of countries’ GDP, out of proportion with the biodiversity, environmental services and cultural values of protected areas and
- ✓ funding strategies do not pay sufficient attention to either the relative value of biodiversity or to particular country needs for protection.

In order to meet their CBD commitments, many countries will need to increase their funding to protected areas by a considerable degree.

The report identifies the following recommendations:

Recommendation 1: Countries should make more effort to determine the explicit socio-economic benefits of protected areas and their role in contributing to the Millennium Development Goals (MDGs). This will help to raise awareness of the importance of protected areas and will also indirectly help to raise funds for management activities in protected areas.

Recommendation 2: Countries should be encouraged to pursue diversified funding strategies for their protected areas and to promote sustainable funding, but public funding should in most cases continue to provide an essential core of support.

Recommendation 3: More accurate information on public funding to protected areas would allow a better comparison between countries. This could be done by promoting:

- accurate record-keeping;
- the use of simple and internationally-accepted budgeting categories (possibly developed by IUCN and promoted by the CBD and also available through some management effectiveness assessment systems).

Recommendation 4: OECD countries should be coherent in their allotment of aid, and environment aid should at least rise in accordance with overall aid. Within environment aid, protected areas should continue to play a significant role.

Recommendation 5: As OECD countries are being encouraged under the Paris Declaration on Aid Effectiveness to harmonise their allocation of aid funding, it is all the more important for recipient countries to ensure that protected areas and biodiversity are sufficiently represented in their package for aid assistance.

Recommendation 6: Based on our analysis, most countries should be increasing their investment in protected areas (their own or those of other countries) by at least 50 percent to represent at a minimum, between 0.02% and 0.04% of their GDP¹.

Recommendation 7: When investing their overseas funds dedicated to the environment and to protected areas more specifically, OECD countries should take into account the relative biodiversity values of different countries.

Calculating the figures in this report was often difficult because of diversified funding sources and the inclusion of other operations (e.g. environmental management) within a single budget. Although we have tried to clarify figures, this may have led in some cases to under-estimates or, more likely, over-estimates. We would be very interested to receive comments, criticisms and other estimates of funding.

¹ However, more precise data are needed to give a better indication of the level of GDP that should support protected areas. If the recommendations about data collection and analysis made in this report are followed, more precise estimates of necessary funding will be available to calculate necessary inputs from governments.

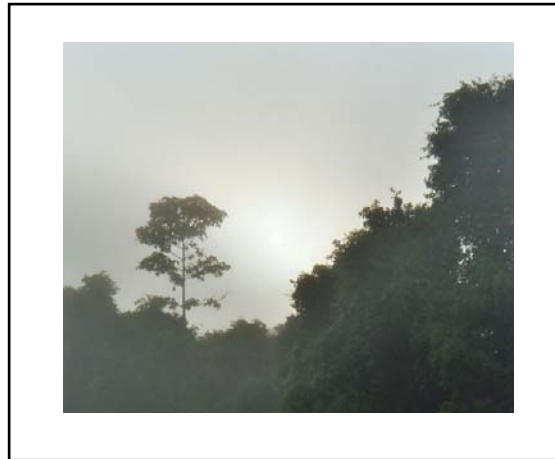
Section 1 – Introduction

“In the face of increasing human pressure on the planet’s resources, an effective global protected area system is the best hope for conserving viable, representative areas of natural ecosystems and their habitats and species.” (Chape et al, 2005)

To date, protected areas (PAs) are the best tool we have found to conserve biodiversity and for this reason must be an essential part of any strategy that aims to conserve our biological heritage. For this to happen, protected areas have to be incorporated into our long term planning and funding strategies. At present, while Parties to the CBD have expressed commitment to improving their protected area networks, these often remain seriously under-resourced. Without sufficient funding, protected areas cannot meet their objectives of conserving biodiversity and providing public goods like water purification.

Protected areas can be seen as our “nest eggs” harbouring a variety of species, many of which have unique characteristics to sustain life (providing food, other resources or genetic material); many others have intrinsic value, including spiritual value to many communities. Yet others have values we still do not even understand or recognise. Given humanity’s growing impact on the planet, the benefits provided by protected areas are all the more essential. With increasing threats linked to climate change, protected areas are critical in helping species to adapt to changing conditions.

Protected areas are fundamental not only to biodiversity conservation but also to sustainable development efforts. Relatively intact ecosystems and biodiversity, as found in protected areas, offer numerous species of value to people, for medicine, food and housing, as raw materials for subsistence use or sale. They also offer environmental services such as the recycling of nutrients, soil stabilisation, filtering water, absorbing carbon dioxide etc. As global attention is focused on climate change, it is noteworthy that forested protected areas which account for over 40% of the global protected area estate (Chape et al, 2003) hold a tremendous source of carbon. Thus, in the context of climate change, improving management in these protected areas and creating new forest protected areas are subjects that are increasingly capturing global interest.



Kinabatangan, Malaysia, © S.Mansourian

As stores of valuable environmental goods and services, protected areas offer many alternatives to poor people, sometimes helping to bring them out of poverty. This is especially true if we understand poverty and wellbeing as more than a minimum income figure. A multidimensional interpretation of poverty and wellbeing is more realistic and offers scope for a wider role for nature and protected areas. For example, in Ecuador about 80 percent of Quito’s 1.5 million population have drinking water from two protected areas (Antisana and Cayambe-Coca Ecological Reserve) (Pagiola et al, 2002). In addition to direct goods and services, protected areas create jobs, offer new opportunities for schooling or healthcare (as they expand the infrastructure network in their area) and offer opportunities for training. Sometimes, part of the direct revenue from the protected areas goes to local communities, such as in the case of the Serengeti National Park in Tanzania where 7.5% of entrance fees, contributes to local communities’ income. Even in richer countries, the protection of nature can create jobs. It has been estimated that around 125,000 jobs were supported in the European Union through nature protection related activities in 1999 (ECOTEC, 2001).

Areas that have undergone massive environmental degradation are often places of great human misery; where people face a range of problems including arid and unproductive lands, water shortages (or poor water quality) and vulnerability to major disasters, such as floods or droughts. Protected areas have been highlighted as indicators of success within the globally agreed Millennium Development Goals (MDGs) (Chape et al, 2005). Put in monetary terms, the value of ecosystem services that could be preserved via an effective network of protected areas has been estimated at USD 38 trillion per year (Quintela, et al 2004).

The rate of growth of protected areas, at least terrestrial ones, has stepped up in the last decade, with 11.63% of land cover having been set aside as protected areas (but only slightly over 0.6% of our oceans are currently protected) (Mulongoy and Chape, 2004). However, percentage cover is not sufficient. For protected areas to fulfil their conservation objectives, effective management is necessary and this requires resources. In many instances, protection stops with designation. If protected areas do not have sufficient resources, they are not well managed and remain protected only on paper while in practice they continue to be seriously threatened. At the same time, there remains a lot of variability in the types of areas that are protected and therefore, the sort of biodiversity they can effectively protect. For example, mangrove ecosystems remain greatly under-represented in global protected area networks.

Thus representation, location, management and resources are all fundamental to ensure that protected areas truly meet these biodiversity conservation objectives.

But protected areas are often seriously under-resourced and in many cases, their budgets are following an alarming downward trend. Funding remains one basic and important measure of management effectiveness. Indeed, research suggests that there is often a direct correlation between budget and management effectiveness (Dudley *et al*, 2004). Availability of sufficient and steady funding directly affects the numbers of staff engaged, the quality of staff, the tools available for them to manage the protected areas effectively, etc. Without sufficient and regular funding, protected areas are likely to fail and with them much of our biological heritage may disappear, with all that it entails.

Recommendation 1: Countries should make more effort to determine the explicit socio-economic benefits of protected areas and their role in contributing to the MDGs. This will help to raise awareness of the importance of protected areas and will also indirectly help to raise funds for management activities in protected areas.

Assessing costs of protection

Estimating the funding necessary for an effective protected area network is not easy. Several attempts have been made, with huge variations in results. López Ornat and Jiménez-Caballero (2006) note that three major determinants affect the cost of protection: 1. the IUCN protection category since stricter protection requires more funds, 2. whether they are marine or terrestrial, with marine sites costing much more, and 3. size, with larger protected areas costing relatively less to protect because of economies of scale.

An assessment by Bruner *et al* (2004) refers to an annual deficit of USD 1-1.7 billion for managing current protected areas in developing countries and an additional annual amount of USD 4 billion for the creation of new protected areas over the next decade. Another estimate places this figure at a much higher USD 23.5 billion (Quintela *et al*, 2004). Balmford *et al* (2002) estimated an amount of USD 45 billion per year to have an effective global protected area system. More recently, Balmford *et al* (2004) also undertook a study to estimate the amount of funding necessary for a global network of **marine** protected areas (MPAs) covering 20-30% of the seas and came up with the figure of USD 5-19 billion per year. At the European level alone, in its July 2004 Communication (COM (2004) 431) the European Commission estimated financing costs of Natura 2000 at EUR 6.1 billion per year. This figure was based largely on individual questionnaire responses from Member States. A new estimate based on individual questionnaires should be available soon which will include also the estimate of costs of the recently joined Member States of Romania and Bulgaria.

While a number of strategies are being pursued to diversify funding to protected areas, governments are likely to remain an important source of regular funding (for e.g., Emerton *et al*, 2005 and Balmford and Whitten, 2003), particularly as protected areas provide a public good and a number of public services. In addition, protected areas bring in additional resources through for example, entry fees and through the creation of jobs. Balmford *et al* (2004) note for instance that the cost of creating a global network of MPAs is still substantially lower than the current expenditure on harmful (and unsustainable) global fisheries subsidies, which amount to an estimated USD 15-30 billion annually (estimate from the year 2000). At the EU level alone biodiversity spending under LIFE+ (the financial instrument for the environment) as shown in table 1 below, compares very modestly to subsidies in the agriculture and fisheries sectors. Although biodiversity spending has been integrated into many other EU funding lines (such as rural development) the figures show that direct funds dedicated solely to biodiversity remain small (see EU example in Annexe 2).

Table 1: Comparison of EU subsidies and EU biodiversity spending under LIFE+

EU Agriculture subsidies	EUR 58.2 billion /year
EU Fisheries subsidies	EUR 1.4 billion /year
EU Nature and Biodiversity spending under LIFE+ (<i>indicative</i>)	EUR 120 million/year (on average)

Sources: Brunner and Huyton, 2007 (for agriculture subsidies); http://www.ppionline.org/ppi_ci.cfm?knlgAreaID=108&subsecID=900003&contentID=252352 (for fisheries) And WWF EPO (for biodiversity figure.)

Framing the study

In 1999 James *et al* undertook a global assessment (using 1993-95 data) of both staffing and national funding to protected areas. This report yielded interesting data on for instance, the disparities between different countries, even within a region. It also identified the great difficulty in obtaining sufficient and comparable data on these management aspects of protected areas.

Since then, other than a few small scale regional attempts, as far as we are aware, there has been no comprehensive attempt at collating data on the amount of public funds that are invested in national protected area systems. In an attempt to identify more recent public sector funding trends, this report has collected information for **50 countries** from Asia, Africa, Oceania, Europe, North and Latin America, essentially from 2004. We have attempted to place these data in context in order to derive meaningful conclusions about public funds to protected areas.

As background, the next section looks at the role of governments in protected areas more broadly and then, with the aim of focusing down on the financial aspect, identifies the different sources of funding. While we inevitably touch upon non-public sources of funding, these are not our primary target.

Sections 3 and 4 summarise our data findings for 50 countries with different tables putting the data in context. We also look in more detail at overseas aid from OECD countries for protected areas and for the environment more broadly.

The important questions we asked ourselves in this research are:

1. what are governments spending on their protected areas?
2. what are governments spending on overseas protected areas?
3. what can countries afford to spend on protected areas (theirs and others)?
4. how does public funding compare with the relative value of ecosystems being protected?

Therefore, in our research we have focused on three aspects: 1. the trend in public funding to the environment (and protected areas) from rich (OECD) countries, 2. the proportion of public funds spent on protected areas versus GDP and 3. a proposed way of approaching aid budgets for protected areas that takes into account relative biodiversity values.

Section 2 – The Role of the Public Sector in Protected Areas

“Protected area ‘financial sustainability’ refers to the ability of a country to meet all costs associated with the management of a protected area system. This implies a funding ‘supply’ issue of generating more revenue, but just as importantly, a ‘demand’ side challenge of managing PA financing needs (at sites and at the system level). PA financial sustainability needs to be addressed from both sides of the financial equation.” (Bovarnick, 2007)

In a renewed effort to protect biodiversity, the CBD Parties adopted in 2002, the “2010 biodiversity target” which commits them to “*achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth*”. Later in 2004, the CBD adopted a *Programme of Work on Protected Areas* (decision VII/28) reflecting the renewed emphasis given to the contribution that protected areas make to the Convention’s objectives. A working group was established within the Programme of Work, with one of its priority topics being to ensure sustainable financing of protected areas.

