Business and Biodiversity Offsets Programme (BBOP)

Biodiversity Offset Implementation Handbook






BBOP
Business and Biodiversity Offsets Programme

Forest Trends, Conservation International and the Wildlife Conservation Society provided the Secretariat for BBOP during the first phase of the programme's work (2004 - 2008).

Publication Data

Business and Biodiversity Offsets Programme (BBOP). 2009. *Biodiversity Offset Implementation Handbook*. BBOP, Washington, D.C.

Available from: **www.forest-trends.org/biodiversityoffsetprogram/guidelines/oih.pdf**

ISBN 978-1-932928-34-1 (PDF)

Cover and graphic design by Rima Design.

About this document

The Principles on Biodiversity Offsets and accompanying supporting materials[1] such as this Biodiversity Offset Implementation Handbook[2] have been prepared by the Business and Biodiversity Offsets Programme (BBOP) to help developers, conservation groups, communities, governments and financial institutions that wish to consider and develop best practice related to biodiversity offsets. They were developed by members of the BBOP Secretariat and Advisory Committee[3] during the first phase of the programme's work (2004 – 2008), and have benefited from contributions and suggestions from many of the 200 people who registered on the BBOP consultation site and numerous others who have joined us for discussions in meetings.

The Advisory Committee members support the Principles and commend the other working documents to readers as a source of interim guidance on which to draw when considering, designing and implementing biodiversity offsets. Best practice in biodiversity offsets is still in its infancy, and the concepts and methodologies presented here need to be further discussed, developed, tested and refined based on more practical experience and broad debate within society.

All those involved in BBOP are grateful to the companies who volunteered pilot projects in this first phase of our work and for the support of the donors listed overleaf, who have enabled the Secretariat and Advisory Committee to prepare these documents.

BBOP is embarking on the next phase of its work, during which we hope to collaborate with more individuals and organisations around the world, to test and develop these and other approaches to biodiversity offsets more widely geographically and in more industry sectors. BBOP is a collaborative programme, and we welcome your involvement. To learn more about the programme and how to get involved please:

See **www.forest-trends.org/biodiversityoffsetprogram/**

Contact: **bbop@forest-trends.org**

---

1 The BBOP Principles, interim guidance and resource documents, including a glossary, can be found at: www.forest-trends.org/biodiversityoffsetprogram/guidelines/. To assist readers, a selection of terms with an entry in the BBOP Glossary has been highlighted thus: BIODIVERSITY OFFSETS. Users of the Web or CD-ROM version of this document can move their cursors over a glossary term to see the definition.

2 This paper was prepared by prepared by Ray Victurine with Kerry ten Kate, based on initial work by Greg Love and with contributions by Paul Mitchell, Josh Bishop, Melissa Moye, Matthias von Bechtolsheim, Conrad Savy and Bambi Semroc.

3 The BBOP Advisory Committee currently comprises representatives from: Anglo American; Biodiversity Neutral Initiative; BirdLife International; Botanical Society of South Africa; Brazilian Biodiversity Fund (FUNBIO); Centre for Research-Information-Action for Development in Africa; City of Bainbridge Island, Washington; Conservation International; Department of Conservation New Zealand; Department of Sustainability & Environment, Government of Victoria, Australia; Ecoagriculture Partners; Fauna and Flora International; Forest Trends; Insight Investment; International Finance Corporation; International Institute of Environment and Development; IUCN, The International Union for the Conservation of Nature; KfW Bankengruppe; Ministry of Ecology, Energy, Sustainable Development, and Spatial Planning, France; Ministry of Housing, Spatial Planning and the Environment, The Netherlands; National Ecology Institute, Mexico; National Environmental Management Authority, Uganda; Newmont Mining Corporation; Private Agencies Collaborating Together (Pact); Rio Tinto; Royal Botanic Gardens, Kew; Shell International; Sherritt International Corporation; Sierra Gorda Biosphere Reserve, Mexico; Solid Energy, New Zealand; South African National Biodiversity Institute; Southern Rift Landowners Association, Kenya; The Nature Conservancy; Tulalip Tribes; United Nations Development Programme (Footprint Neutral Initiative); United States Fish and Wildlife Service; Wildlife Conservation Society; Wildlands, Inc.; WWF; Zoological Society of London; and the following independent consultants: Susie Brownlie; Jonathan Ekstrom; David Richards; Marc Stalmans; and Jo Treweek.

During Phase 1 of BBOP, the BBOP Secretariat was served by Forest Trends, Conservation International and the Wildlife Conservation Society.

We thank those organisations that have provided financial support for BBOP's work[4]: the Alcoa Foundation; Anglo American; City of Bainbridge Island, Washington, USA; Conservation International; Department for International Development, United Kingdom; Department of the Environment, Water, Heritage and the Arts, Australia; Forest Trends; International Finance Corporation; KfW Bankengruppe; Ministry of Housing, Spatial Planning and the Environment, The Netherlands; Newmont Mining Corporation; the Richard and Rhoda Goldman Fund; Rio Tinto; Shell International; Sherritt International Corporation; Solid Energy New Zealand; the Surdna Foundation; the United Nations Development Programme/Global Environment Facility; United States Agency for International Development[5]; and Wildlife Conservation Society.

4 Endorsement of some or all of the BBOP documents is not implied by financial support for BBOP's work.

5 This document is made possible in part by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of Forest Trends, Conservation International and the Wildlife Conservation Society and do not necessarily reflect the views of USAID or the United States Government.

Contents

The success of a biodiversity offset will depend on ensuring that an effective institutional and management structure is in place; that financial flows are sufficient; and that systems are in place to ensure that the offset objectives are achieved.

This Handbook assumes that the nature of offsetting activities and magnitude and location of the offset (in a single location, or as a COMPOSITE) have already been identified and the planner is now seeking to put in place the mechanisms for implementation, permanence and good GOVERNANCE. It offers a discussion of the potential roles and responsibilities of potential stakeholders, legal and institutional aspects of establishing an offset, and how an OFFSET MANAGEMENT PLAN can be developed. Then the Handbook suggests a number of ways in which a biodiversity offset can be financed over the long-term. First, it discusses ways in which to calculate the short and long-term costs of implementing the biodiversity offset, and explores long-term funding mechanisms, such as the establishment of CONSERVATION TRUST FUNDS, and development of non-fund options that explore a diverse array of revenue sources to achieve sustainability. The discussion then turns to how a biodiversity offset can be monitored and evaluated, and the final section helps the offset planner prepare to launch the implementation of the offset.

This Handbook is divided into three parts, each of which addresses the various components typically involved in implementing an offset. The first part includes an outline of some important components and issues to consider when planning how to implement an offset. This section may help the reader identify topics on which more information could be helpful. Further information on these issues can be found by clicking through hyperlinked text in this section. The second part presents a series of potential tools which an offset planner could review, use or adapt to plan certain aspects of how to implement an offset, including checklists and tables to capture the specific circumstances of the offset in which they are involved. Ultimately, the completed contents of such checklists and tables could help an offset planner establish the foundation for implementing the biodiversity offset. Finally, the third part of the Handbook provides more detailed information that supplements the outline in the first section, including references on key issues. Readers who prefer to print out the Handbook rather than using the click-through format with the hyperlinks will be able to read the third part.

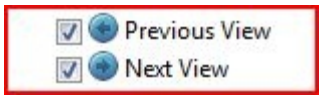
Table of contents

Using the 'click-through' feature in this PDF document

To use the click-through feature of this PDF document, please note the following:

You can click on text that is blue and underlined (hypertext) to navigate within and between sections (e.g. from summary text to detailed text). And then you can return to your original place. You can also click on links to access material on external websites.

To jump back to the hypertext link where you clicked from, check the 'Previous View' and 'Next View' arrows are showing on your toolbar. If they are not, go to the 'View' drop down menu at the top of your screen and select 'Toolbars.' Make sure the 'Web' or 'Navigation' toolbar is selected, or 'Customise' and pick:



Introduction

The Business and Biodiversity Offsets Programme

Biodiversity offsets are measurable CONSERVATION OUTCOMES resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development[6] after appropriate prevention and MITIGATION measures have been taken. The goal of biodiversity offsets is to achieve NO NET LOSS and preferably a NET GAIN of biodiversity on the ground with respect to species composition, HABITAT STRUCTURE, ECOSYSTEM FUNCTION and people's use and CULTURAL VALUES associated with biodiversity.

The Business and Biodiversity Offsets Programme (BBOP) is a partnership between companies, governments, conservation experts and financial institutions that aims to explore whether, in the right circumstances, biodiversity offsets can help achieve better and more cost effective conservation outcomes than normally occur in infrastructure development, while at the same time helping companies manage their risks, liabilities and costs. BBOP has been researching and developing best practice on biodiversity offsets and testing it through a portfolio of pilot projects in a range of contexts and industry sectors, aiming to demonstrate improved and additional conservation and business outcomes. BBOP's expectation is that biodiversity offsets will become a standard part of the development process when projects have a significant residual impact on biodiversity, resulting in long term and globally significant conservation outcomes.

The Principles on Biodiversity Offsets and accompanying supporting materials such as this Handbook on Biodiversity Offset Implementation have been prepared by BBOP to help developers, conservation groups, communities, governments and financial institutions that wish to consider and develop best practice biodiversity offsets. They were developed by members of the BBOP Secretariat and Advisory Committee during the first phase of the programme's work (from November 2004 – December 2008). They reflect discussion by members of the BBOP Advisory Committee, some practical experience through trials at the BBOP PILOT PROJECT sites, and have also benefited from contributions and suggestions from many of the people who registered on the BBOP consultation website and numerous others who have participated in workshops and meetings.

The principal guidance offered by BBOP on biodiversity offset design and implementation comes in the form of Principles on Biodiversity Offsets (see Box 1). To help apply these principles, three Handbooks and other documentation have been produced to offer helpful source material and guidance. These tools are intended to be both pragmatic and flexible, and provide a range of potential approaches to designing and implementing biodiversity offsets. However, there are many other ways to apply the principles, so the guidance offered here is purely optional and voluntary. The initial BBOP pilot projects are still working on the design of their biodiversity offsets and have not yet used this Handbook to plan their implementation. The options and guidance presented in this Handbook should be viewed as a 'work in progress', to be used with judgment, acknowledging their limitations. Once experience from the pilot projects has been captured and the implementation approaches have been adapted and more widely used in practice, it will be possible to revise and improve the guidance in this Handbook.

6 While biodiversity offsets are defined here in terms of specific development projects (such as a road or a mine), they could also be used to compensate for the broader effects of programmes and plans.

The Biodiversity Offset Design Handbook[7] offers a generic process from initial conception of a development project to the selection of offset sites and activities. This involves describing the project; exploring the policy context; engaging stakeholders; undertaking biodiversity surveys and applying the MITIGATION HIERARCHY; quantifying residual impacts; identifying and comparing POTENTIAL OFFSET SITES; calculating CONSERVATION GAINS for preferred offset sites; and deciding upon the final scope, scale, nature and location of offset. Information on a range of issues, approaches, methodologies and possible tools are offered from which offset planners can select the approaches best suited to their individual circumstances. The companion Cost-Benefit Handbook[8] is designed to be used in parallel with the Offset Design Handbook. It covers the identification and involvement in biodiversity offset design of communities affected either by the development project or by the biodiversity offset, or both. It is supplemented by the RESOURCE PAPER ON BIODIVERSITY OFFSETS AND STAKEHOLDER PARTICIPATION[9], which outlines current best practice on this topic.

Box 1: Principles on Biodiversity Offsets supported by the BBOP Advisory Committee

Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development[10] after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity.

These principles establish a framework for designing and implementing biodiversity offsets and verifying their success. Biodiversity offsets should be designed to comply with all relevant national and international law, and planned and implemented in accordance with the Convention on Biological Diversity and its ecosystem approach, as articulated in National Biodiversity Strategies and Action Plans.

1. ***No net loss:*** A biodiversity offset should be designed and implemented to achieve *in situ*, measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity.
2. ***Additional conservation outcomes:*** A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place. Offset design and implementation should avoid displacing activities harmful to biodiversity to other locations.
3. ***Adherence to the mitigation hierarchy:*** A biodiversity offset is a commitment to compensate for significant residual adverse impacts on biodiversity identified after appropriate avoidance, minimisation and on-site rehabilitation measures have been taken according to the mitigation hierarchy.
4. ***Limits to what can be offset:*** There are situations where residual impacts cannot be fully compensated for by a biodiversity offset because of the irreplaceability or vulnerability of the biodiversity affected.
5. ***Landscape context:*** A biodiversity offset should be designed and implemented in a landscape context to achieve the expected measurable conservation outcomes taking into account available information on the full range of biological, social and cultural values of biodiversity and supporting an ecosystem approach.
6. ***Stakeholder participation:*** In areas affected by the project and by the biodiversity offset, the effective participation of stakeholders should be ensured in decision-making about biodiversity offsets, including their evaluation, selection, design, implementation and monitoring.

7 Please see **www.forest-trends.org/biodiversityoffsetprogram/guidelines/odh.pdf**.

8 Please see **www.forest-trends.org/biodiversityoffsetprogram/guidelines/cbh.pdf**.

9 Please see **www.forest-trends.org/biodiversityoffsetprogram/guidelines/participation.pdf**.

10 While biodiversity offsets are defined here in terms of specific development projects (such as a road or a mine), they could also be used to compensate for the broader effects of programmes and plans.

7. ***Equity:*** A biodiversity offset should be designed and implemented in an equitable manner, which means the sharing among stakeholders of the rights and responsibilities, risks and rewards associated with a project and offset in a fair and balanced way, respecting legal and customary arrangements. Special consideration should be given to respecting both internationally and nationally recognised rights of indigenous peoples and local communities.
8. ***Long-term outcomes:*** The design and implementation of a biodiversity offset should be based on an adaptive management approach, incorporating monitoring and evaluation, with the objective of securing outcomes that last at least as long as the project's impacts and preferably in perpetuity.
9. ***Transparency:*** The design and implementation of a biodiversity offset, and communication of its results to the public, should be undertaken in a transparent and timely manner.
10. ***Science and traditional knowledge:*** The design and implementation of a biodiversity offset should be a documented process informed by sound science, including an appropriate consideration of traditional knowledge.

Purpose and scope of the Handbook

Once a biodiversity offset has been planned and most of the technical questions on its design answered, figuring out how to implement the offset becomes the next order of business and is the topic of this Biodiversity Offset Implementation Handbook. This Handbook assumes that the nature of offsetting activities and magnitude and location of the offset (in a single location, or as a composite) have already been identified and the planner is now seeking to put in place the mechanisms to ensure implementation, permanence and good governance. In other words, the preceding Biodiversity Offset Design Handbook – which answers the 'where?' and 'what?' questions and provides initial ideas on the 'who' and 'how' – should be used first. Thereafter, this Biodiversity Offset Implementation Handbook offers guidance on finalising the answers to the 'who?' and 'how?' questions. The contents of the three Handbooks are outlined in Figure 1 below.

The success of the biodiversity offset will depend on ensuring that an effective institutional structure is in place; that financial flows are sufficient; and that systems are in place to ensure that the offset objectives are achieved. The long-term time horizon of offsets requires consideration of establishing permanent mechanisms that may involve a diverse array of stakeholders. It is helpful to clarify and capture in agreements the rights and responsibilities of each party and the financial and management arrangements as part of the design for implementation. The Biodiversity Offset Implementation Handbook describes a set of issues that it may help an offset designer to consider: the 'what', the 'who', the 'how' (legal and institutional, financial) of implementing offsets.

A good way to plan the implementation of a biodiversity offset is to develop an 'Offset Management Plan'. Such a management plan could usefully answer the following questions:

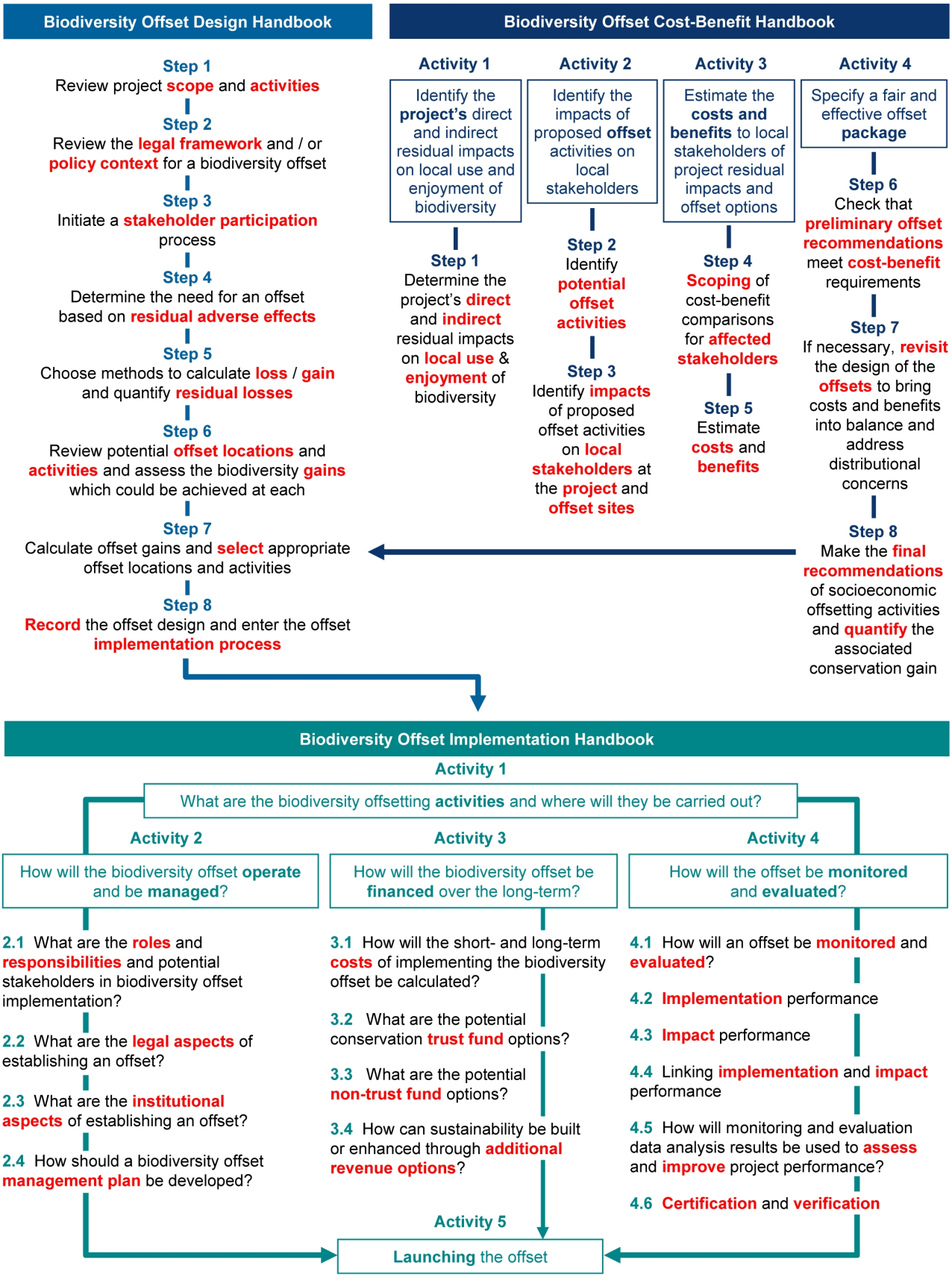
- What are the offsetting activities and where will they be carried out?
- How will the offset operate and be managed?
- How will the offset be financed over the long-term (legal, institutional and financial aspects)?
- How with the offset be monitored?
- What are the risk and ADAPTIVE MANAGEMENT considerations?