Also in 2004, at the fifth Ministerial Conference “Environment for Europe”, Environment Ministers and heads of delegation from 51 countries falling under the UN Economic Commission for Europe, adopted the Kiev Resolution on Biodiversity which states that “*By 2008, there will be substantially increased public and private financial investments in integrated biodiversity activities in Europe, via partnerships with the finance and business sectors, that have resulted in new investment opportunities and facilities as outlined by the European Biodiversity Resourcing Initiative, taking into account the special needs of the countries of Central and Eastern Europe, Caucasus and Central Asia.*”

Although protected areas can sometimes generate a proportion of their funding needs (from tourism, payment for ecosystem services etc) this is seldom sufficient to run an entire protected areas system. In the context of a sustainable and sustained network of representative protected areas, the role of governments is likely to continue being important well into the future. Despite many pressing priorities and pressures for scarce resources, investment in protected areas can be regarded as an important element of a government’s funding portfolio given the public goods and services they provide.

2.1. Government’s role

The influence that governments have as guardians of natural resources is varied but usually central. They play an important role in creating protected areas, in funding and maintaining them and also in reducing negative impacts on them, for example by reducing or removing pressures. They are also responsible for policies that may or may not support protected areas. For example, when opening up new areas for housing development, governments may need to consider the impact on a protected area nearby. We look briefly here at the role of governments in the creation, maintenance and financing of protected areas, as well as in establishing a supportive policy environment.

a) Governments’ role in the creation of protected areas

Biodiversity is a global public good and governments have an important responsibility as guardians and stewards of this good on behalf of their people. Governments have a critical role to play in the creation of protected areas. While some protected areas are private or set up by communities, globally, most remain public (although this will differ depending on the region) and most exist on state-owned land. Given the importance of the goods and services provided by protected areas, it makes sense for governments to be the ones primarily responsible for their establishment. For instance Madagascar’s ambition to triple its protected areas is a government-led effort (see Madagascar example in annexe 2). All too often however, to meet targets, areas that are not necessarily very valuable from a biodiversity point of view are set aside as protected areas because it is easier to do this than to create protected areas on land that is likely to have high value and attract other interests. Nonetheless, increasingly efforts are being made, notably under the CBD, to reach truly representative networks of protected areas rather than simply to continue setting up protected areas that are of limited biological value but that may help achieve quantitative targets for area protected. The EU for example has designated sites based on endangered species and habitats of European interest (see annexes of the Birds and Fauna Flora Habitats Directive) and the site designation process was



Park warden in Bialowieza National Park, © S. Mansourian

driven by scientific information. Therefore it can be seen as a more truly representative network. However, the process to designate the sites has taken years and after 15 years is still not finalized, causing some uncertainties for landowners and land managers.

b) Governments' role in the maintenance of protected areas

The maintenance of protected areas on public lands rests naturally with governments. While many different arrangements exist and there is often a mix of actors engaged in managing and owning protected areas, ultimately the responsibility for effectively managing public lands rests with the government. Maintenance will require suitable resources (linked to point d below) but also to capacity. Governments need to ensure that those given the responsibility to manage protected areas are empowered to do so. This will also signify ensuring that the relevant policies are not only in place, but are also enforced.

c) Governments' role in creating a suitable policy environment

Many different national policies will influence existing and new protected areas. Policies that support protected areas are essential or else the areas risk becoming “paper parks”, the term used to describe protected areas that are designated but never properly implemented. A good understanding by governments of the required policies and the inter-linkages between protected areas and other sectors is therefore critical. Conflicting sectoral policies can have an impact on the effectiveness of protected areas or can reverse past gains in protected areas (WWF, 2006). For example, when a country might decide to open up its timber industry to increase foreign revenue, logging roads may also open up access to previously well protected areas. It is far from unknown for one government department to sell logging concessions in an area that has been protected by another department. Ultimately government policies will also affect the effective allocation of resources to protected areas (see Malaysia example in Annexe 2). Unfortunately all too often perverse subsidies continue to be cited as a major cause of environmental decline, and these are often funds that could be more effectively used in protected area conservation.

d) Governments' role in the financing of protected areas

Governments are a major source of funding for protected areas. According to a study by López Ornat and Jiménez-Caballero (2006) governments typically contribute 35-40% of national protected areas' budgets. Not only are they a significant source in total figures, but equally importantly, government funds tend to represent a secure, long term source of funding. Two fundamental concerns with funding protected areas are a) the total amount and b) the durability of the funding. In this last respect, government funding can be a “security blanket” for protected areas.

The rest of this report focuses essentially on this last point.

2.2. Sources of funding for protected areas

Protected areas have to cover many different costs. Bruner *et al* (2004) identify three areas for which funding is needed in protected areas: (1) recurrent management costs for existing areas, (2) system-wide expenses needed to support a network of protected areas, and (3) costs of bringing new areas into the system. In addition, we may note here the opportunity cost of establishing protected areas, which is rarely taken into account. A nationwide system of protected areas is costly, and will benefit from a variety of different funding options and sources. Some may be in the form of grants, others in the form of entry fees, others still as user fees (e.g.: for water), and yet others as loans.

While traditionally governments have had to foot the bill for protection, increasingly, there are a myriad of creative options being proposed to support the creation and maintenance of protected areas. Some of these are briefly outlined below, split by sector.

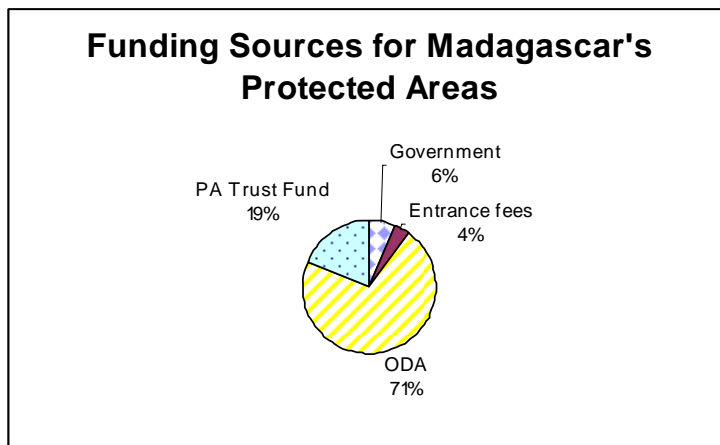
a) Public sector

In most countries, governments remain the single largest funder of protected areas (López Ornat and Jiménez-Caballero, 2006). Funding for protected areas may come from the country's own government, through budget allocations. Various ministries may contribute different amounts to a protected areas network (e.g.: see the example for Ukraine in Annexe 2). Funding may also come from foreign governments via bilateral aid (or overseas development aid), or via specific environmental funds like the Global Environment Facility (GEF). For instance, only recently in July 2007, the GEF recognising the importance of protected areas, decided to allocate 50% of its funding to protected areas work in developing countries. The World Bank in 2002 invested USD 550 million in biodiversity projects² (Emerton *et al*, 2005).

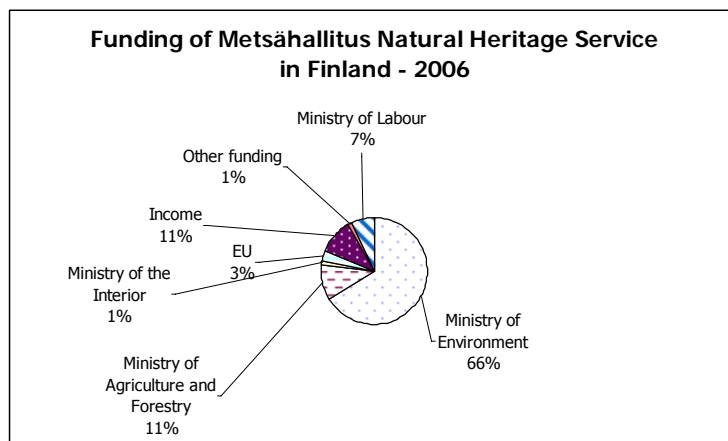
The pie charts below show the split in funding sources for protected areas in two very different countries, Finland and Madagascar. In the case of Finland, over 80% of funding is from the government, while for Madagascar the

² USD 300 million through its regular portfolio and USD 250 million through the International Development Association (for the poorest countries).

national government only provides 6% with over 70% coming from overseas development assistance (ODA) (both from NGOs and public sector) (see both Finland and Madagascar examples in Annexe 2).



Source: World Bank, 2005



Source: Metsähallitus (pers. comm.)

Numerous smaller, often national, funds exist: in the last 15 years over 100 environmental funds have been created (Southey, in Quintela *et al*, 2004). Intergovernmental agencies also provide significant support to protected areas, for instance, the World Bank group contributed USD 183.86 million in 2003 to protected area projects (World Bank, 2003). In addition, debt-for-nature swaps are another slightly more indirect way that governments may provide funding to protected areas. The national lottery is another source of funding, which in the case of the Netherlands, for instance, has been a significant contributor to biodiversity protection across the world. Despite the importance of this funding source, it would appear that overall, during the period 2000-2003, overseas development aid (ODA) allocated to biodiversity and protected areas has been on the decline (Secretariat of the Convention on Biological Diversity, 2006).

b) Private sector

The private sector may provide funding via donations or grants. It is increasingly also looking at more sustainable options such as payments for environmental services (PES) schemes where companies that obtain a good or service, for instance clean water, thanks to a protected area pay those that manage this area for the service provided. For example, in Guatemala's Sierra de las Minas, a pioneer PES scheme has been set up whereby industrial users of water downstream compensate upland farmers for protecting the watershed³.

c) Non governmental organisations (NGOs)

Non governmental organisations provide grants to support various protected areas. Some, such as The Nature Conservancy (TNC), specialise in buying land to manage as protected areas and hence managing them with their own resources. With limited funding, conservation organisations undertake various forms of prioritisation exercises (some

³ Fundación Defensores de la Naturaleza website: <http://www.defensores.org.gt> (accessed on 4 April 2007)

can be found in section 4 below) in order to use their funds most effectively. NGOs are often constrained by their own donors' funding cycles (often no more than three years) and their donors' priorities and preferences.

d) Self financing

Park entry fees are a steady and sustainable source of funding for the most popular protected areas: for example Serengeti National Park generates around USD10 million per year from entry fees (Serengeti management team, pers comm.). However, only a minority of parks attract sufficient visitors for this source of funds to be a secure and sufficient amount. In addition, in many countries a large part of this revenue is not reinvested in the protected area. Instead, the revenue generated by the protected area often goes back in full or in part to the central Treasury. Tourism is also a sector that is highly sensitive to economic downturns and transport prices. Particular problems can arise if government funding is linked too closely to revenue generated by the protected area itself – i.e. if protected areas are reliant on raising their own revenue, usually through gate fees. For example, the riots following a disputed election in Kenya in January 2008 led to a temporary collapse in tourism and consequently a 90 percent loss of revenue, leaving protected area managers facing a financial crisis (David Sheppard, pers comm.). In the medium term, declining oil supplies may seriously disrupt international tourism, with huge implications for protected areas.

The above are just a sample of the different ways protected areas can be financed, Spergel (2001) outlined 25 different funding mechanisms, while Koteen (2004) building on Spergel's work, identified about 30 such mechanisms. Increasingly creative means of raising revenue for conservation, and particularly protected areas, are being found. Clearly no single source of funding is sufficient, nor is it safe to rely on any single source, and a combination of funding sources is generally the best option for a national system of protected areas. For the foreseeable future, however, government funding continues to represent the most significant, stable and long term funding source for protected areas (see for e.g. Balmford and Whitten, 2003).

Recommendation 2: Countries should be encouraged to pursue diversified funding strategies for their protected areas and promote sustainable funding, but public funding should in most cases continue to provide an essential core of support.

Section 3 – Data on Public Funding to Protected Areas

The core of our research has been to obtain figures for public funding to protected areas. In this section we present information that has been collected from **50 countries** in Asia, Africa, Europe, Oceania, Latin and North America. This information has essentially been gathered from government sources. However, caution needs to be taken when comparing these figures as there is no standard reporting format (as yet) allowing governments to report this data in a directly comparable form (although the CBD and others are working towards this). Nonetheless, we feel there is sufficient data to identify some trends and to allow us to make some recommendations. Table 2 below presents data on government expenditure to their **own** protected area networks. Most of the data is for 2004, however, when another year was used this has been noted in column 2.