This Handbook is divided into three sections addressing the various components comprising the implementation of an offset. The first part includes an outline of some of the most important components and issues to be considered in implementing an offset. Further information on the issues concerned can be found by clicking through hyperlinked text in this section. The second part presents a series of potential tools to help OFFSET PLANNERS carry out certain implementation tasks, including checklists and tables they may choose to complete about the specific circumstances of the offset they are involved in. Ultimately, the completed contents of these checklists and tables could establish the FOUNDATION for the implementation of the biodiversity offset. Finally, the third part provides all the detailed information and guidance that supplements the outline in the first part, including references on key issues should additional information on the topics covered in the document be needed. Clicking on the link (e.g. 'more details') at the end of text paragraphs in the previous sections takes the reader to the third part for more detailed information. Readers who prefer to print out the Handbook rather than using the click-through format with the hyperlinks will only need Parts 2 and 3.

The various sections in the Biodiversity Offset Implementation Handbook do not necessarily need to be addressed in the sequential order in which they are presented. This Handbook simply details some pertinent issues that will likely need to be addressed when implementing an offset, though not necessarily in the order in which an offset planner would address them. Many of the issues, such as determining the institutional and legal aspects that will govern how an offset is to be managed and how it will be monitored, could be planned simultaneously.

The specific local and national context in which each offset is developed will ultimately determine which steps are advisable and when they can best be taken during the planning and implementation of an offset.

Figure 1: The scope of the Biodiversity Offset Design, Cost-Benefit and Implementation Handbooks



As noted above, the Biodiversity Offset Implementation Handbook describes a set of issues that it may help an offset designer to consider: the 'what', the 'who', the 'how' (legal and institutional, financial) of implementing offsets. As described in Box 2, many factors have a bearing on the success of the offset, and the prevailing circumstances will not always be ideal. The challenge in each situation for those planning the offset will be to navigate the practical realities and adapt the methods described in the BBOP Handbooks and other sources in a way that best allows the Principles on Biodiversity Offsets to be applied.

Box 2: Offsets in the 'real world' and critical success factors

Factors contributing to the success of offsets in delivering no net loss or a net gain of biodiversity include:

- Political support;
- A stable and predictable socioeconomic situation;
- Willing and supportive stakeholders;
- Adequate funds and time to devote to the design process;
- Reliability and accountability of GOVERNANCE and financing;
- Institutional capacity and resources for implementation and maintenance;
- Accessible and detailed information on affected biodiversity;
- Recently compiled spatial development or land use plans;
- Clearly defined biodiversity priorities;
- Human needs integrated into the natural landscape, and;
- Fair benefit-sharing and sustainability for local biodiversity users.

In reality, the circumstances in which biodiversity offsets are considered, designed and implemented may be less conducive than the ideal, in which all the success factors described above are demonstrably present and strong. There is no 'one size fits all' approach to designing and implementing biodiversity offsets. The challenge in each situation will be to navigate the practical realities and adapt the methods described in the BBOP Handbooks and other sources in a way that best allows the PRINCIPLES ON BIODIVERSITY OFFSETS to be applied. The Handbooks offer some guidance, but it will be up to offset planners to evaluate the specific context in which an offset is to be considered, designed and implemented, and to work with stakeholders to draw on that information and find solutions that would be most likely to work in practice.

Part 1: General Outline of Biodiversity Offset Implementation Issues

This part of the document provides an outline of the key thematic areas and issues that offset planners will have to address to implement offset activities. Additional guidance, references and tools can be found by clicking the hyperlinks in the text.

Activity 1: What are the offsetting activities and where will they be carried out?

The design of the offset, including which activities need to be undertaken and what the geographical boundaries of the offset will be, needs to be completed prior to initiating any of the implementation-related activities defined in the Biodiversity Offset Implementation Handbook.

KEY ISSUE: What are offset activities to be implemented and where will they be carried out?

Offset activities and boundaries should be determined through the use of appropriate and robust processes, such as those identified in the Biodiversity Offset Design Handbook. Whichever offset design process was followed, this should have identified the appropriate location of the offset, its boundaries, the offset activities to be undertaken there, and the specific outcomes (in terms of area and quality of biodiversity, and possibly species populations gains) that need to be achieved by the offset in order to achieve 'no net loss' (or a 'net gain') of biodiversity. In addition, the analysis should identify community-level issues to be addressed through offset implementation in order to ensure appropriate COMPENSATION of communities likely to be affected both by the development project and by the establishment of the offset. The community level issues are the subject of the Cost-Benefit Handbook (see **www.forest-trends.org/biodiversityoffsetprogram/guidelines/cbh.pdf**) and the Resource Paper on Biodiversity Offsets and Stakeholder Participation (see **www.forest-trends.org/biodiversityoffsetprogram/guidelines/participation.pdf**). All these issues are also covered in the BBOP Biodiversity Offset Design Handbook (see **www.forest-trends.org/biodiversityoffsetprogram/guidelines/odh.pdf**).

Guidance

- Illustrative example of Biodiversity Offset Design Summary from the Biodiversity Offset Design Handbook

Tool

- Template for Summary of Biodiversity Offset Design (derived from the BBOP Biodiversity Offset Design Handbook)

Activity 2: How will the offset operate and be managed?

This section explores three aspects of establishing an offset, including: (1) the various roles in operating and managing an offset and which stakeholders are best placed to assume those roles; (2) the legal framework within which the offset will operate and the legal instruments that are available to set up the offset; and (3) whether existing institutions can be used to run the offset, or a new institution needs to be created.

2.1 What are the roles and responsibilities and potential stakeholders in offset implementation?

There are several different roles involved in implementing a biodiversity offset. For each role, a number of different, potential players can be considered […more details]. Key issues to consider include:

KEY ISSUE: What are the different roles involved in offset implementation?

While there are various necessary roles that need to be assumed in the implementation of an offset, they generally fall into three broad categories:

- **Direction / oversight / management:** These roles define who is responsible for taking decisions on how the offset will be run and administered and who will carry out the day-to-day management and oversight activities. A developer needs to decide which entity or entities (local or indigenous communities, NGO, government agency, company, multi-stakeholder group) could legally govern the offset. Part of that decision process involves consideration of the permanence of the selected management approach;
- **Operational:** The operational role defines who will actually carry out the on the ground conservation activities, such as patrolling protected area boundaries, removing invasive species or working with local communities on offset implementation;
- **Monitoring:** A range of stakeholders[11] could be involved in developing INDICATORS and collecting and analysing the data necessary to determine whether the offset is achieving its stated objectives.

KEY ISSUE: Who are the potential stakeholders and which groups should be selected for each role?

It is important to define and engage the stakeholders whose involvement will be needed to ensure an offset is successfully implemented and to determine their appropriate role in the offsetting activities. By this stage of the process – preparing for offset implementation – an offset planner will already have spent considerable time working with a variety of stakeholders on the design of the biodiversity offset. Both the Biodiversity Offset Design Handbook and the Cost-Benefit Handbook discuss the identification and involvement of stakeholders: who is affected and how? How should they be involved in order to secure the long-term success of the offset? Work at this stage should build on this analysis and identify and decide upon the specific roles that stakeholders that could and should assume in the initial and long-term implementation of the offset. These stakeholders include:

- Government […more details]
- Developer […more details]

11 Stakeholders include persons or groups who own, hold rights over, use, manage or regulate the area affected by the development project and the offset area, those who could be directly or indirectly affected by the development project and offset activities and those whose involvement is needed to make the offset a success. Stakeholders can thus include indigenous peoples and local communities, local and central government authorities, NGOs and scientific institutes.

- NGOs […more details]
- Community groups or associations […more details]
- Donors […more details]
- Multi-stakeholder group […more details]

It is important to define the advantages and disadvantages of each possible player taking on a particular role, based on experiences, existing relationships and legal issues [see Table 2: Assessing advantages and disadvantages of different roles for stakeholders].

KEY ISSUE: How should the offset be governed?

Assessing the potential roles of various stakeholders as well as the advantages and disadvantages of PARTICIPATION will help a developer determine whether one or more stakeholders are needed to implement offset activities. Inclusion of many stakeholders in implementation activities must be weighed against creating an efficient and manageable project management structure. In some cases, it may be advisable to establish an advisory committee to provide specific scientific or technical advice to the governing body of the offset. Membership of such a committee could include the developer, government representatives, scientific representatives, NGOs and community representatives.

KEY ISSUE: How to handle attribution of offset gains to the developer if the offset is delivered through a partnership or there are other offset or conservation activities in the area?

In some cases, BIODIVERSITY CONSERVATION activities may be designed to go beyond offsetting one development project's impacts. In other cases, other developers and donors may contribute to the conservation activities that form part of the offset. For instance, a company may work in partnership with an NGO to implement a biodiversity offset, and the NGO may attract additional funding to expand its work in the area. Or a company may sell carbon credits from the offset area and use some or all of the income to finance the offset. In such cases, how can an individual developer determine which offset activities it is responsible for (through its own activities or by paying others to undertake the offset)? What share of the overall CONSERVATION OUTCOMES can the developer reasonably claim and how is that defined? The most practical solution to this apparent conundrum is for each developer to be able to communicate clearly the scale and nature of the conservation activities needed to offset its impact (see Step 8 of the Offset Design Handbook, for instance), and to be able to point to the Offset Workplan and associated budget that will implement these activities. In other words, the extent of the offset is clearly defined in agreements, memoranda of understanding or other documents that define roles and responsibilities among parties. The developer can then point to the specific activities for which it is responsible, and can explain (where this is the case) that its work therefore represents just a share (preferably quantified) of the overall offset activities. Similarly, if a developer obtains income from the offset area (through carbon credits, ECOTOURISM revenues, or other means), it would help to be transparent about this and give as much information as possible about the proportion of the overall costs of the offset that this represents and whether the revenues are being used to implement the offset. This could be accomplished by identifying sources of revenue, projecting the flow of that revenue to the offset over time, and monitoring actual versus projected income over time to ensure that sufficient funds are generated from project revenue sources. Agreements can establish mechanisms through which developers might cover revenue shortfalls to ensure that expenditures do not fall short of commitments.

As Governments begin to employ offsets, they may identify key sites for biodiversity conservation and require developers to offset their impacts by purchasing credits from these areas to ensure their conservation. Such

an approach may provide greater efficiency for companies, which can participate in the market for credits with clear rules of the game in place, and for government, which can achieve broader, landscape level conservation. This type of arrangement goes beyond simple, case by case voluntary offsets and does require some level of policy intervention. Few such systems are yet in place around the world (notable exceptions being the US and Australia), but their numbers are likely to grow as interest in offsets increases.

2.2 What are the legal aspects of establishing an offset?

The legal framework of the country where the offset is to be implemented will likely influence how an offset will be designed and implemented. Key issues to address in determining how an offset will be operated and managed include:

KEY ISSUE: What is the country's legal framework?

In the offset design process as defined in this Handbook, it is important to determine whether the legal system of the country in question requires a biodiversity offset in certain circumstances or facilitates or encourages biodiversity offsets in other circumstances [...more details]

KEY ISSUE: Will the offset be part of a protected area system or managed independently?

If the offset is to be part of a country's protected area system, existing laws on the status of protected areas may determine how the offset will be managed (see Conservation and protected area law below). However, if the offset is not going to be part of an official protected area system and will instead be managed independently, offset implementers need to determine legal avenues which may be available to ensure the viability and long-term conservation of the offset.

KEY ISSUE: What are the laws that will influence the implementation of biodiversity offsets and what are the available legal mechanisms to enable the offset to be managed independently?

As noted above, the existing legal framework of the country where the biodiversity offset will be implemented can have a significant bearing on how the offset is structured and implemented. In particular, key areas of law that are likely to shape the legal and institutional arrangements for the offset and the structure include:

- **NGOs, civil associations and FOUNDATIONS:** A country's laws on non-governmental organisations (NGOs), civil associations and foundations will determine whether these can be established, the rights and responsibilities of their officers and beneficiaries and the nature of activities they can undertake (e.g. owning land, entering into contracts) [...more details]
- **Trusts and CONSERVATION TRUST FUNDS:** Some countries will have laws allowing the creation of a trust. A trust can often be established as a tax-exempt organisation to support particular conservation activities in PERPETUITY. Trusts can own and manage land, and can serve as a key financial mechanism for financing offset implementation through creation of a conservation trust fund (CTF) [...more details]
- **Land law:** Land TENURE and land law are important considerations in offset design as they determine who owns which land, security of that ownership and 'in perpetuity' considerations, including the issue of ownership and management of indigenous or traditional lands, and possibly ownership and use rights over ECOSYSTEM SERVICES [...more details]
- **Conservation and protected area law:** While there are many alternatives, some biodiversity offsets may establish new protected areas (terrestrial or marine), buffer zones to existing protected areas, or increase the level of conservation work undertaken in existing protected areas [...more details]

- **Legal status and personality, and CONTRACT LAW:** As some biodiversity offsets operate through agreements with community members, the legal status and personality of local communities and their representative organisations can have a bearing on their ability to give their INFORMED CONSENT to certain activities, to take on responsibilities for offset activities and to enter into contracts […more details]
- **Rights of indigenous peoples and local communities:** Indigenous peoples and local communities may have rights that overlap but may go beyond issues of land tenure, legal personality and contract. These rights may be espoused in international, national and customary law and may influence their involvement in the design and implementation of biodiversity offsets. [….more details]
- **Other legal issues:** There may be other issues that affect the design of the offset or inhibit efforts to achieve NO NET LOSS. In exploring the above issues it will be important to assess any relevant environmental legislation that could impact on offset design and implementation, once the offset is identified and implementation designed. In developing offsets, there may be tensions and conflicts between the biodiversity based recommendations that offset planners make on the siting of the offset activities, and local political preferences. Ensuring a good understanding of the policy and political environment in which the offset will be developed will help to resolve some of the broader institutional issues and to minimise difficulties. Memoranda of Understanding and other legally binding agreements can be developed and signed by the parties to ensure a clear understanding of roles and responsibilities. These agreements can help guide the offset implementation and be useful in the case of any conflict arising among the parties.

KEY ISSUE: How is an offset maintained when there is a change in company ownership?

Where offsets are voluntary in nature, and not prescribed by law, legal arrangements will need to be developed to respond to a sale or transfer of ownership of the enterprise so that all company commitments and responsibilities for funding and managing the offset are transferred along with the ownership of the asset for which the offset was created. The legal options and approaches may differ by country but will need to ensure that offset agreements cannot be revoked by a new asset owner – that the offset is part of the conditions for operating the business in question and that the existence of the offset is disclosed at the point of sale. These legal arrangements must be enshrined in the original offset agreement and incorporated as part of any ownership transfer. Depending on the nature of the offset, and especially if it will be managed by a government agency, government may need to play a role as party to development of the agreements that assures the transfer of established responsibility for offset implementation.

2.3 What are the institutional aspects of establishing an offset?

Another issue for consideration is whether existing institutions can be used to manage the offset, or whether a new one needs to be created specifically for that purpose. Specific key issues to address include:

KEY ISSUE: Is there is an existing institution appropriate to house the governance and management structures of the biodiversity offset, and does it have the capacity to manage the offset?

Management of the offset will move more smoothly and quickly when existing institutions with conservation experience can be identified to play leading roles. The challenge involves identifying the institutions and clearly specifying their roles and responsibilities and determining whether those institutions truly have the capacity to provide or contract the desired level of management and oversight, and if not what will be required to build their capacity. […more details] [see Table 3: Determining capacity gaps for institutions involved in launching an offset].

KEY ISSUE: If no suitable institution exists to implement an offset, how will one be created?

In some cases, successful management of the offset may require the creation of new institutions, such as creating a local community association or NGO to implement various offset activities, or an organisation to manage an offset's endowment. Important legal and institutional issues to address when creating a new a new institution include:

- Understanding the legal context [...more details]
- Determining a realistic timeframe [...more details]
- Establishing appropriate oversight mechanisms [...more details]
- Attention to institutional issues: hiring and training staff; identifying outside technical assistance needs; and identifying non-staff training needs [...more details]

KEY ISSUE: What are the most important short-term capacity-building needs that should be addressed for an institution implementing an offset?

Adequate institutional capacity will be needed to ensure that whatever management system is put in place, it will work effectively [...more details]. Some of the most pertinent short-term issues that may have to be to be addressed, depending on the nature of the institution include:

- Board development [...more details]
- Investment and money management for the board [...more details]
- Grant making protocols and good practice [...more details]
- Programme implementation [...more details]
- Financial tracking [...more details]
- Fundraising [...more details]
- Monitoring, including the development of monitoring protocols [...more details]
- ADAPTIVE MANAGEMENT [...more details]

2.4 How should an Offset Management Plan be developed?

Developing an OFFSET MANAGEMENT PLAN is a key step in identifying required management resources and assigning responsibilities. The management plan can assist project managers in the, identification, organisation and implementation of the activities necessary to achieve the offset's biodiversity objectives.

KEY ISSUE: What components should an Offset Management Plan contain?

Key components that should be included in an Offset Management Plan include:

- Identification of an offset's management objectives [...more details]
- Identification of necessary activities and outputs to achieve management objectives [...more details]
- Identification of the requisite resources, or inputs, (funding, technical expertise, etc.) to carry out necessary activities and produce outputs [...more details]
- Identification of roles and responsibilities [...more details]
- Identification of assumptions and risks [...more details]

- Identification of how the offset will be monitored and adapted to changing conditions […more details]

For additional references on the following topics, click here

- Defining roles and responsibilities.
- Legal framework and offset design.
- NGOs, civil associations and foundations.
- Trusts and trust funds.
- Land law.
- Conservation and protected area law.
- Legal status and personality, and contract law.
- Management plans.