Table 2: Public funding to protected areas in USD

	Year	Public funds for Protected Areas		Comments/detail
		USD	Source	
Australia	2006	558'486'550	Commonwealth of Australia: Standing Committee on Environment, Communications, Information Technology and the Arts, <i>Conserving Australia. Australia's national parks, conservation reserves and marine protected areas - April 2007</i>	1. Funding includes overall Commonwealth funding + funding by individual States. 2. Covers both terrestrial and marine. 3. Note that some funding is for 2004-2005 and some for 2005-2006 4. Detail: Common wealth terrestrial: AUD 56,980,000 Commonwealth marine: AUD 3,582,000 Marine WA Dpt: AUD 9115000 Marine S. Aus AUD 222000 Great Barrier Reef: AUD 22,716,000 NSW: AUD 210,000,000+35,000,000 W.Aus: AUD 105,100,000+12,130,000 Queensland: AUD 142,500,000 S. Austr: AUD 70,000,000 N. Terri: AUD 20,600,000 ACT: AUD 19,000,000
China	2004	3'600'000	<i>Summary Report to CCICED of the Protected Area Task Force. Using Protected Areas to Extend Economic Benefits to Rural China - Evaluation of the Protected area system of China and Policy Recommendations for rationalising the System</i>	From central govt. for national nature reserves - NOTE that provinces also allocate funds
Indonesia	2000	716'790	Ministry of Environment Indonesia: <i>Public Sector Support and Management of Protected Areas in Indonesia</i> , Effendy A Sumardja, Paper presented at the 5th World Parks Congress, 2003	- Sum of "national budgeting development + national budgeting routine" - Note: exchange rate used is for 2001
Lao PDR	2002	1'284'224	ADB, GEF, UNEP, in collaboration with IGES and NIES: <i>National Performance Assessment and Subregional Strategic Environment Framework in the Greater Mekong Subregion: LAO PDR, National Environmental Performance Assessment Report</i> Science Technology and Environmental Agency and Project Secretariat UNEP Regional resource Center for Asia and the Pacific, March 2006	PA funding data for 2003/04 for STEA and for 2001/02 for MAF GDP data from World Bank
Mongolia	2004	356'861	Ministry of Environment: Mongolia Protected areas department	Public sector PA funding in 2005: MNT 437 mil; in 2006: MNT 425 mil and in 2007 (est): MNT 806.06 mil
Nepal	2004	1'500'035	Department of National Parks and Wildlife Conservation	Public sector PA funding in 2005: NPR 102,687,422 and in 2006: NPR 103,399,000

		Public funds for Protected Areas		Comments/detail
	Year	USD	Source	
Palau	2004	200'000	Workshop Financing Options Palau's Protected Area Network	
Philippines	2004	1'434'538	World Bank: <i>Philippines Environment Monitor 2004 - Assessing Progress</i> , 2004.	Budget for protected areas and wildlife bureau 2007 data for PA spending: PHP 202,271,000 or USD 4,854,504
Thailand	2004	60'570'000	World Bank: <i>Thailand Environment Monitor 2004</i>	"Direct government budget for PA management is 2.019 billion baht or 26% of MoNRE's budget"
Vietnam	2004	3'500'000	IUCN: <i>Sustainable Financing of Protected Areas: A global review of challenges and options</i> . Emerton, et al, 2005.	Allocation to PAs as a percent of national budget is in fact quite high
Botswana	2007	4'779'200	Government of Botswana: Budget speech 2007	Development of the Department of Wildlife and National Parks
Gabon	2005	597'300	pers.comm.	
Ghana	2004	4'416'666	Hanks and Attwell, <i>Financing Africa's Protected Areas</i> , paper presented at the 5th World Parks Congress in 2003	"USD 26.5 million over 6 years"
Madagascar	2004	288'000	World Bank: <i>Madagascar Public Expenditure Review: The Challenge of Poverty Reduction</i> , 2005.	Annual funding for ANGAP under PEIII from 2004-2009, includes: expansion of PAs, biodiversity management, ecotourism infrastructure, public awareness and current expenses (staff etc.)
Namibia	2002	5'066'000	Hanks and Attwell, <i>Financing Africa's Protected Areas</i> , paper presented at the 5th World Parks Congress in 2003	Represents 75% of funds granted for operational budget (USD 5.5 mil) + 100% of funds (USD 941,000) granted for capital costs
Mozambique	2001	82'705	Hanks and Attwell, <i>Financing Africa's Protected Areas</i> , paper presented at the 5th World Parks Congress in 2003	
S. Africa	2006	19'621'173	SAN Parks: <i>Annual Report</i>	Public funding to PAs from Dept. of environmental affairs & tourism (ZAR 75,515,000+10,526,000 in 2006 and 88,158,000+10,526,000 in 2007), dept. of water affairs and forestry (ZAR 15,205,000 in 2006 and 20,889,000 in 2007) and a land acquisition grant from dept. of environmental affairs and tourism (ZAR 35,965,000 in 2006 and 21,080,000 in 2007)
Azerbaijan	2004	294'068	The State Statistical Committee of the Republic of Azerbaijan	Expenditures for maintenance of reserves, + Expenditures for maintenance of national parks Public sector PA spending in 2005: AZN 537.3 mil
Belarus	2004	4'000'000	UNECE: <i>Environmental Performance Review</i> , 2005	1. Expenditure on reserves and national parks as reported in Environmental Performance Review (UNECE) 2. "the public sector is the major financier for biodiversity protection; Belarus is an

	Year	Public funds for Protected Areas		Comments/detail
		USD	Source	
				exception, where business firms contribute to that domain."
Belgium	2003	174'832'000	CBD: Belgian Clearing House mechanism	Public expenditure on biodiversity and landscape protection in Belgium amounted to EUR 130-150 mil annually during 2000-03 In the Walloon region, EUR 5,324,553 were dedicated to Natura 2000 sites in 2007.
Croatia	2004	9'487'540	Ministry of Culture, State Institute for Nature Protection, National Parks and Nature Parks: <i>Nature Protection Report 2000-2006.</i>	Additional funding comes from county, local and municipality budgets, but no data are available. In 2005, beside from the State budget (60,108,637 HRK), national parks and nature parks earned 292,500,000 HRK from entry fees, catering, concessions, souvenir
Czech	2004	49'771'411	Ministry of the Environment of the Czech Republic	Includes State Environment Fund, Ministry of Environment + regions. Public sector PA funding for 2005: CZK 1,154,703,778 and for 2006: CZK 1,182,973,441
Denmark	2004	457'858'508	Danish Statistics office	Includes protection of biodiversity and landscapes + "Environmental protection etc"
Finland	2004	91'120'000	Metsähallitus	Funding includes land acquisition and compensation. Public sector PA funding in 2005: EUR 69 mil and in 2006: EUR 66 mil
France	2004	166'996'177	Ministère de l'écologie, du développement et de l'aménagement durables: <i>Projet de loi de finances pour 2006</i>	Includes development of protected areas and landscapes + actions to support sustainable development of natural resources
Georgia	2002	1'713'800	UNECE: <i>Environmental Performance Review, 2003</i>	
Hungary	2004	47'489'064	WWF DCPO	Public sector PA funding in 2005: HUF 5,428,031,000 and in 2006: HUF 8,632,000,000
Iceland	2004	25'265'000	Statistics Iceland website	"protection of biodiversity and landscape"
Israel	2004	461'094'000	Israel Central Bureau of Statistics	1. Expenditure on "Protection of biosphere landscape and air" 2. Includes: "Local authorities + governmental enterprises + government" and covers both current expenditure and expenditure on fixed capital
Latvia	2004	767'857	Ministry of the Environment	Funds for environmental protection which includes: Education, optimisation of PA network, monitoring.
Netherlands	2005	878'380'000	Statistical Yearbook 2007 (Statistics Netherlands)	Funds for "financing wildlife

		Public funds for Protected Areas		Comments/detail
	Year	USD	Source	
				and nature areas"
Norway	2004	210'468'300	Statistics Norway	Covers "environment protection" broadly
Russian Federation	2004	28'300'000	CBD: Meeting of donor agencies and other relevant organizations to discuss options for mobilizing new and additional funding for the implementation of the programme of work on protected areas, Montecatini, Italy, 20-21 June 2005	NOTE: Funds for federal PAs.
Slovakia	2004	5'831'345	Reports about the state of environment in Slovakia for 2004, 2005 and 2006 (via WWF DCPO)	Information on funding of PAs are from the budget sheets for 2004, 2005 and 2006 of the State Nature Conservancy of SR, Accounting Department Public sector PA funding in 2005: SKK 173,490,000 and in 2006: SKK 172,000,000
Sweden	2004	108'461'360	Statistics Sweden	Protection of biodiversity and landscape - exclusively from Central government (none from municipalities)
Switzerland	2004	314'802'600	Département federal des finances	Noted in national accounts as "environment protection"
Turkey	2004	9'462'036	The General Directorate of Nature Conservation and National Parks (GDNCNP): (via WWF Turkey)	The figures cover all the expenses (staff costs, travels, surveys, preparation of management plans, construction, etc) related to the following items. They cover both central (Ankara) and local units (nation wide) of the GDNCNPs (and exclude "Specially Protected Areas" and the PAs and protection expenses of the Forest Service eg Protective Forests, Gene Reserves, etc): * National Parks, Nature Reserves, Nature Parks, Nature Monuments * Forest Recreational sites * Protection of species eg sea turtles * Management and monitoring of Wetlands * Creation of database, eg CITES database
Ukraine	2004	33'420'000	UNECE: <i>Environmental Performance Reviews: Ukraine, 2nd review, 2007.</i>	Figure includes: - Conservation of protected areas - research on protection - other activities related to protection; Figures from state budget
Bolivia	2004	60'000	FUNDESNAIP	Funds to the Servicio Nacional de Areas Protegidas
Colombia	2004	11'700'000	CBD: Meeting of donor agencies and other relevant organizations to discuss options for mobilizing new and additional funding for the implementation of the programme of work on protected areas, Montecatini, Italy, 20-21 June 2005	"Estimated total expenditure for implementing the programme of work amounted to some USD22.5 million for 2005, whereas national sources accounted for about USD11.7 million"
Chile	2004	994'782	CONAF (Corporación Nacional Forestal)	Includes only central govt. funding to CONAF (the agency managing forests and

	Year	Public funds for Protected Areas		Comments/detail
		USD	Source	
				parks)
Cuba	2005	3'371'496	Oficina Nacional de Estadisticas	Includes expenditure for biodiversity and landscape protection + "other environment protection activities"
Ecuador	2004	4'500'000	CBD: Meeting of donor agencies and other relevant organizations to discuss options for mobilizing new and additional funding for the implementation of the programme of work on protected areas, Montecatini, Italy, 20-21 June 2005	Current spending of USD 12.5 million, of which 36% was provided by the national budget In 2003, the state budget for the PA system was USD 8.639 million, (1.78 for continental PAs + 6.85 for Galapagos National Park) minus revenues generated worth 5.2 mil, leaving total state funding of USD 3.4 mil.
Guatemala	2003	4'480'000	Consejo Nacional De Areas Protegidas Presidencia De La Republica: <i>Informe Nacional de Áreas Protegidas de Guatemala, 2003</i>	
Honduras	2004	172'117	Secretaria de Recursos Naturales y Ambiente (SERNA)	Budget 2003 includes: Meso American biological corridor, unit for management of territory, +biodiversity programme
Mexico	2006	50'266'580	SEMARNAT: <i>La Gestion Ambiental en Mexico, 2006</i>	
Peru	2004	741'666	WWF Peru	PA funding in 2005: USD 1,138,121 PA funding in 2006: USD 1,330,369
Canada	2004	148'680'000	Canadian Department of Finance: Budget 2005	In budget overview, note that "almost 900 mil C\$ are going to protecting the environment - over 5 years". NOTE that when looking at the budget detail this amount seems inflated..
Grenada	2004	603'704	TNC: <i>Sustainable Finance Plan for Grenada's Protected Areas System, Agathe Sector, 2006</i>	
USA	2004	2'657'815'000	Compiled by George Wright Society	- National Parks Service: USD 2,560,315,000 - US Bureau of Land Management, National Landscape Conservation System: USD52,500,000 - US National Oceanic and Atmospheric Administration, National Marine Sanctuaries Program: USD45,000,000 Missing US National Forests.

Notes on the dataset

In collecting this data we faced an array of presentation formats in government accounts. While comparisons are made across different countries, a number of caveats in this research suggest that we need to look at these comparisons with some caution.

We note here some of the factors that we have identified as affecting what is covered by the budget figures in different countries. While some countries may include salaries, which constitute a significant proportion of budget, others may not. Some report protected areas together with other environmental protection activities, (e.g.: pollution control, water and waste treatment, clean up etc) while others report protected area budgets separately. In many countries the distinction between funding to protected areas and funding to the environment or to biodiversity more generally is not always clearly made. Funding may also only be considered for national parks in some cases, while in

others it can cover all categories of protected areas. In other cases funding may come from different ministries and therefore, it was not always easy to obtain a comprehensive national figure (this was also found by López Ornat and Jiménez-Caballero, 2006). Protected land and water may be controlled by different parts of government, which report budgets separately; in some countries there may even be internal confusion about what exactly constitutes a “protected area”. Some countries do not explicitly separate domestic funding from international funding in their budget for protected areas. Within the same country, protected areas may receive support from different ministries, such as that of environment, forests, fisheries, interior and even defence (see Ukraine example in Annexe 2). In addition, many countries provide a significant amount of funding to protected areas in developing countries via either the GEF or a number of other initiatives (e.g.: the UK via the Darwin initiative). In decentralised countries such as Switzerland or Vietnam it is also not always easy to tally up central and regional funding for protected areas. For instance, in Vietnam a study (Emerton *et al.*, 2004) showed that in addition to central funding to protected areas of VND 45-52 billion a year, an additional VND 67 billion was available at regional level (for the 28 provinces for which data is available).

Finally, some contributions may be considered “in kind” through staff time for instance, and may not necessarily appear in any account of funding to protected areas. It should also not be forgotten that because of the vast ranges in costs of living and costs of labour in different countries covered here, it is also very risky to make comparisons in relative figures. Research suggests that management effectiveness is often related to levels of funding (e.g. Dudley *et al.* 2007) but this is not invariably the case and management *needs* may vary between countries. Although we have tried to clarify these figures, this may have led in some cases to under-estimates or, more likely, over-estimates.