Potential tools

- Template for defining roles in offset implementation.
- Tool to guide decision-making on biodiversity offset design.
- Template for a Biodiversity Offset Management Plan.

Activity 3: How will the offset be financed over the long-term?

After determining the cost of implementing the offset, OFFSET PLANNERS need to determine where the financial resources to meet these costs will come from, and how they will be managed. The assessment of revenue options represents a key step in the completion of the Offset Management Plan. There are several ways in which to secure the long-term financing of a biodiversity offset. One approach is to create a fund that can be designed to provide consistent funding over a specific time period to implement offset management activities. Another is to use standard annual project financing. In some cases a combination of both approaches could be used. For some offsets, financial constraints may require that funds be supplemented by other revenue sources. In this case, offset planners will need to consider other financial mechanisms that could generate revenue in support of offsets. These include newly developing markets for ecosystem services, as well as fiscal policies that could result in additional financial support […more details]

For purposes of this document, the term 'conservation trust fund' refers to a private, legally independent grant-making institution that provides sustainable financing for biodiversity conservation. Conservation trust funds are excellent vehicles for the provision of long-term financing for land management in general, and for conservation areas specifically and therefore can play a key role in financing the management of biodiversity offsets. In many countries conservation trust funds already play a key role in financing conservation areas; many have a mission to finance a part of the long-term management costs of a country's protected area (PA) system, with some focusing on specific sites and geographic areas[12]. Developers can thus draw on a wealth of experience in designing and structuring conservation trust funds and apply this for the financing of offsets. A conservation trust fund can manage endowment, sinking and / or REVOLVING FUNDS, each of which are described below. In a conservation trust fund model, the fund would finance all or part of the cost of implementing and managing the biodiversity offset. Non-trust fund options, or funds that combine smaller endowments with other financial mechanisms, could also be developed to finance an offset. In determining

12 Conservation Finance Alliance 2008: Rapid Review of Conservation Trust Funds.

whether or not a conservation trust fund mechanism is appropriate to support the long-term implementation of an offset, the key issues raised in the following sections need to be addressed.

KEY ISSUE: What are the different fund options that should be considered?

Developers can consider a variety of fund options to provide long-term support for offset activities. The choice of the fund option is tied closely to the choice of the institutional mechanism chosen for the management of the offset. Fund types that might be considered include:

- ENDOWMENTS [...more details]
- SINKING FUNDS [...more details]
- REVOLVING (RECURRENT) FUNDS [...more details]
- A combination of the above options [...more details]

3.1 How will short- and long-term costs of implementing the offset be calculated?

In order to calculate the amount of finance needed to cover both short- and long-term costs of implementing the offset and thus to determine the most appropriate kind of financial instrument for the offset, the first step is to itemise the activities and estimate the cost of undertaking them and then consider potential cost increases and inflation. The Offset Management Plan defined in Section 2.4 should identify these items, which fall under three broad cost headings:

- Programme costs: these are the costs associated with undertaking the offset activities themselves.
- Operating costs: these are the costs associated with administering and managing the offset, perhaps through a TRUST FUND, or through some other mechanism, as discussed in this section.
- MONITORING AND EVALUATION (M&E) costs: these are the costs of checking whether the offset is achieving its objectives. M&E are described in Section 4.
- Future costs: planners should take into account potential increases in costs (e.g. fuel) and inflation and assess risk factors that will lead to unanticipated expenditures to ensure that sufficient funds are available in the future to manage the offset.

The offset planner should estimate all the costs of implementing the offset under each of these three headings, including any short-term start-up costs such as setting up a new institution to manage an offset [...more details]

3.2 What are the potential long-term funding options?

Successful biodiversity offsets will generally require the creation of a long-term funding mechanism to guarantee their permanence and sustainability. CONSERVATION TRUST FUNDS (CTFs) (sometimes known as environmental trust funds or trust funds) have become increasingly popular as mechanisms to secure long-term support for conservation projects, from the local to national level [...more details]. In determining whether or not a CTF mechanism is appropriate to support the long-term implementation of a biodiversity offset, the following key issues need to be addressed:

KEY ISSUE: What activities do conservation trust funds typically support?

CTFs can support a number of conservation activities, but they have typically focused on three areas: protected area management, community economic development, and applied research. Support can be provided in many ways. A CTF can directly finance operations of an offset; it can provide direct payments to support management, or it can provide support through grant funding, especially for community-level programmes. In some cases community economic development programs benefit from loan financing provided by a CTF […more details]

KEY ISSUE: Is a CTF appropriate for the biodiversity offset?

A CTF is an appropriate vehicle for some biodiversity offsets, but not for others. There are many factors that determine the appropriateness of a CTF, including the institutional or legal framework of the country, transparency and GOVERNANCE issues, or the size of the proposed biodiversity offset […more details]. Key issues to address include:

- OPPORTUNITY COST […more details]
- Timeframe of the project […more details]
- Critical mass of support from the Government and other sectors […more details]
- Supporting legal and financial institutions […more details]
- Sufficient initial capitalisation or development of an effective capitalisation plan […more details]
- Sound financial management that can cope with external events such as market downturns […more details]

Potential constraints related to the establishment of CTFs include:

- Creation of 'paper' funds, i.e. legally created funds, but with limited money which inhibits an ability to support intended conservation activities over appropriate timeframes;
- Slow disbursement of funds needed for conservation activities due to poorly managed grant-making or excessive board control;
- Low or unpredictable investment returns, especially in the short term, if there is no well-conceived and executed investment strategy;
- No clear focus for making grants, if criteria are not clearly set forth at the outset in the fund's legal documents or if the effective planning processes are not in place;
- Potentially high administrative expenses, especially if the fund's capital is relatively small relative to the number of employees and operating expenses, or if the fund provides a great deal of technical assistance to grantees; and
- Poor investment decisions, lax oversight by the Board, limited accountability, or a downturn in markets could limit the amount of funding available to finance offset management and offset management in jeopardy.

KEY ISSUE: What common features should all conservation trust funds have?

While a CTF can be structured and run in a number of different ways, there are certain common features of every well-run conservation trust fund […more details]

KEY ISSUE: What are the advantages and disadvantages of conservation trust funds?

Experience with trust funds has revealed a number of advantages and disadvantages that need to be considered when deciding whether a fund or non-fund option is better for the long-term support of a biodiversity offset […more details]

KEY ISSUE: What are the steps involved in establishing a conservation trust fund?

The establishment of a CTF may involve a long and expensive preparation period. While each legal and institutional context will ultimately determine how a trust fund is established, there are a number of steps that all funds typically share, including:

- Defining the purpose of the CTF […more details]
- Securing the support of stakeholders, including national and local governments in the development of the trust fund […more details]
- Creation of a board of directors or trustees […more details]
- Drafting of legal statutes or ARTICLES OF INCORPORATION and requisite by-laws […more details]
- Legal registration of the trust fund […more details]
- Government recognition of 'public benefit' and / or tax-exempt status of trust […more details]
- Developing an investment policy, identifying an asset manager, and establishing financial responsibilities and level of risk […more details]
- Acquiring the fund capital […more details]
- Securing adequate funding for both start-up costs and long-term activities […more details]
- Deciding where the investment account will be based and deposit of the initial capital of the fund […more details]
- Developing operational procedures and manuals for the directors, trustees and staff involved in administering the trust fund [….more details]

KEY ISSUE: How should a conservation trust fund be governed?

Regardless of which type of fund mechanism is chosen, a trust fund needs a governing structure that allows it to manage funds effectively and transparently for the purposes intended. An effective governance structure generally includes a board of directors (or trustees) with representation by relevant stakeholders, including representatives of people affected in some way by the project or the offset […more details] [see Table 2: Assessing advantages and disadvantages of different roles for stakeholders]

3.3 What are the potential non-conservation trust fund options?

Establishing a conservation trust fund mechanism may not be, under certain circumstances, the best or most feasible option to finance an offset. In some cases, non-fund options, such as standard project-based financing, may be preferable […more details]. Key issues to consider in determining non-trust fund options include:

KEY ISSUE: If a conservation trust fund is not appropriate for the offset, or is not possible to create due to financial constraints, what are alternative funding options?

Section 3.1 detailed some of the circumstances that may make a conservation trust fund not appropriate for an offset. In these cases, non-fund options should be explored, perhaps supplemented by the potential market-based options that appear in Section 3.4, as well as traditional project financing. In the case of small projects that may not have the capital to establish a fully-endowed fund, efforts could focus on tapping a number of non-fund sources, as well as those detailed in Section 3.4, potentially in strategic partnerships with NGOs, government and the donor sector [...more details].

3.4 How can sustainability be built or enhanced through alternative revenue options?

A key consideration for offset planners is that successful offset implementation will require the development of a revenue generating strategy that can ensure long-term offset financing. Ideally, the project developer will provide sufficient funds to create a funding mechanism, such as a conservation trust fund (CTF), which can generate the long-term revenues needed to support offset activities. However, the 'ideal' situation may not materialise [...more details]. The challenge will be to develop a mechanism or mechanisms that can ensure a cash flow over a long period of time to ensure adequate funding. Key issues to consider in identifying alternative revenue options include:

KEY ISSUE: What are the potential sources of revenue that can be developed?