Recommendation 3: More accurate information on public funding to protected areas would allow a better comparison between countries. This could be done by promoting:

- accurate record-keeping;
- the use of simple and internationally-accepted budgeting categories (possibly developed by IUCN and promoted by the CBD and also available through some management effectiveness assessment systems)

Absolute versus relative values

Absolute values of required funding for protected areas are extremely difficult if not impossible to determine. Frequently a measure of acceptable levels of funding is determined by using an amount per hectare or per km². Thus, for example, James *et al.* (1999) found a global mean budget per km² of protected areas to be USD 893 in 1996 dollar values. This figure hides a range spanning USD 12,308 per km² in East Asia and USD 24 per km² in Western and Central Africa.

For illustrative purposes, Table 3 below lists countries in our sample according to the overall amount of public funds they spend per hectare.

Table 3: Public funds spent per hectare of protected area

	Year	Public funds for Protected Areas (USD)	PA size (ha) (2003)	% protected (in 2003)	Public funds spent per ha. (USD/ha)
Belgium	2003	174'832'000	105'000	3.40%	1665.066667
Israel	2004	461'094'000	397'000	19.10%	1161.445844
Netherlands	2005	878'380'000	950'000	26.20%	924.610526
Grenada	2004	603'704	1'000	1.90%	603.703737
Denmark	2004	457'858'508	1'094'000	25.60%	418.517832
Switzerland	2004	314'802'600	1'185'000	28.70%	265.656203
Norway	2004	210'468'300	1'973'000	6.20%	106.674252
France	2004	166'996'177	1'624'000	3%	102.830158
Hungary	2004	47'489'064	830'000	8.90%	57.215740
Iceland	2004	25'265'000	476'000	4.70%	53.077731
Czech	2004	49'771'411	1'254'000	16.00%	39.690120
Sweden	2004	108'461'360	3'189'000	7.20%	34.011088
Finland	2004	91'120'000	2965000	8.80%	30.731872
Croatia	2004	9'487'540	361'000	6.90%	26.281274
Cuba	2005	3'371'496	177'000	1.60%	19.048000
USA	2004	2'657'815'000	149'008'600	15.80%	17.836655
Ukraine	2004	33'420'000	1'939'300	3.30%	17.233022

	Year	Public funds for Protected Areas (USD)	PA size (ha) (2003)	% protected (in 2003)	Public funds spent per ha. (USD/ha)
Thailand	2004	60'570'000	8'030'500	15.60%	7.542494
Australia	2006	558'486'550	74'531'200	9.70%	7.493326
Georgia	2002	1'713'800	300'300	4.30%	5.706960
Mexico	2006	50'266'580	9'901'700	5%	5.076561
Slovakia	2004	5'831'345	1219283	22.50%	4.782602
Turkey	2004	9'462'036	2'754'000	2.60%	3.435743
Belarus	2004	4'000'000	1'315'300	6.40%	3.041131
S. Africa	2006	19'621'173	7'398'800	6.10%	2.651940
Palau	2004	200'000	76'800	0.4%	2.604167
Vietnam	2004	3'500'000	1'361'000	4.20%	2.571639
Canada	2004	148'680'000	62'874'800	6.30%	2.364699
Guatemala	2003	4'480'000	2'775'000	29.89%	1.614414
Ghana	2004	4'416'666	3'687'000	15.40%	1.197902
Namibia	2002	5'066'000	4'599'500	5.60%	1.101424
Latvia	2004	767'857	969'700	15.10%	0.791850
Gabon	2005	597'300	882'000	3.40%	0.677211
Ecuador	2004	4'500'000	6'724'300	27%	0.669215
Azerbaijan	2004	294'068	478'000	5.00%	0.615205
Philippines	2004	1'434'538	2'430'400	8.20%	0.590248
Nepal	2004	1'500'035	2'663'300	18.10%	0.563224
Chile	2004	994'782	2'689'400	3.60%	0.369890
Lao PDR	2002	1'284'224	4'345'000	16.20%	0.295564
Botswana	2007	4'779'200	17'491'500	30.20%	0.273230
Russian Federation	2004	28'300'000	128'699'100	7.60%	0.219893
Madagascar	2004	288'000	1'829'000	3.10%	0.157463
Colombia	2004	11'700'000	82'527'800	31.40%	0.141770
Honduras	2004	172'117	2'345'000	20.80%	0.073398
Peru	2004	741'666	21'609'000	16.70%	0.034322
China	2004	3'600'000	110'067'000	11.80%	0.032707
Indonesia	2000	716'790	25'991'600	13.60%	0.027578
Mozambique	2001	82'705	4'530'000	5.70%	0.018257
Mongolia	2004	356'861	21'791'200	14%	0.016376
Bolivia	2004	60'000	21'102'000	19.40%	0.002843

Notes: 1. Data for protected area extent and percent cover for 2003 obtained from Earthtrends (except for Colombia and Palau which come from the UN Statistics Division); 2. All figures for 2004 unless indicated.

As identified by James *et al* already in 1999, we can see a huge range of expenditure per hectare, from USD 0.0028 of national public funds spent per hectare in Bolivia to USD 1665 in Belgium. This partly reflects the range in cost of living. Thus, except for Grenada, the top 13 countries in our sample are European or western countries.

In our sample, we see, unsurprisingly, that wealthier countries, like Denmark and Switzerland spend more per hectare than poorer countries (although it should be noted that these are both small countries with relatively small protected areas). Nonetheless, we also find poorer countries (as per the Human Development Index – HDI developed by the UNDP) like Ukraine and Thailand with relatively high figures per hectare, while wealthier countries like Canada and Chile appear to spend less per hectare.

A dollar figure per hectare allows us to compare funding provided by different countries, regardless of size of the overall protected area network. What it hides though, is the fact that in some countries maintaining protected areas will necessarily be cheaper because of a lower cost of living or conversely because a higher standard of living may reduce some of the pressures on protected areas. In addition, it hides the fact that a hectare of a degraded but highly valuable protected area may cost much more to maintain than a hectare of a pristine, unthreatened protected area. Equally, depending on the protected area category and biome (see for e.g.: López Ornat and Jiménez-Caballero, 2006), different amounts of funding per hectare may be required. Thus, in terms of extrapolating to determine future needs, such a measure of costs may not always be the most useful.

We therefore turn to *relative* values of protected area funding. Relative figures are grounded in an existing real amount and serve to provide a reasonable benchmark. Public funding to protected areas could be determined for instance as

a proportion of overall government budget, or of GDP or even of defence spending for instance? Balmford and Whitten (2003) note that “a globally effective conservation programme could be funded for less than President Bush’s recent increases in annual US military expenditure alone”. Funding may also be gauged against what are perceived as environmentally negative government expenses such as perverse subsidies in the fisheries or agriculture sectors.

Considering funding for protected areas relative to what a country is worth or what it can afford, helps to overcome the relative differences in wealth and in costs of living. We consider GDP in our analysis as it seems a suitable measure of how much a country can reasonably afford for protected areas (both its own and others’). Thus, for instance, in our sample, a country like Lao PDR is rated in the bottom half for funding per hectare (see Table 3 above) but much higher when it comes to the proportion of public funds to GDP (see Table 4 below).

GDP measures the wealth of a country. A wealthier country can presumably allocate a larger absolute amount to protected areas (both its own and those of other countries through aid). By the same token, in a wealthier country it is likely to be more expensive to maintain protected areas because of a higher cost of living. For this reason, it would seem reasonable to assume that a similar proportion of countries’ GDP could be allocated to protected areas. We first look at the proportion of GDP spent by governments on their own protected areas. Table 4 below ranks countries according to the percent of GDP that is spent on their own protected areas.

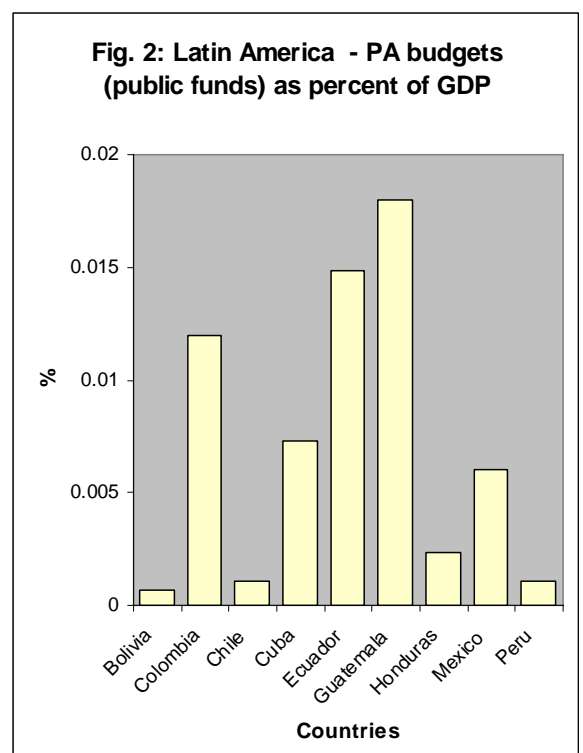
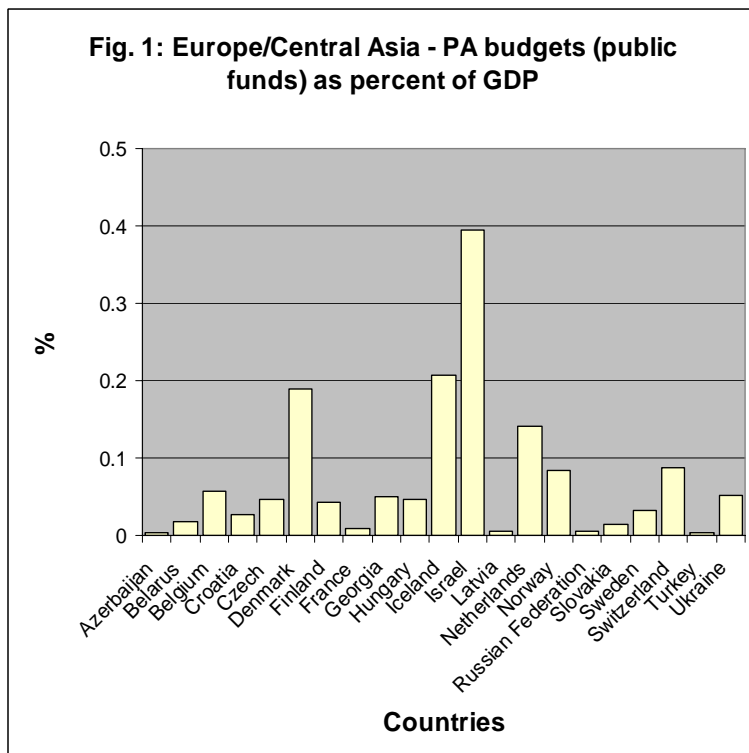
Table 4: Data on government funding to their own protected areas as % of GDP in decreasing order

	Year	Public funds for Protected Areas (USD)	GDP (USD)	Public funds spent on PAs as % of GDP
Israel	2004	461'094'000	116.9 billion	0.394435
Iceland	2004	25'265'000	12.2 billion	0.207090
Denmark	2004	457'858'508	241.4 billion	0.189668
Namibia	2002	5'066'000	3.12 billion	0.162372
Grenada	2004	603'704	0.4 billion	0.150926
Palau	2004	200'000	133'560'000	0.149745
Netherlands	2005	878'380'000	624.2 billion	0.140721
Switzerland	2004	314'802'600	357.5 billion	0.088057
Norway	2004	210'468'300	250.1 billion	0.084154
Australia	2006	558'486'550	768.2 billion	0.072701
Lao PDR	2002	1'284'224	1.8 billion	0.071346
Belgium	2003	174'832'000	309.9 billion	0.056416
Ukraine	2004	33'420'000	64.8 billion	0.051574
Georgia	2002	1'713'800	3.4 billion	0.050406
Ghana	2004	4'416'666	8.9 billion	0.049625
Hungary	2004	47'489'064	100.7 billion	0.047159
Czech	2004	49'771'411	107 billion	0.046515
Botswana	2007	4'779'200	10.46 billion	0.045690
Finland	2004	91'120'000	209.4 billion	0.043515
Thailand	2004	60'570'000	161.7 billion	0.037458
Sweden	2004	108'461'360	346.4 billion	0.031311
Croatia	2004	9'487'540	34.3 billion	0.027660
USA	2004	2'657'815'000	11711.8 billion	0.022693
Nepal	2004	1'500'035	6.7 billion	0.022389
Mongolia	2004	356'861	1.6 billion	0.022304
Guatemala	2003	4'480'000	24.88 billion	0.018006
Belarus	2004	4'000'000	22.9 billion	0.017467
Canada	2004	148'680'000	978 billion	0.015202
Ecuador	2004	4'500'000	30.3 billion	0.014851
Slovakia	2004	5'831'345	41.1 billion	0.014188
Colombia	2004	11'700'000	97.7 billion	0.011975
France	2004	166'996'177	2046.6 billion	0.008160
Vietnam	2004	3'500'000	45.2 billion	0.007743
S. Africa	2006	19'621'173	254.99 billion	0.007695
Cuba	2005	3'371'496	46.084 billion	0.007316
Gabon	2005	597'300	8.67 billion	0.006889
Madagascar	2004	288'000	4.4 billion	0.006545
Mexico	2006	50'266'580	839.2 billion	0.005990