A variety of potential revenue sources may be available to sustainably finance offset implementation in addition to funding from the project developer. Potential options include:

- PAYMENTS FOR ECOSYSTEM SERVICES (PES) [...more details]
- ECOTOURISM [...more details]
- SMALL BIODIVERSITY BASED ENTERPRISES (e.g. sales of non-timber forest products) [...more details]
- AGROFORESTRY / improved natural resource management [...more details]

In addition to project-based revenue options, a number of policy measures can be used to generate revenue for conservation projects and funding mechanisms such as CTFs. However, policy options usually require intervention by government, whose interest or goals may be larger in scale than a single biodiversity offset, or even a national system of biodiversity offsets [...more details].

For additional references on the following topics, click here

- Trusts and trust funds.
- Payments for ecosystem services.
- Small biodiversity based enterprise.
- Agroforestry / improved natural resource management.

Potential tools

- Calculating the amount of capitalisation needed for a fund
- Template for defining financial arrangements in offset implementation

Activity 4: How will the offset be monitored and evaluated?

BIODIVERSITY CONSERVATION projects are designed in the hope that project interventions will lead to conservation of key components of biodiversity. Monitoring and evaluation (M&E) are the primary mechanisms to assess whether a project is meeting its targets over various spatial and temporal scales. Monitoring and evaluation should be considered a key component of offset implementation and receive adequate attention in the offset budgeting process.

Unlike biodiversity assessments, which often have a broad scope, or BASELINE STUDIES, which establish absolute biodiversity values at one specific point in time, an M&E plan should focus on success criteria for the biodiversity offset. At least one criterion of success for the offset will be whether the offset is generating conservation outcomes that result in NO NET LOSS of biodiversity. Other criteria may relate to whether the stakeholders involved in the offset are satisfied with its outcomes. The M&E plan should form an important part of the overall Offset Management Plan, but raises some specific issues, so is treated separately in this section [...more details].

4.1 How will the offset be monitored and evaluated?

Accepted guidelines on BEST PRACTICE for monitoring and evaluation of biodiversity projects are available, just as for any other type of Key Performance Indicator a company may be interested in. According to the World Bank's1998 *Guidelines for Monitoring and Evaluation for Biodiversity Projects*, M&E plans are "a detailed program of work which defines what monitoring activities will take place, when and by whom, and how that information will feed back into management decisions." Key issues that should be considered when developing the M&E plan for a biodiversity offset include:

KEY ISSUE: What will be monitored?

Ideally, a project should be monitored at two levels: implementation performance and impact performance [...more details]

4.2 Implementation performance

Implementation of an offset requires organisation and mobilisation of various inputs, such as funding and technical expertise, to produce the activities and outputs that will be needed to achieve the biodiversity objectives. As resources for a project are finite, it is necessary to monitor how they are being used not only to ensure the offset's objectives are being met, but also to ensure the resources are being used as efficiently as possible. Monitoring can help a project manager improve project design; plan how resources will be used; supervise how resources are being deployed; evaluate implementation performance; and ensure quality management (World Bank 1998).

KEY ISSUE: What will be monitored in implementation performance?

One approach to monitoring a project's implementation performance is to assess three different components:

- Inputs (funding, technical expertise, staff time, etc) [...more details]
- Activities (training, data collection, patrolling, etc) [...more details]
- Outputs (which will be produced from project activities, such as a fully trained community patrol group, or biodiversity monitoring report) [...more details]

For all three components, it is important that the assumptions on which each is based are made explicit, as well as the potential risks that could prevent it from being fully carried out [...more details].

4.3 Impact performance

Impact performance monitoring is one of the most critical aspects in offset implementation. The data collected here will be used to determine if a project has achieved no net loss. There are several key stages to follow.

A well designed offset will have noted the KEY BIODIVERSITY COMPONENTS of interest through effective use of the Key Biodiversity Components Matrix. This matrix should be used to guide the selection of impact performance indicators. How can these aspects of biodiversity offset Design – such as the Key Biodiversity Components Matrix and BENCHMARK ATTRIBUTES – be developed into indicators to measure an offset's impact performance? The Biodiversity Offset Design Handbook describes how to develop benchmark attributes, and these are a form of biodiversity indicator. The attributes could thus form a part of the offset's monitoring system, as they will help project managers measure whether or not their activities are having the intended impact [...more details].

A biodiversity indicator framework is offered as guidance for the creation of implementation performance indicators. In addition the handbook discusses how offset planners can select and apply criteria to identify 'important' biodiversity or 'key biodiversity components' (see Offset Design Handbook Step 4), and methods and metrics to demonstrate that 'no net loss' will be achieved through the biodiversity offset (Step 5). These can help to develop impact performance indicators [...more details].

4.4 Linking implementation and impact performance

Perhaps the biggest challenge a project manager faces is ensuring that a project's implementation performance has the intended affect on impact performance. In other words, a project manager may be taking the right steps, but is the project getting the right results? [...more details]. A number of methodologies have been developed for monitoring implementation performance, and linking this to ultimate impact performance. A common methodology used by bi- and multi-lateral institutions (such as USAID and the World Bank) and some NGOs is the LOGICAL FRAMEWORK APPROACH (LFA) [...more details]

4.5 How will monitoring and evaluation data analysis results be used to assess and improve project performance?

Many conservation projects collect large amounts of data, but too few undertake the necessary follow up analysis or communicate the results. Once data are collected and analysed, the results should be used to assess project performance and, where necessary, make appropriate changes to ensure offset goals are being achieved [...more details]. One potential methodology to help project managers use M&E results to continually improve project performance and report results is adaptive management [...more details].

KEY ISSUE: What are the advantages and disadvantages of adopting an adaptive management approach?

Adopting an adaptive management approach in the implementation of offsetting activities offers a number of advantages. Adaptive management allows managers to:

- Test assumptions by systematically trying different actions to achieve a desired outcome. [...more details]

- Take actions based on the results of monitoring that improve offset implementation performance and reach stated goals […more details]
- Learn from past experiences by systematically documenting the process and the results achieved and ensuring past mistakes are not repeated […more details]

Potential disadvantages of adaptive management include […more details]:

- Time and resource requirements may be excessive.
- Allowing too great a change in direction may weaken the offset's ability to achieve its core conservation objectives.

KEY ISSUE: When should adaptive management be applied to a project?

ADAPTIVE MANAGEMENT may not always be relevant. Here are a number of project characteristics that indicate whether this approach should be pursued […more details]:

- Complexity.
- External conditions are changing rapidly / unpredictably.
- The need to assess and plan for risk.
- There are major gaps in biodiversity information.
- Opportunities to learn and improve have been identified.

KEY ISSUE: What are the principal steps in establishing an adaptive management framework?

The principal steps in establishing an adaptive management framework for a project are:

- Establishing the purpose of the management framework […more details]
- Designing a system model, including risk assessment (e.g. what are some of the key implementation issues and concerns; what is the likelihood that these would arise) […more details]
- Developing a management plan […more details]
- Developing a monitoring programme to test assumptions […more details]
- Implementing management plan and monitoring programme […more details]
- Analysing data and communicating results to key audiences […more details]
- Using results to adapt and learn (linking monitoring data to management decisions and approaches) […more details]

4.6 Certification and verification

The BUSINESS CASE for voluntary offsets is generally linked to license to operate and reputational advantages. Such advantages may not materialise if a company simply asserts its own success with an offset, and there is no trustworthy arbiter to determine or report on whether the offset is achieving its stated goals. A developer may thus choose to involve an independent organisation, or group of stakeholders, in verifying the outcomes of the offset […more details]

For additional references on the following topics, click here

- Developing M&E systems.
- Biodiversity survey methods.
- Logical framework approach.
- Adaptive management.
- Risk assessment.

Potential tools

- See the Biodiversity Offset Design Handbook, particularly Steps 4 and 5, and its Appendix (Appendix C.1) and the Letabeng Worked Example Appendix (see **www.forest-trends.org/biodiversityoffsetprogram/guidelines/example.pdf**). Methods described there to identify key biodiversity components and METRICS for calculating loss and gain of biodiversity may help develop INDICATORS for monitoring and evaluating the success of the biodiversity offset.

Activity 5: Launching the offset

The guidance, references and tools provided in this Handbook provide the basic information a developer will need to implement a biodiversity offset, after its design is complete. A broad range of topics have been tackled, from identifying the roles and responsibilities of the main actors, to determining the appropriate legal, institutional and financial mechanisms for the offset, as well as monitoring, enforcement and adaptive management. However, once the main decisions on each of these topics have been made and the Offset Management Plan completed, it is advisable to check that all the relevant arrangements are in place and the people responsible for them ready to take them on. This step involves running through a checklist to make sure that it will be possible to launch the offset activities (see Table 6: Summary Checklist for Offset Implementation).

Part 2: Tool Section: Defining How Your Biodiversity Offset will be Implemented

This section offers one set of tools to help offset designers as they think about how to apply the information contained in the earlier sections to their own circumstances, and capture the key features of how their offset will be implemented.

Outline of Tools

1 What are the offsetting activities and where will they be carried out?

Template for Summary of Biodiversity Offset Design (derived from the BBOP Biodiversity Offset Design Handbook)

2 How will the offset operate and be managed?

Template for Defining Roles in Offset Implementation

Tool to Guide Decision-making on Offset Design

Template for a Biodiversity Offset Management Plan

3. How will the offset be financed over the long-term?

Example 1: Using annual payments to create an endowment

Example 2: Capitalisation based on a sinking fund

Template for defining financial arrangements in offset implementation

Worked example, with scenarios, for defining the budget of a biodiversity offset

Activity 1: What are the offsetting activities and where will they be carried out?

Template for Summary of Biodiversity Offset Design (derived from the BBOP Biodiversity Offset Design Handbook)

Biodiversity Offset Design: Summary Template										
OBJECTIVE	[Enter here a short narrative listing the goals of the offset, as defined using the Offset Design Handbook:] • Goal of offset • Brief description of key elements of the offset, including some key biodiversity components to be conserved • Location and identity of offset site(s) • Summary of nature of offsetting activities • Whether some or all of the offset is in kind or whether it involves trading up • Summary of the proposed partners and stakeholders who will be involved in implementation • Summary of the legal and institutional arrangements needed to implement the offset									
DESIRED OUTCOMES FOR EACH COMPONENT OF THE BIODIVERSITY OFFSET	**OFFSET ACTIVITIES AND LOCATION**			**OFFSET GAINS**			**IMPLEMENTATION ISSUES PREVIEWED**			
	ACTIVITIES Describe the precise activities through which the conservation status of the biodiversity at the offset site will be improved. And/or describe the precise activities through which local communities affected by the project and offset will be compensated.	**LOCATION** In addition to identifying the area concerned (for instance, by reference to a map and giving the area in hectares), describe whether this location makes a contribution to landscape-level planning.	**RATIONALE** Describe the basis for the decisions on biodiversity offset activities and location.	**IN KIND OR OUT OF KIND** If traded up, describe the higher conservation priority ecosystem where the offset will take place.	**PRINCIPAL BIODIVERSITY COMPONENTS CONSERVED** Describe the key biodiversity components (at the species, community / habitat and whole landscape / ecosystem level).	**PREDICTED GAINS** Record the predicted gains in biodiversity at the offset sites in habitat hectares, including habitat hectares for specific, non-tradable attributes.	**REQUIREMENTS / BUDGET** This will be properly assessed in the Offset Implementation Handbook, but outline any early indications on budgetary requirements here	**HUMAN & INSTITUTIONAL RESOURCES NEEDED** This will be properly assessed in the Offset Implementation Handbook, but outline any early indications on staff, institutional and training needs to implement the offset.	**REQUIREMENTS / EQUIPMENT** This will be properly assessed in the Offset Implementation Handbook, but outline any early indications on equipment needs (eg cars, computers, fences, etc) for implementing the offset.	**REQUIREMENTS / PROFESSIONAL ADVICE** This will be properly assessed in the Offset Implementation Handbook, but outline any early indications on needs for professional advice (eg lawyers, accountants, financial advisers).
COMPONENT 1:										
COMPONENT 2:										
COMPONENT 3:										
COMPONENT 4:										

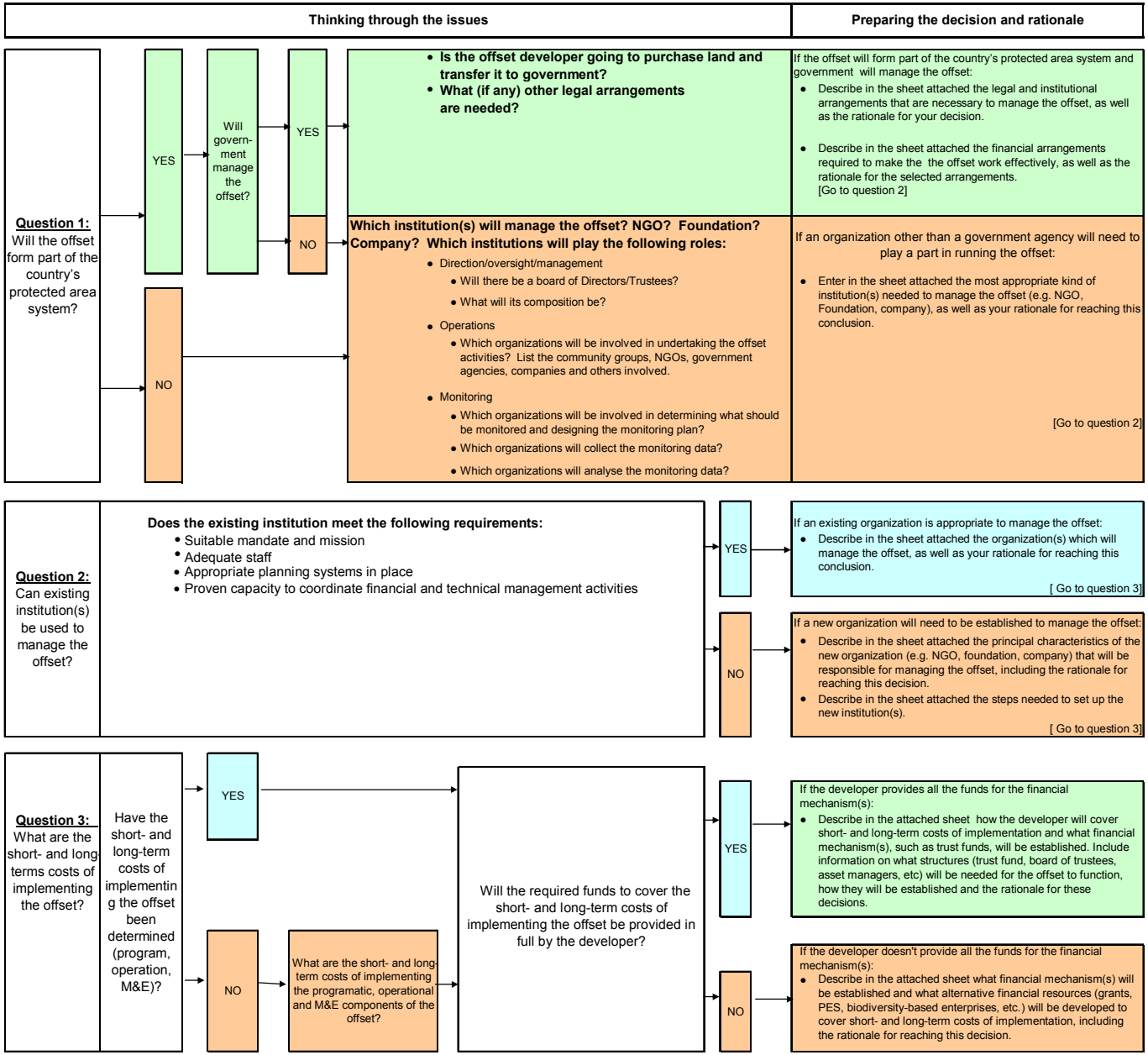
Activity 2: How will the offset operate and be managed?

Template for defining roles in offset implementation

Defining Roles in Offset Implementation – Direction/Oversight/Management/Operations/Monitoring - and associated Financial Arrangements.		
QUESTION	**ANSWER**	**RATIONALE** (How and why did you reach the decisions described in the column to the left?)
Direction / oversight / management		
Who will responsible for taking decisions on running the offset?		
If the board of trustees/board of directors of the offset is to be a multistakeholder body, please list the institutional affiliation of each of the members.		
Who will carry out day-to-day management and administrative activities related to implementing the offset?		
Can existing institutions be used to manage the offset, or is it necessary to set up one or more new institutions?		
If existing institutions can be used, describe them here and confirm that the institutions have suitable capacity, adequate staff, appropriate planning systems in place, and proven capacity to coordinate financial and technical management activities.		
If a new institution (or new institutions) are needed, describe the principal characteristics of the new organization (eg NGO, Foundation, Company) that will be responsible for managing the offset, including the rationale for reaching this decision. Also, describe the steps needed to set up the new institution(s).		
Who will carry out the financial management? (NB this could be outsourced to a third party.) Describe your rationale for reaching these decisions.		
Operational		
Who will carry out the on-the-ground conservation activities, eg strip out the invasive aliens, increase patrolling of protected area etc?		
Is the answer the same for all components of the offset, or are different solutions needed for different components of the offset? If so, please describe who is responsible for undertaking the conservation work for each component.		
Monitoring		
Who will carry out the on-the-ground monitoring activities to see whether the biodiversity offset has achieved no net loss?		
Is the answer the same for all components of the offset, or will different organisations/individuals be responsible for monitoring different components of the offset? If so, please describe who is responsible for undertaking monitoring each component of the offset.		
Is there provision for first, second or third party verification?		