	Year	Public funds for Protected Areas (USD)	GDP (USD)	Public funds spent on PAs as % of GDP
Latvia	2004	767'857	13.6 billion	0.005646
Russian Federation	2004	28'300'000	581.4 billion	0.004868
Azerbaijan	2004	294'068	8.5 billion	0.003460
Turkey	2004	9'462'036	302.8 billion	0.003125
Honduras	2004	172'117	7.4 billion	0.002326
Mozambique	2001	82'705	3.6 billion	0.002297
Philippines	2004	1'434'538	84.6 billion	0.001696
Peru	2004	741'666	68.6 billion	0.001081
Chile	2004	994'782	94.1 billion	0.001057
Bolivia	2004	60'000	8.8 billion	0.000682
Indonesia	2000	716'790	153.3 billion	0.000468
China	2004	3'600'000	1,931.7 billion	0.000186

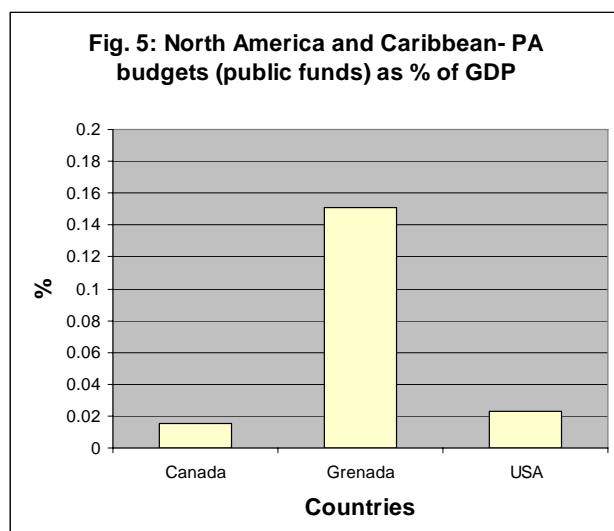
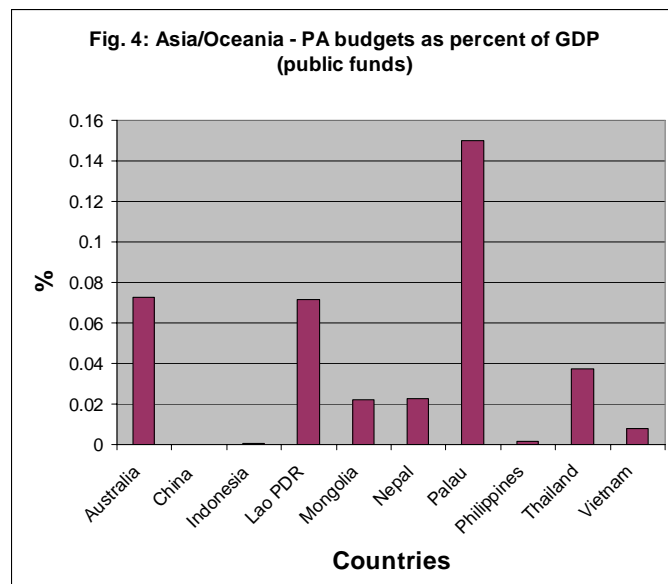
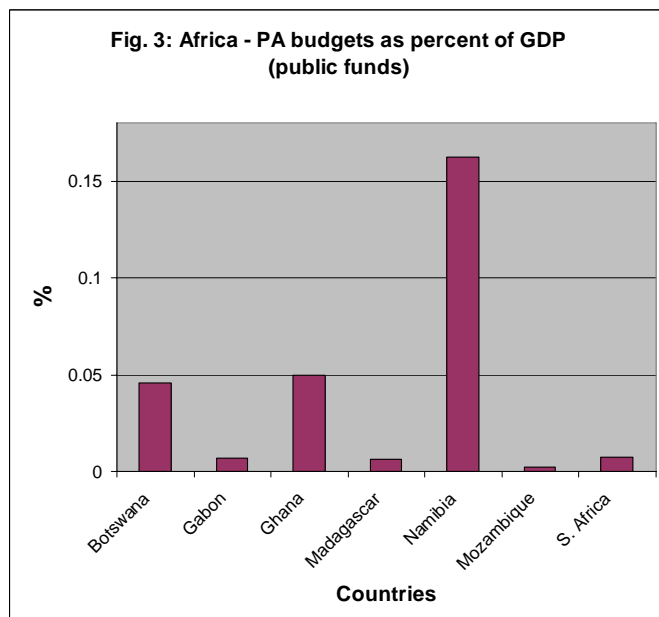
From the figures we have found in this research and the necessary caveats surrounding them, we can see that as a percent of GDP, public funds to protected areas vary from a low of **0.000186%** of GDP (China⁴) to a high of **0.3944%** of GDP (Israel). Given the relative biodiversity importance of China versus Israel (measured by variety of species, levels of endemism etc – as shown in the next section) the relative difference in figures raises serious concerns, particularly about the focus of attention to meet the CBD 2010 target. In our sample of **50** countries, 18 (i.e.: **36%**) spend more than 0.04% of their GDP on protected areas, with seven (i.e.: 14%) spending more than 0.1% of their GDP on protected areas. Surprisingly of these seven countries, three are developing countries, i.e.: Namibia, Grenada and Palau. Equally, 20 countries do not even spend 0.01% of their GDP on their protected areas. To put this further in context, of these 20 countries that we have ranked (relative to the rest of our sample) as “low” public spenders on protected areas, eight (Mexico, Madagascar, Cuba, Peru, Honduras, Indonesia, the Philippines and China) appear in the list of 16 countries rated as containing the **highest number of AZE** (Alliance for Zero Extinction) sites⁵. These sites have been identified by the Alliance of 52 biodiversity conservation organisations as being critical areas to protect if we are to prevent further extinctions (we come back to this in section 4). Clearly, many of these countries will be highly reliant on overseas aid to complement their own funding.

Figures 1-5 show regional breakdowns of protected areas budgets as percent of GDP.



⁴ It should be noted here though that the data we have collected for China only represent central government funding.

⁵ see AZE report online at: <http://www.zeroextinction.org/>



While we have initially explored public funding to a country's own protected areas, the next step in our study was to include overseas aid. Clearly for many OECD countries, contributions to protected areas in other countries through overseas aid budgets (ODA) are an important component of their funding to protected areas. Tables 5 and 6 below include therefore, this data for a number of OECD countries.

Table 5: ODA to protected areas

Country	USD million (annual average 1998-2000)	GEF annual funding under 3rd replenishment (2001-2005)	TOTAL
Australia	21'300'000	4'330'000	25'630'000
Austria	2'000'000	2'440'000	4'440'000
Belgium	19'500'000	4'200'000	23'700'000
Canada	15'300'000	10'730'000	26'030'000
Denmark	29'800'000	4'030'000	33'830'000
Finland	24'900'000	3'000'000	27'900'000
France ⁶	44'700'000	65'600'000	110'300'000
Germany	275'600'000	39'370'000	314'970'000
Ireland	2'200'000	570'000	2'770'000
Japan	144'100'000	36'570'000	180'670'000

⁶ France has its own "GEF", the FFEM, which is not included here, but also mobilises significant resources.

Country	USD million (annual average 1998-2000)	GEF annual funding under 3rd replenishment (2001-2005)	TOTAL
Netherlands	146'900'000	9'280'000	156'180'000
New Zealand	800'000	710'000	1'510'000
Norway	91'200'000	2'900'000	94'100'000
Spain	14'500'000	2'170'000	16'670'000
Sweden	38'300'000	8'140'000	46'440'000
Switzerland	15'900'000	6'440'000	22'340'000
United Kingdom	23'900'000	17'710'000	41'610'000
United States	84'200'000	35'830'000	120'030'000
Total	995'100'000	254'020'000	1'249'120'000

Sources: CBD, 2004; GEF/R.4/5, 2005

In addition to bilateral ODA, the Global Environment Facility (GEF) mobilises significant environmental funds, both from OECD countries and others. In order to make figures comparable, here we have taken funding for the third GEF replenishment, which covered the period 2001-2005. The amounts were divided by four to obtain an annual figure, then further divided by three since biodiversity funding represented about a third of GEF funding during this period.

If we incorporate data for ODA and GEF funding (for biodiversity), as well as own protected area investment for those countries for which we have this information, we can then obtain a more accurate picture of these countries' total funding for protected areas (both own and overseas). Table 6 below demonstrates this proportion in decreasing order for OECD countries (for which data was available).

Table 6: Proportion of in-country, ODA and GEF (biodiversity) funding to GDP

Country	ODA for PAs, USD (annual average 1998-2000)	GEF annual funding under 3rd replenishment (2001-2005)	Investment in own PAs	TOTAL funding to PAs (both nationally and overseas)	Total funding as % of GDP	
					excl. ODA	incl. ODA
Denmark	29'800'000	4'030'000	457'858'508	491'688'508	0.18967	0.20368
Netherlands	146'900'000	9'280'000	878'380'000	1'034'560'000	0.14072	0.16574
Norway	91'200'000	2'900'000	210'468'300	304'568'300	0.08415	0.12178
Switzerland	15'900'000	6'440'000	314'802'600	337'142'600	0.08806	0.09431
Australia	21'300'000	4'330'000	558'486'550	584'116'550	0.07270	0.07604
Belgium	19'500'000	4'200'000	174'832'000	198'532'000	0.05642	0.06406
Sweden	38'300'000	8'140'000	108'461'360	154'901'360	0.03131	0.04472
US	84'200'000	35'830'000	2'657'815'000	2'777'845'000	0.02269	0.02372
Canada	15'300'000	10'730'000	148'760'331	174'790'331	0.01521	0.01787
France	44'700'000	65'600'000	166'996'177	277'296'177	0.00816	0.01355

If we include ODA, for most countries in our sample, there is only a relatively small increase in percentage contribution to protected areas. Indeed, according to one estimate, in 2003, external development assistance for public protected areas in developing countries had decreased dramatically to USD350-420 million from a peak of USD 700-770 million a year in the early 1990s (UNEP/CBD, 2006).

We can therefore, note that funding to protected areas represents a tiny proportion of GDP for the 50 countries in our sample, varying from 0.000186% to 0.3944% and that, for a selection of OECD countries, including funding to overseas protected areas does not increase this proportion significantly, if at all.

Section 4 – Public Funds to Protected Areas: Relative Values and Trends

The fundamental questions we sought to answer in this report are how much money is enough for protected areas and how much of this should be covered by the public sector? Clearly, there is no straightforward answer to this. Nonetheless if governments are to meet their obligations under the CBD and the Programme of Work on Protected Areas, funding to protected areas will need to be stepped up. Given the relative biological wealth of developing countries, combined with their relative lower financial resources, one can presume that much of this public funding will need to flow from developed to developing countries. We look here in more detail at the trends in funding for a number of countries.

a) ODA Trends

Global coverage of protected areas is growing, yet the trend in OECD environment funding is alarmingly on the decline. We have gathered data on a number of countries for which the OECD has analysed their environment ODA spending⁷. For some countries analysis has been done for 100% of their ODA spending, while for others only a certain proportion was analysed (as reflected in column 2 of Table 7 below). For countries with less than 100% in column 2 it signifies that part of their ODA funding cannot be easily broken down and therefore, *may* include some environment funding. The data cover both programmes where the environment was the primary focus and where it was a secondary objective. As governments are encouraged to mainstream the environment it is increasingly difficult to pull out precise figures for environment funding. Table 7 below compares the percent change of the environment focus of aid with the percent change of *overall* aid for 15 OECD countries and the EC.

Table 7: Environment aid 2003-2004 versus total aid

	% of aid coverage analysed		2003	2004	% change between 2003-2004
Australia	100%	Environment focused aid (% of total aid ⁸)	13%	4%	-9.00%
		Total aid (USD million)	886	960	8.35%
Austria	94%	Environment focused aid (% of total aid)	24%	24%	-0.94%
		Total aid (USD million)	191	202	5.76%
Belgium	47%	Environment focused aid (% of total aid)	15%	10%	-4.23%
		Total aid (USD million)	542	714	31.73%
Canada	89%	Environment focused aid (% of total aid)	16%	25%	8.90%
		Total aid (USD million)	1198	1406	17.36%
Denmark	98%	Environment focused aid (% of total aid)	43%	43%	0.00%
		Total aid (USD million)	586	1196	104.10%
European Commission	95%	Environment focused aid (% of total aid)	14%	15%	0.95%
		Total aid (USD million)	5324	6544	22.92%
Finland	97%	Environment focused aid (% of total aid)	44%	32%	-11.64%
		Total aid (USD million)	275	289	5.09%
Germany	60%	Environment focused aid (% of total aid)	33%	31%	-1.80%
		Total aid (USD million)	3670	4220	14.99%
Greece	99%	Environment focused aid (% of total aid)	7%	7%	0.00%
		Total aid (USD million)	191	222	16.23%
Japan	100%	Environment focused aid (% of total aid)	48%	39%	-9.00%
		Total aid (USD million)	7210	8191	13.61%
Netherlands	100%	Environment focused aid (% of total aid)	19%	21%	2%
		Total aid (USD million)	1335	2054	53.86%
New Zealand	100%	Environment focused aid (% of total aid)	28%	25%	-3%
		Total aid (USD million)	84	104	23.81%
Norway	100%	Environment focused aid	15%	16%	1%

⁷ See “Environment and development: aid to environment at a glance” on www.oecd.org

⁸ These percentages have been adjusted according to the amount of ODA that has been analysed, i.e: the figure in column 2.

	% of aid coverage analysed	2003	2004	% change between 2003-2004
	(% of total aid)			
	Total aid (USD million)	969	938	-3.20%
Portugal	100% Environment focused aid (% of total aid)	1%	2%	1%
	Total aid (USD million)	166	174	4.82%
Sweden	100% Environment focused aid (% of total aid)	64%	59%	-5%
	Total aid (USD million)	1071	1033	-3.55%
UK	89% Environment focused aid (% of total aid)	16%	11%	-5%
	Total aid (USD million)	2570	3001	16.77%

The trends are not encouraging. We find that nine of the above 16 donors (i.e.: **56%**) have reduced their funding to the environment over the period 2003-2004 while another two countries have not changed their amount of environment aid between 2003 and 2004. This compares against only two (or 12.5%) that have reduced their *overall* overseas aid. When we compare this rate of change in overall aid versus the rate of change in environment aid, none of them match, with the biggest disparity found for Denmark that has more than doubled its overall aid but not changed its environment aid at all, followed by the Netherlands that has increased its overall aid by 54% but its environment aid by only 2%. We find the closest coherence in Sweden's environment aid that has dropped by 5%, alongside its overall aid that has dropped by 3.55% and Portugal's environment aid that has increased by 1%, alongside its overall aid that has increased by 4.82%. Canada has shown the greatest increase in environment aid, up 8.9% between 2003 and 2004. Nonetheless, its overall aid increased more significantly, up 17.36%

Recommendation 4: OECD countries should be coherent in their allotment of aid, and environment aid should at least rise in accordance with overall aid. Within environment aid, protected areas should continue to play a significant role.

Paradoxically, largely as a result of the Millennium Ecosystem Assessment (2005) and within the framework of the MDGs, there is increasing consensus that human wellbeing is fundamentally dependent on the environment. As a consequence much development aid would benefit from related environment aid (see EU example in Annexe 2). The challenge now facing the CBD and its members is to translate this heightened awareness into increased funding streams for protected area conservation and management. This is equally important for recipient countries which may need to make the development-conservation linkages more explicit in their relevant strategies and funding requests.

Recommendation 5: As OECD countries are being encouraged under the Paris Declaration on Aid Effectiveness to harmonise their allocation of aid funding, it is all the more important for recipient countries to ensure that protected areas and biodiversity are sufficiently represented in their package for aid assistance.

b) Absolute versus relative values

In trying to find a relative figure for government spending on protected, we have compared protected areas spending to GDP. The question remains: what proportion of GDP should be allocated to protected areas?

The median figure for our sample of 50 countries (see Table 4) is: **0.018%**, while the mean is: **0.048%**

In addition, if we consider a handful of countries that have estimated the amount that they would actually require to effectively implement a network of protected areas, we find the following correlations with GDP⁹:

Table 8: Real estimates of funding needs for protected areas versus GDP

Country	estimated amount needed (USD)	GDP (USD 2004)	% of required PA spending vs. GDP
Bolivia	35'769'396	8'800'000'000	0.41
Ghana	26'500'000	8'900'000'000	0.30
Ecuador	55'500'000	30'300'000'000	0.18
Peru	48'000'000	68'600'000'000	0.07
Colombia	22'500'000	97'700'000'000	0.02

⁹ Note that this is total funding required, regardless of source. Nonetheless it provides a useful estimate.

These figures, albeit for a small sample, indicate a much higher proportion of GDP. Thus using the data we have collected for our sample of 50 and combining it with the above table that is based on actual estimates of required funding, it would seem plausible to determine a minimal relative value for protected area spending with respect to GDP.

Recommendation 6: Based on our analysis, most countries should be increasing their investment in protected areas (their own or those of other countries) by at least 50 percent to represent at a minimum, between 0.02% and 0.04% of their GDP¹⁰.

c) Rating public spending on protected areas versus biodiversity importance

The difficulty with comparing public funding to GDP is that it does not consider the ultimate recipients of the funds, i.e.: protected areas: some countries simply do not have many protected areas, or even have relatively few areas needing protection. Other countries may be so biologically important (e.g.: “hotspots”) that even 0.04% may simply not be enough. While countries with small GDPs will by default have less to dedicate to their protected areas, if they have a particularly rich biodiversity that warrants more protection, then they will require much more funding which will have to come from external sources.

In the previous sub-section we attempted to determine an alternative means of assessing sufficient funding for protected areas as a percentage of GDP. To further ground this figure in reality, we suggest that it should be weighted according to a country’s biological importance. To obtain this measure of biodiversity value we use a proxy indicator, developed by summing scores from six global prioritisation exercises:

- ✓ WWF Global 200 ecoregions
- ✓ Conservation International biodiversity hotspots
- ✓ WWF / IUCN Centres for Plant Diversity
- ✓ Birdlife Endemic Bird Areas
- ✓ Alliance for Zero Extinction Priority Areas
- ✓ CBD National Biodiversity Index

To facilitate comparison, scores derived from each of these were standardised into a three point score and total given, allowing ranking of countries according to high, medium or low biodiversity as outlined in the table below (see Annexe 1 for details).

Table 9: Countries split as high, medium, low biodiversity

Country	WWF Global 200	CI hotspots	Centres of plant diversity	Birdlife Endemic Bird Areas	Alliance for Zero Extinction	CBD NBI	TOTAL
High biodiversity							
China	3	3	3	2	3	3	17
Indonesia	3	2	3	3	3	3	17
Mexico	3	2	3	3	3	3	17
Colombia	3	2	3	2	3	3	16
Peru	2	2	3	3	3	3	16
Australia	3	2	3	2	3	3	14
Ecuador	2	2	2	2	3	3	14
USA	3	1	3	1	3	2	13
Philippines	1	1	3	2	3	2	12
Chile	2	2	3	1	2	2	11
Cuba	2	1	2	1	3	2	11
Madagascar	2	1	1	1	3	3	11
South Africa	2	3	2	1	1	2	11
Vietnam	2	1	3	1	2	2	11
Bolivia	2	1	2	1	2	2	10
Turkey	3	1	3	1	2	2	10

¹⁰ However, more precise data are needed to give a better indication of the level of GDP that should support protected areas. If the recommendations about data collection and analysis made in this report are followed, more precise estimates of necessary funding will be available to calculate necessary inputs from governments.

Country	WWF Global 200	CI hotspots	Centres of plant diversity	Birdlife Endemic Bird Areas	Alliance for Zero Extinction	CBD NBI	TOTAL
Medium biodiversity							
Mozambique	2	2	1	1	1	2	9
Russian Fed	3	0	2	2	1	1	9
Canada	3	0	3	0	1	1	8
Guatemala	1	1	1	1	2	2	8
Honduras	1	1	1	1	2	2	8
Thailand	2	1	3	0	0	2	8
Georgia	1	2	1	1	0	2	7
Azerbaijan	2	2	1	1	0	2	7
Gabon	2	0	2	1	0	2	7
Laos	2	1	1	1	0	2	7
Ghana	1	1	1	0	1	2	6
Namibia	1	1	1	1	0	2	6
Nepal	2	1	0	1	0	2	6
France	1	1	2	0	0	1	5
Israel	1	0	1	0	1	2	5
Croatia	1	1	0	0	0	2	4
Grenada	1	1	0	1	1	n/a	4
Low biodiversity							
Mongolia	2	0	0	0	0	1	3
Palau	1	1	0	1	0	n/a	3
Slovakia	1	0	0	0	0	2	3
Sweden	1	0	1	0	0	1	3
Switzerland	1	0	1	0	0	1	3
Ukraine	1	0	1	0	0	1	3
Botswana	1	0	0	0	0	1	2
Finland	0	0	0	1	0	1	2
Hungary	0	0	1	0	0	1	2
Netherlands	1	0	0	0	0	1	2
Belarus	0	0	1	0	0	1	2
Belgium	0	0	0	0	0	1	1
Czech Rep.	0	0	0	0	0	1	1
Denmark	0	0	0	0	0	1	1
Latvia	0	0	0	0	0	1	1
Norway	1	0	0	0	0	0	1
Iceland	0	0	0	0	0	0	0

Table 10: Countries ranked as high, medium, low biodiversity based on above proxy analysis

HIGH	MEDIUM	LOW
China	Mozambique	Mongolia
Indonesia	Russian Fed	Palau
Mexico	Canada	Slovakia
Colombia	Guatemala	Sweden
Peru	Honduras	Switzerland
Australia	Thailand	Ukraine
Ecuador	Georgia	Botswana
USA	Azerbaijan	Finland
Philippines	Gabon	Hungary
Chile	Laos	Netherlands
Cuba	Ghana	Belarus
Madagascar	Namibia	Belgium
South Africa	Nepal	Czech Rep.
Vietnam	France	Denmark
Bolivia	Israel	Latvia
Turkey	Croatia	Norway
	Grenada	Iceland

For 15 donor countries and the EC, the OECD has analysed the top 10 recipients of environment aid. Using this data, we extracted those countries that appear in the “top 10” of at least four donor countries, to obtain a list of 16 top recipients (in terms of number of donors, not in terms of absolute funding). Interestingly two of the top 16 appear to have relatively low biodiversity value, as per our analysis. Half, (8 out of 16) appear to be of medium biodiversity importance. This indicates that in the top 16 recipient countries, only 37.5% (i.e.: 6 out of 16) are actually high in biodiversity value.

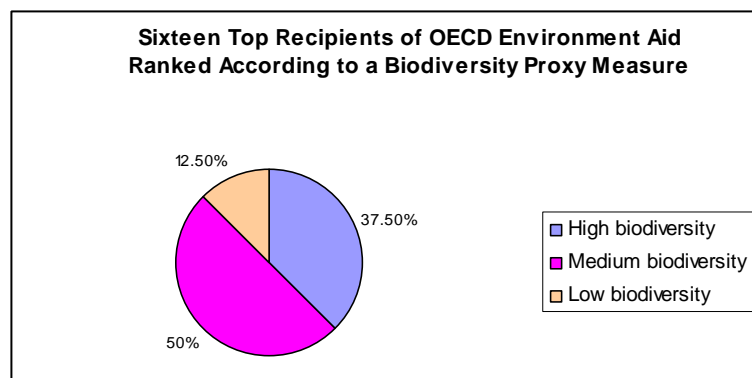


Table 11: Recipients of largest number of OECD countries’ environment ODA compared with their biodiversity value using a range of selection criteria

Country	ODA ¹¹	WWF Global 200			CI hotspots	Centres of plant diversity		Birdlife Endemic Bird Areas	Alliance for Zero Extinction	CBD Nation, Biodiv. Index		Total score	Biodiv ranking		
Vietnam	9	3	2	1	1	5	2	3	1	6	2	0.68	2	10	High
China	8	9	3	3	3	8	3	2	2	23	3	0.84	3	17	High
Ethiopia	8	4	2	2	2	1	1	3	1	4	1	0.59	2	9	Med
Serbia & Montenegro	6	2	1	1	1	0	0	0	0	0	0	0.51	2	4	Med
Egypt	6	1	1	1	1	0	0	0	0	0	0	0.33	1	3	Low
India	5	9	3	2	2	4	2	7	2	16	3	0.73	2	14	High
Nicaragua	5	2	1	1	1	0	0	3	1	0	0	0.64	2	5	Med
Albania	4	1	1	1	1	0	0	0	0	0	0	0.53	2	4	Med
Bangladesh	4	1	1	0	0	0	0	0	0	0	0	0.54	2	3	Low
Indonesia	4	17	3	2	2	18	3	3	3	29	3	1	3	17	High
Iraq	4	1	1	0	0	1	1	1	1	0	0	0.43	1	4	Med
Kenya	4	4	2	3	3	3	2	4	1	4	1	0.64	2	11	High
Morocco	4	3	2	1	1	1	1	0	0	16	3	0.46	1	8	Med
Mozambique	4	3	2	2	2	1	1	4	1	2	1	0.52	2	9	Med
Tanzania	4	8	3	2	2	3	2	0	0	7	2	0.67	2	11	High
Uganda	4	3	2	1	1	1	1	2	1	1	1	0.66	2	8	Med

Two figures are listed under each main column: the total number of sites identified within the particular prioritisation method (or the relevant number in the National Biodiversity Index) and on the right the “score” assigned in the analysis carried out for this report; these are summed in the column “total score” – see Annexe 1 for more details)

Recommendation 7: When investing their overseas funds dedicated to the environment and to protected areas more specifically, OECD countries should take into account the relative biodiversity values of different countries.

¹¹ Number of donor countries ranking these recipient countries as high for environment ODA, according to OECD data.

Section 5 – Conclusions and Recommendations

Conclusions:

Protected areas provide public goods and a public service; as such governments have an important role to play in ensuring that these areas are indeed well protected. Recognising this role, 190 governments agreed to the Programme of Work on Protected Areas under the CBD in 2004. The Programme was predicated on increased support from rich countries for protected areas. However, this has not happened and without sufficient resources, such commitments are doomed to remain unfulfilled. And the longer we wait, the less there will be to protect and the more likely that the damage to our planet's biodiversity and ecosystem services will be irreversible. It is therefore crucial for the world's governments to step up efforts, greatly increase resources and better target them if we are to protect our natural wealth.

From our analysis we can draw a number of conclusions concerning government funding to protected areas:

- There are vast disparities between countries and much opaqueness concerning reporting on protected areas expenditure.
- Public funding to protected areas is sorely insufficient and trends, at least for OECD countries, are not set to remedy this situation.
- While private sector funding may increase, public funding (both internal and external) will and should always be an important base for protected areas. A diversified funding strategy remains essential for protected areas.
- Countries with significant natural resources are not always able to invest sufficient amounts on these resources (as they are often the poorest on the planet) and will need to count on more significant funding from richer countries, that often have less natural resources to protect, but more money to allocate.
- To meet CBD obligations, countries will need to reverse their current spending trend on the environment and greatly step up funding to protected areas.
- In order to allow accurate reporting on spending, countries should be encouraged to follow a similar format when reporting protected areas expenditures.

Overview of Recommendations:

Throughout this report we have made a number of significant recommendations that support the above conclusions. These are summarised below:

Recommendation 1: Countries should make more effort to determine the explicit socio-economic benefits of protected areas and their role in contributing to the Millennium Development Goals (MDGs). This will help to raise awareness of the importance of protected areas and will also indirectly help to raise funds for management activities in protected areas.

Recommendation 2: Countries should be encouraged to pursue diversified funding strategies for their protected areas and promote sustainable funding, but public funding should in most cases continue to provide an essential core of support.

Recommendation 3: More accurate information on public funding to protected areas would allow a better comparison between countries. This could be done by promoting:

- accurate record-keeping;
- the use of simple and internationally-accepted budgeting categories (possibly developed by IUCN and promoted by the CBD and also available through some management effectiveness assessment systems).

Recommendation 4: OECD countries should be coherent in their allotment of aid, and environment aid should at least rise in accordance with overall aid. Within environment aid, protected areas should continue to play a significant role.

Recommendation 5: As OECD countries are being encouraged under the Paris Declaration on Aid Effectiveness to harmonise their allocation of aid funding, it is all the more important for recipient

countries to ensure that protected areas and biodiversity are sufficiently represented in their package for aid assistance.

Recommendation 6: Based on our analysis, most countries should be increasing their investment in protected areas (their own or those of other countries) by at least 50 percent to represent at a minimum, between 0.02% and 0.04% of their GDP¹².

Recommendation 7: When investing their overseas funds dedicated to the environment and to protected areas more specifically, OECD countries should take into account the relative biodiversity values of different countries.

This is a work in progress. We are keenly aware of the problems of isolating the protected areas component from national budget statistics and the limitations of a survey that only looks at a small proportion of the countries. It is hoped to continue and expand this research, and we would be delighted to receive any comments, corrections and additional information.

¹² However, more precise data are needed to give a better indication of the level of GDP that should support protected areas. If the recommendations about data collection and analysis made in this report are followed, more precise estimates of necessary funding will be available to calculate necessary inputs from governments.

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Annexe 1: Complete data from analysis of biodiversity importance

Country	WWF Global 200		CI hotspots		Centres of plant diversity		Birdlife Endemic Bird Areas		Alliance for Zero Extinction		CBD Nation Biodiversity Index		TOTAL SCORE
Australia	13	3	2	2	13	3	8	2	18	3	0.853	3	14
Azerbaijan	1	1	2	2	1	1	1	1	0	0	0.534	2	7
Belarus	0	0	0	0	1	1	0	0	0	0	0.368	1	2
Belgium	0	0	0	0	0	0	0	0	0	0	0.445	1	1
Bolivia	4	2	1	1	4	2	5	1	7	2	0.724	2	10
Botswana	2	1	0	0	0	0	0	0	0	0	0.461	1	2
Brazil	15	3	2	2	14	3	15	2	39	3	0.877	3	16
Canada	7	3	0	0	14	3	0	0	2	1	0.299	1	8
CAR	2	1	0	0	0	0	0	0	0	0	0.509	2	3
Chile	5	2	2	2	6	2	5	1	7	2	0.570	2	11
China	9	3	3	3	40	3	12	2	23	3	0.839	3	17
Colombia	6	3	2	2	10	3	14	2	48	3	0.935	3	16
Croatia	2	1	1	1	3	0	0	0	0	0	0.538	2	4
Cuba	3	2	1	1	3	2	1	1	18	3	0.703	2	11
Czech Rep.	0	0	0	0	1	1	0	0	0	0	0.498	1	2
Denmark	0	0	0	0	0	0	0	0	0	0	0.403	1	1
Ecuador	4	2	2	2	7	2	9	2	19	3	0.873	3	14
Finland	0	0	0	0	0	0	1	1	0	0	0.290	1	2
France	2	1	1	1	3	2	0	0	0	0	0.423	1	5
Gabon	3	2	0	0	4	2	1	1	0	0	0.641	2	7
Georgia	1	1	2	2	1	1	1	1	0	0	0.553	2	7
Ghana	1	1	1	1	1	1	0	0	1	1	0.646	2	6
Grenada	1	1	1	1	0	0	1	1	1	1	n/a	0	4
Guatemala	1	1	1	1	2	1	3	1	9	2	0.744	2	8
Honduras	1	1	1	1	1	1	3	1	14	2	0.653	2	8
Hungary	0	0	0	0	1	1	0	0	0	0	0.441	1	2
Iceland	0	0	0	0	0	0	0	0	0	0	0.113	0	0
Indonesia	17	3	2	2	37	3	23	3	29	3	1.000	3	17
Israel	1	1	0	0	1	1	0	0	1	1	0.601	2	5
Laos	4	2	1	1	1	1	1	1	0	0	0.615	2	7
Latvia	0	0	0	0	0	0	0	0	0	0	0.420	1	1
Madagascar	4	2	1	1	1	1	5	1	16	3	0.813	3	11
Mexico	8	3	2	2	13	3	18	3	63	3	0.928	3	17
Mongolia	3	2	0	0	0	0	0	0	0	0	0.358	1	3
Mozambique	3	2	2	2	2	1	4	1	2	1	0.522	2	9
Namibia	1	1	1	1	2	1	1	1	0	0	0.553	2	6
Nepal	4	2	1	1	1	1	4	1	0	0	0.642	2	7
Netherlands	1	1	0	0	0	0	0	0	0	0	0.412	1	2
Norway	1	1	0	0	0	0	0	0	0	0	0.297	0	1
Palau	1	1	1	1	0	0	1	1	0	0	n/a	0	3
Peru	3	2	2	2	8	3	16	3	31	3	0.843	3	16
Philippines	2	1	1	1	12	3	7	2	11	3	0.786	2	12
Russian Fed	13	3	0	0	6	2	8	2	2	1	0.477	1	9
Slovakia	1	1	0	0	0	0	0	0	0	0	0.589	2	3
South Africa	4	2	4	3	6	2	5	1	4	1	0.714	2	11
Sweden	1	1	0	0	1	1	0	0	0	0	0.304	1	3
Switzerland	1	1	0	0	1	1	0	0	0	0	0.497	1	3
Tanzania	8	3	2	2	12	3	0	0	7	2	0.674	2	12
Thailand	4	2	1	1	9	3	0	0	0	0	0.670	2	8
Turkey	3	2	1	1	8	3	1	1	2	1	0.572	2	10
Ukraine	1	1	0	0	2	1	0	0	0	0	0.415	1	3
USA	15	3	1	1	36	3	5	1	18	3	0.677	2	13
Vietnam	3	2	1	1	7	3	3	1	6	2	0.682	2	11

Two figures are listed under each main column: the total number of sites identified within the particular prioritisation method (or the relevant number in the National Biodiversity Index) and on the right the “score” assigned in the analysis carried out for this report. For comparison, figures from each of the prioritisation programmes were rounded up into a 0-3 score, depending on the total number of sites in each assessment. It should be noted that this is an approximate process and could be further refined; we considered it indicative enough for the analysis here.

Explanation of rounding scores	
WWF Global 200	1-2 = 1; 3-6 = 2; 7 or more = 3
CI hotspots	1 = 1; 2 = 2; 3 or more = 3
Centres of Plant Diversity	1-2 = 1; 3-10 = 2; 11 or more = 3
Endemic Bird Areas	1-5 = 1; 6-15 = 2; 16 or more = 3
Alliance for Zero Extinction	1-5 = 1; 6-10 = 2; 11 or more = 3
CBD NBI	< 0.25 = 0; 0.25-0.5 = 1; 0.5-0.75 = 2; greater than 0.75 = 3

Annexe 2 – National examples

In this section we review a few national examples of public funding to protected areas. Each example highlights a particular issue in this respect. The example from Ukraine demonstrates the vast diversity of in-country public funding sources; for instance the Madagascar example highlights that while local public funds are limited in this least-developed country, other funding sources are significant. The first example, from Finland, shows what is possible with strong government support for protected areas.

Finland – Strong government support for protected areas

Finland has one of the best supported protected area systems in the world and a strong commitment to government funding, with an emphasis on supporting recreational use and providing educational material. People do not pay to enter large protected areas such as national parks and many facilities, including camp sites, overnight huts and accompanying fuelwood, are provided free of charge. There are also a large number of well equipped and well-staffed information centres. Almost two million visits are made to protected areas each year, 80 percent from within the country, which has a total population of only just over five million. Typical uses include hiking, cross-country skiing in the winter and other nature-based activities. The majority of visits are one-day, although people often stay outside and re-visit the same area; there are also trails, camp-sites and huts to encourage people to stay longer.

Natural Heritage Services (NHS) is the main agency dealing with protected areas. NHS is one half of the Metsähallitus organisation, which also deals with state forest management. Additional responsibility for some protected areas is in the hands of regional environment centres. The Finnish Forest Research Institute used to manage some protected areas but these were transferred to NHS in 2002.

Overall funding for protected areas was around Euro 70 million in 2005, up from Euro 63 million in 2000. Budget has increased steeply over the last twenty years. In 2005, total expenditure by NHS was Euro 53.3 million Euros; this was a considerable growth on 2004 figures (when it was Euro 36.5 million) in part because NHS assumed several new responsibilities including land acquisition for new protected areas, administration of hunting and fishing and maintenance of seed banks. (This means that not all the increase was used entirely for maintenance of the protected area system.) The government provides around 85 percent of NHS funding, although budget comes from a variety of ministries, as outlined in Table 12 below.

Table 12: Proportion of funding from various sources for Finland's protected areas (2006)

Funding source	Amount (mil. EUR)	Percentage
Ministry of Environment	35.24	66
Ministry of Agriculture and Forestry	7.15	11
Ministry of the Interior	1.25	1
Ministry of Labour	3.08	7
European Union	1.88	3
Income	5.04	11
Other sources	0.42	1

Finland is still actively expanding its protected area network, now in line with the European Union Natura 2000 network commitments, and for example set aside Euro 11.5 million for land acquisition in 2005. The largest single allocation of funding in terms of person-years is directed to recreational issues although nature conservation is also important: a breakdown of person-years on different tasks is given in Table 13.

Table 13: Breakdown of person-years allocated to different tasks in Finland's protected areas

Task	Person-years
Nature recreation	279
Nature conservation	130
Land use	30
Hunting and fishing	32
Other	108

Sources:

Heinonen, M. (ed.), (2007); *State of the Parks in Finland: Finnish Protected Areas and Their Management from 2000 to 2005*, Nature Protection Publications of Metsähallitus: Series A 160.

Gilligan, B., Dudley, N., Fernandez de Tejada, A. and Toivonen, H. (2005); *Management Effectiveness Evaluation of Finland's Protected Area*, Nature Protection Publications of Metsähallitus: Series A 147.

Madagascar case study - Engagement from the top Contribution by Erik Reed

Famous for its high levels of endemism, the island of Madagascar has nonetheless lost much of this natural wealth. The Malagasy government, recognising the importance of its biodiversity as well as its precariousness, together with many international donors and agencies, has taken significant steps towards increasing environmental protection. And these efforts have been stepped up with the growth in protected area coverage increasing sharply in the last 5 years further to the announcement by President Ravalomanana at the World Parks Congress that the country would triple its protected areas from 1.7 million hectares to 6 million hectares, by 2012 - what became known as the "Durban Vision".

In the last ten years the Malagasy government has invested an estimated USD 75 million in its protected areas. This figure pales in comparison to that invested by the international community. Yet given that Madagascar appears as one of the poorest countries on the planet as per the UNDP Human Development Index which ranked it as 143rd (out of 177 countries) in 2006, such a figure is not negligible.

Table 14: Expansion of Madagascar's PA network

	Number of PAs	Area (ha)
Current ANGAP PAs	39	1,612,000
Extension of PAs	11	359,000
Creating new PAs	5	272,000
New PAs in 2005	4	919,000
New PAs in 2006	15	1,080,000
New PAs in 2007-08 (with sponsor)	47	1,619,000
New PAs in 2007-08 (without sponsor)	38	595,000
New Marine PAs	4	325,000
TOTAL		6,781,000

Source: BM-ESSD, 2007.

As of June 2007, Madagascar's protected area coverage had increased from 1,700,000 ha in 2003 to 2,035,523 ha.

While progress is being made, a number of factors have been identified as hampering effective delivery of this target, notably funding and the lack of a supportive legal framework (to recognise and encourage both private protected areas and community conserved areas).

Madagascar's environmental funding has been established on a 5 yearly basis to match the periodic Environmental Plans (PE I, PE II and PE III respectively) set up by the country and its international partners. The 2004-2009 PE III has allocated total Malagasy government funding of USD 18.5 million (out of an overall total 155 million).

An authority specifically responsible for protected areas called ANGAP was created in 1991. The Durban Vision initiative foresees an expansion of this parastatal structure, as well as the incorporation of protected areas that fall under the six management categories and four governance types outlined by IUCN. ANGAP's total budget depends heavily on external funding (regardless of source) in the latest environmental plan as outlined in Table 15 below.

Table 15: Financing for ANGAP (USD)/y. during the period 2004-2009 (under the PE III)

Budget allocation	MGF (billion)	USD
Expansion of PAs	2.1	252,000
Biodiversity management	11.6	1,392,000
Ecotourism infrastructure	6.5	780,000
Public awareness	0.8	96,000
Current expenditure	32.2	3,864,000
TOTAL	53.2	6,384,000

Source: World Bank, 2005

(exchange rate used: 1USD = 0.00012 MGF)

Out of the above, the split between funding sources is as follows (note that it does not match exactly budget needs):

Source	USD
<i>Government</i>	288,000
<i>Entrance fees</i>	204,000
<i>ODA</i>	3,600,000
PA trust fund	936,000
TOTAL (USD)	5,028,000

Under the initiative to expand the network of protected areas in Madagascar the continued need for ODA and funding assistance outside of the government retains a level of high importance for meeting the goals. While the numbers are not comprehensive, deficits for funding and maintaining the initiative have been estimated to be around USD 3-4 million for the management of ANGAP at the end of PE III in 2009 and USD 7-10 million a year by 2012 to manage the entire SAPM (Système des Aires Protégées de Madagascar) the broad network of PAs; another estimate places the deficit at USD 20 million for the period 2007-2011. The estimates illustrate the tremendous gaps for funding for PAs in Madagascar, a need that can seemingly only be met in the interim, by ODA.

Sources:

BM ESSD, (2007); *SAPM et Sauvegardes: Coûts de Création et Gaps de Financement. Note explicative des estimations* (draft, January 2007)

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Malaysia – Addressing the funding gap

Contribution by Surin Sukswan

Malaysia still has relatively good forest cover, estimated at about 59 percent of the country's total land area, but much of the remaining forest can be found outside of protected areas. This situation is unique in contrast with most other countries in the region where the percentage of forest cover is lower and much of what remains is already within protected areas. The management of protected areas in Malaysia is also unusually complex with many management authorities and different types of protected areas. Politically, Malaysia can be divided into three distinct regions, namely Peninsular Malaysia, and the two Bornean States of Sabah and Sarawak. Under the Federal Constitution, the management of natural resources is under the jurisdiction of the individual State governments (11 states in Peninsular Malaysia in addition to the two on Borneo island). The oldest and largest protected area, Taman Negara National Park (434,351ha), is managed by the Federal Department of Wildlife and National Park which also manages another national park and a number of wildlife reserves. Sabah and Sarawak both have long had their own system of protected areas managed by State agencies. In recent years, the States in Peninsular Malaysia have also begun establishing State Parks. As a result, there is now an increasing number of protected area management authorities that are generally operating independently of one another. Acting on the recommendations of a management effectiveness assessment of national and state parks carried out in 2005 by WWF-Malaysia, the Ministry of Natural Resources and the Environment is now taking the lead role to provide greater coordination of protected area planning and management.

Except for a few internationally renowned protected areas such as Taman Negara National Park, Kinabalu Park and the Gunung Mulu National Park – the latter two of which are World Heritage Sites – most of the protected areas in Malaysia have yet to realise their potential in term of tourism revenue. Malaysian protected areas, therefore, are heavily dependent on government funding. In addition, some protected areas have also benefited from international funding, mostly from government aid agencies through integrated conservation and development projects (e.g. DANIDA and JICA), and UNDP-GEF. At the Danum Valley Conservation Area in Sabah, long-term financial and technical assistance is provided by the UK Royal Society to the management authority of the protected area, the Sabah Foundation.

In general, protected area funding in Malaysia can be divided into two – development funds and operational funds. For the federal-run protected areas, development and operational funds are channelled through the Department of Wildlife and National Parks while protected areas managed by State agencies receive funds for their operations mainly from their respective State governments. Government development funds are usually for tourism infrastructure and are sourced from the Federal Ministry of Tourism. Protected areas under State governments are also eligible for development funds from the Ministry of Tourism. In all cases, government funds are the major source of funding for protected area operations except for Kinabalu Park whose main source of operational funds is park user fees.

Considering that Malaysia is a middle-income country with a Human Development Index ranking of 63, public expenditure on protected areas is surprisingly low. Based on a 2005 study on conservation financing conducted by the Economic Planning Unit of the Prime Minister's Department in cooperation with DANIDA, the total operational budget for 7 protected areas in Peninsular Malaysia was estimated at only MYR905,516 (1USD = MYR3.29) while for 13 protected areas in Sabah it was MYR8,867,919 (see table 16). The study estimated the operational budget needs for 39 protected areas in Malaysia to be RM36,618, 435. For Peninsular Malaysia alone, the fiscal gap is calculated to be MYR8,867,919 which translates to a shocking 90.7% shortfall in funding.

Table 16: Operational budget fiscal gap of protected areas in Malaysia

Political regions	No. of protected areas surveyed	Operational Budget		
		Total Available	Need	Gap
Peninsular Malaysia	7	905,516	9,773,435	8,867,919
Sabah	13	8,867,919	13,422,220	4,676,045
Sarawak	19	n.a.	13,422,780	n.a.
TOTAL	39	n.a.	36,618,435	n.a.

With the creation of new protected areas in Malaysia on the upswing, the fiscal gap in protected area funding is expected to widen even further unless the Federal and State governments take urgent measures to address this imbalance in the allocation of public funds.

Sources:

EPU-DANIDA (2005); *National Workshop on Conservation Financing, 6 March 2007*, Report prepared by the Economic Planning Unit of the Prime Minister's Department (EPU) in cooperation with the Danish International Development Assistance (DANIDA).

Ministry of Natural Resources and the Environment, (2006); *Management Effectiveness of National and State Parks in Malaysia*, Ministry of Natural Resources and the Environment, Putrajaya, Malaysia.

Ukraine – a multitude of public funding sources for protected areas

Ukraine is expanding its protected areas network but is struggling with multiple sources of funding, insufficient money and some confusion in legislation. As of January 2006, Ukraine had a reported total of 7,243 “protected sites” accounting for 4.6 percent of the territory, but this includes both protected areas and various other land with some planning controls including mines, airports etc. The World Database on Protected Areas instead lists 5199 sites, including 8 national parks one of which is proposed. Many sites are small. The World Resources Institute’s *Earthtrends* database lists Ukraine as having 3.3 percent of its land area in protected areas, which is considerably below European or global average. Some sites within protected areas have been privatised and there is confusion about how the new owners might receive compensation. The protected area network has expanded rapidly since 1990.

While there is a professed expression of interest in the environment, and Ukraine has released a report on progress towards addressing the CBD Programme of Work on Protected Areas, economic development has tended to overshadow environmental efforts in the country. In an April 2006 resolution, the Board of the Ministry of Environmental Protection noted “*preserving biodiversity and landscape diversity*” and “*improving the management of nature reserves*” as top priorities alongside waste treatment, water management, the UNFCCC and state ownership of natural resources. Everyone agrees that funding is insufficient and that the national system has expanded more quickly than the accompanying support, so that many properties are in poor condition.

Ukraine has a multitude of environmental funds which operate at three levels: national, regional and local. These funds are financed essentially by pollution charges and provide about a third of funding for the environment. There is one overall state fund, 27 regional ones and thousands of local ones. Most of the environmental funds are used to address water pollution, which is of major concern in Ukraine. The main single source of financial support of the environmental activities in Ukraine is The State Environmental Protection Fund established according to the Law of Ukraine "On Environmental Protection" (25.06.1991, № 1264-XII).

Overall environment spending in Ukraine from both public and private sources amounted to USD 1.1 billion in 2004, which is nearly double the USD 650 million in 2002, with the share of public funds being about one third. The “*Main Directions of the National Policy of Ukraine for Environmental Protection, Natural Resource Use and Environmental Safety*” of 1998 is the framework guiding public environmental expenditure.

The fact that 17 state bodies fund the environment in Ukraine demonstrates the difficulty in aggregating such data at a national level (see Table 17).

Table 17: Ukraine public sources of environment funding (January-June 2005)

State body	USD million	Percent of total
Ministry of Fuel and Energy	62.99	31.37
Ministry of Environmental Protection	53.15	26.47
Ministry of Emergencies	28.91	14.40
National Academy of Sciences	10.96	5.46
Ministry of Defence	10.19	5.07
State Committee for Water Management	8.50	4.23
National Space Agency	7.92	3.94
State Forestry Committee	5.42	2.70
Ministry of Industrial Policy	4.65	2.32
State Committee on Natural Resources	3.17	1.58
Ukrainian Academy of Agrarian Sciences	1.17	0.58
State Management Office	1.06	0.53
Ministry of Agricultural Policy	0.99	0.49
State Committee on Land Resources	0.99	0.49
Kherson Oblast State Administration (floods)	0.44	0.22
State Nuclear Regulatory Committee	0.26	0.13
State Committee on Housing and Communal Service	0.03	0.02
Total	200.82	100

Source: Ministry of Finance, quoted in UNECE, 2007

Sources:

EarthTrends (2003); Biodiversity and protected areas: Ukraine, World Resources Institute, Washington DC. UNDP, Government Of Ukraine, Ukrainian Scientific And Research Institute Of Water Management And Ecological Problems, (2006); UNDP/GEF Project “National Capacity Self-Assessment For Global Environment Management In Ukraine” *Basic Report On The Implementation Of The Convention On Biological Diversity In Ukraine (1992-2006)*, Project leader: A. Yatsyk, Project manager: V. Tolkachov. UNECE, (2007); Environmental Performance Reviews: Ukraine, Second Review, UN, New York and Geneva.

European Union – Financing Natura 2000

Contribution by Andreas Baumüller

Europe is home to an extraordinary set of habitats and species, from snow covered alpine peaks, romantic Mediterranean seabeds and beaches, to the mystical forests of the Carpathians. To conserve threatened species and habitats of Community interest the European Union has created a network of sites called Natura 2000.

By now, significant progress has been made in the establishment of the Natura 2000 network through the designation by EU Member States of more than 18,000 sites which cover already about 18 % of the EU territory. A great variety of activities have been defined for the effective management of these sites such as developing management plans, habitat restoration and active management activities (such as mowing or species monitoring).

Integration of Financing of Natura 2000 in all relevant EU funding lines

With the start of the new financial period (2007 – 2013) the European Union has chosen to integrate the financing of Natura 2000 in all relevant EU funding lines, including Structural Funds and Rural Development Fund. The following reasons are presented for this option:

- it will ensure that the management of Natura 2000 sites is part of the wider land management policies of the EU. Thus, farming inside Natura 2000 sites will be part of the Common Agricultural Policy financial support and, structural interventions, being part of rural and regional development policies. This complementary approach will enable the network of Natura 2000 sites to play its role in protecting Europe's biodiversity better than if Natura 2000 sites are seen to be isolated or different from the wider policy context.
- it will allow Member States to set priorities and to develop policies and measures which reflect their national and regional specificities.
- it will avoid duplication and overlap of different Community funding instruments and the administrative complication and transaction costs which would be associated with such duplication.

This funding policy guarantees that the financing of protected areas moves from a discussion of conservationists to the discussion of all relevant stakeholders who can influence the funding of Natura 2000 more substantially. Indeed, only with a broader financial support can the funding of protected areas be sufficient in the European Union.

Because of the integration of financing Natura 2000 in all relevant EU funding lines, the funding has become more complex. However, the European Commission is providing a set of tools which provides support on how to obtain funds for the Natura 2000 sites (see: Handbook and IT tool of Financing Natura 2000¹).

The Financial Instrument for the Environment, LIFE+

The integration of environment funding in the EU is a positive development. In addition to this integration, there remains a relatively small but dedicated funding line for the environment which is called LIFE+. It not only gives priority to the financing of Natura 2000, but also includes these sites in the distribution of the total LIFE+ money between EU Member States. Fifty-five percent of the proportional distribution is based on population and a substantial 45% of the proportional distribution is based on the Natura 2000 network². Thus, Member States that have a larger surface area of Natura 2000 sites, can obtain more money from Life+. While this is a big achievement, it does not signify that protected area funding in the EU is sufficient. The amount in question, as in most countries of the world, remains small: in effect only 0.2 % of the total EU budget is dedicated to LIFE+.

Sources:

1. http://ec.europa.eu/environment/nature/natura2000/financing/index_en.htm
2. LIFE+ Regulation (Article 6 – Programming and project selection): <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:149:0001:0016:EN:PDF>