Tool to guide decision-making on institutional arrangements for the offset

Tool Guiding Decisions on the Institutional arrangements for the offset



Template for a Biodiversity Offset Management Plan

Biodiversity Offset Management Plan

OBJECTIVE	[Enter here a short narrative listing the goals of the offset, as defined using the Offset Design Handbook:] • Goal of offset • Brief description of key elements of the offset, including some key biodiversity components to be conserved • Location and identity of offset site(s) • Summary of nature of offsetting activities • Whether some or all of the offset is in kind or whether it involves trading up • Summary of the proposed partners and stakeholders who will be involved in implementation • Summary of the legal and institutional arrangements needed to implement the offset

DESIRED OUTCOMES FOR EACH COMPONENT OF THE BIODIVERSITY OFFSET	**OFFSET ACTIVITIES AND LOCATION**			**OFFSET**			**IMPLEMENTATION ISSUES PREVIEWED**				
	ACTIVITIES	**LOCATION**	**ROLES AND RESPONS-IBILITIES**	**DESCRIPTION OF PLANNED OFFSET GAINS**	**RISKS, ASSUMPTIONS AND HOW MANAGED**	**INDICATORS**	**REQUIREMENTS / BUDGET PER ANNUM**	**HUMAN & INSTITUTIONAL RESOURCES NEEDED**	**REQUIREMENTS / EQUIPMENT**	**REQUIREMENTS / PROFESSIONAL ADVICE**	**RATIONALE**
	Describe the precise activities through which the conservation status of the biodiversity at the offset site will be improved. And/or describe the precise activities through which local communities affected by the project and offset will be compensated.	Identifying the area concerned by reference to a map. Give the area in hectares. Describe whether this location makes a contribution to landscape-level planning.	Which organizations will be involved in undertaking the offset activities? List in this column the specific community groups, NGOs, government agencies, companies and others involved.	Describe whether the offset is in kind or traded up, principal biodiversity components conserved, predicted gains in habitat hectares.	What are the assumptions made in this management plan? What are the risks of failure? How are they to be addressed?	How to tell whether the offset is succeeding and on-track? What are the indicators of success?	Define the costs of implementing each component of the offset, per annum. Use this to calculate the long-term budget, including capitalisation of a trust fund, where appropriate.	Identify the human resources, institutional resources, training needed to implement each component of the offset.	List the equipment (computers, cars, fences, etc) needed to implement each component of the offset.	Record the likely professional advice needed for each component of the offset.	Summarise the rationale for the choices made.
PROGRAM ACTIVITIES											
COMPONENT 1:											
COMPONENT 2:											
COMPONENT 3:											
COMPONENT 4:											
OPERATING ACTIVITIES											
MANAGING THE OFFSET:	Board of Directors/Trustees Staff of Secretariat Professional advisers (eg lawyers, accountants, financiers) Other										
MONITORING AND EVALUATION ACTIVITIES											
MONITORING AND EVALUATING THE OFFSET:	Who will decide what to monitor? Who will collect data? Who will analyse data?										

Activity 3: How will the offset be financed over the long-term?

Calculating the amount of capitalisation needed for a Conservation Trust Fund

Although a TRUST FUND is not the only financial mechanism available for the financing of a biodiversity offset, development of a permanent or long-term fund will provide the necessary assurances that at least a core level of funding will be available to protect the target biodiversity in the long term.

When establishing a fund to support long-term offset management developers need to think about a series of options and develop an appropriate strategy:

- Set the capital goal: How big should the capital fund be in order to generate the amount of money needed to implement the offset on an annual basis? Will the developer be responsible for the entire capital amount, or a percentage?
- Determine a strategy to meet the capital goal: What are the options available? Is a large up-front lump sum payment possible? Will the funds be paid annually based on resource recovery? What kind of mechanisms can be employed to capitalise the fund?
- Analyse the amount of capital available: Can the long-term goal be reached with the resources available now? If not, what are possible alternatives?
- Calculate risk tolerance: What is the expected net return over time? What is the spending rule that might be adopted? Be sure to account for inflation.
- Determine risk factors that could affect the availability of funds and how these risks will be managed.
- Explore feasible alternative options to meet long-term funding goals.

The following examples represent some of the options that offset developers and managers could employ to ensure long-term programme financing. The list is not meant to be exhaustive, but indicative of the types of arrangements available to offset managers. However, they demonstrate that the developer may take a variety of paths to create a long-term financing mechanism. The choice of options will depend on characteristics of the site, the scale of the offset, the level of responsibility of the developer, and other site and regionally specific attributes.

Using annual payments to create an endowment

A developer may decide to make an annual payment from the cash flow resulting from resource recovery to cover the cost of offset management over the life of the project. Over the life of a project, that span could cover a considerable amount of time. The long time period for payments creates an opportunity to develop an endowment that could continue funding offset management long after the annual payments cease to exist. This is achieved by increasing the amount of the annual payment by a certain amount or percentage above the established amount for offset operations and investing those funds over the life of the project. In other words, the developer would pay a certain amount for the offset management and would increase it by an amount necessary to create a viable endowed fund by the end of the project life. Through this process the developer creates an endowment and guarantees the management of biodiversity in PERPETUITY, with less initial capital. The legal mechanisms to ensure the annual payments must be created. To calculate the additional payment the following information is required:

- The amount of capital required for the endowment;

- The expected rate of interest that can be earned;
- The anticipated inflation and foreign exchange risks; and
- The length of payments (life of the project).

The following is an example to explain how to calculate the additional payment that would be required:

Example 1: Using annual payments to create an endowment

A. Offset A requires approximately US$500,000 per year to operate. The amount includes its annual administrative costs as well as the funds needed each year in grants to cover management and support community projects. The developer has agreed to pay this amount annually over 30 years, but also wants to top up the amount to create an endowment at the end of that 30 year period.

Assuming a very conservative 5% net return, a minimum US$10 million endowment would be required. To ensure long-term stability, the developer agrees to make payments to create a US$12 million endowment over a 30 year period.

Using an Excel spreadsheet, the additional amount of payment could be calculated by using the payment function. To do this, go to Excel and insert function: PMT

The formula is PMT (Rate,Nper,PV,FV,Type), where:

Rate is the interest (0.05)

Nper is the number of periods (30 years)

FV is the future value (US$12 million)

Type is 0 to indicate payment at the end of the year

The Excel calculation looks like this:

Rate	Nper	PV	FV	Type
0.05	30		12,000,000	0

=PMT(A2,B2,,D2,E2) US$180,617.22

The developer would therefore have to add an additional US$180,000 each year to the payment of US$500,000, or a total of US$680,000 to meet the objective of establishing an adequately funded endowment for long-term management of the offset.

B. If the developer agreed to complete the establishment of the endowment over ten years rather than thirty – instead of $180,000 in additional payments the developer would need to pay almost an additional $1 million annually, or a total of $1.5 million per year to have an endowment established by year 10 while ensuring all costs are met in the meantime.

Sinking funds

Sometimes a developer may provide a lump sum payment with the expectation that the fund will be drawn down over a determined number of years, for example a period of 15 year or the period over which the enterprise is operating. This type of arrangement is called a SINKING FUND. At the end of the period the

expectation is that the fund would cease to exist, with all funds expended. Creation of a sinking fund includes an assumption that the lump sum remains invested over the life of the project (the term or time period of the sinking fund). Each year the fund will draw down a specific amount to cover programme costs while keeping the balance invested in the hope that it increases the capital base of the fund. As a result, the fund balance decreases each year at rate determined by the difference between rate of return on investment and the running costs of the programme. In years of good returns, the balance in the fund will decrease at a much slower rate than if returns are poor. The important point for managers is to manage for average returns. Years of high returns should not necessarily lead to increased programme spending. Investing those higher returns back into the fund can cushion shocks from any market losses in difficult years.

Example 2: Capitalisation based on a sinking fund

An example will demonstrate how the capitalisation based on a sinking fund works, using the offset in Example 1 (above). In that example it was determined that the offset required a total of US$500,000 per year over the 30 year design period. If we also assume the same average net return of 5% on this investment over that 30 year period we can use the Excel present value function to determine how much needs to be paid into the sinking fund today to allow it to operate over a 30 year period under the specified conditions.

The Excel formula is PV (Rate,Nper,Pmt,FV,Type) where:

Rate = 0.05

Nper = 30 years

Pmt = US$500,000 per year

FV = 0

Type = 0 (payment at end of year)

Putting in the numbers: PV(.05,30,500,000,0,0) we can determine that the offset investment required is US$7.7 million.

In other words, the developer could establish a sinking fund of US$7.7 million at the outset of the project and cover the US$500,000 annual costs over 30 years. At the end of the 30 years the fund would cease to exist.

If the developer wanted to create an endowment with an up-front lump-sum payment under the first scenario, that is, an endowment that can provide payments each year of at least US$500,000 (assuming an annual net return of 5%) the developer would need to invest at least US$10 million to establish the endowment. Starting off with an endowment would therefore require US$2 million to US$2.3 million more than what is needed for the sinking fund. For a large operation, this difference may not be significant. If so, the endowment option is preferable because of the permanence that can be established at the outset.

This example points out that the longer the planning horizon for the sinking fund, the smaller the difference between endowment and sinking fund requirements. For example, under the same scenario indicated above, but with a 20 year time horizon, the offset developer would only need to provide US$6.3 million to create a sinking fund to achieve the desired results. That amount is significantly lower than the US$10 million required to establish an endowment. Anticipated returns also will influence the amount required to capitalise the sinking fund. In the case given above, a 5% anticipated return required an investment of nearly US$8 million. A more conservative estimate of net returns, 3%, for example, which assumes investments in very safe instruments

(little to no risk) would require an investment of US$9.8 million, while higher anticipated returns would reduce the overall amount required to build the sinking fund.

An optimal choice for the offset manager is to plan conservatively when deciding on the level of capitalisation, especially since decisions involve projections related to anticipated future costs and investment returns. Conservative projections provide greater future flexibility. If the fund can earn a higher than anticipated return over the period, more funds will be available for the management of the offset. Those funds could be spent on immediate or unanticipated needs, or could be set aside to begin growing a more permanent fund. If the market performs well over a long time period thanks to market conditions and good investment advice, the offset managers may be able to put money aside and invest it to grow a respectable size fund that could help support management once the sinking fund ceases to exist.

As already indicated there is no need to create an endowment or sinking fund with a lump sum payment if such funding is not available as part of the project design costs. The company could fund offset management and build an endowment over time by financing the offset from resource recovery and putting aside sufficient capital to build a fund. Another option would be a small up-front payment to launch a fund, supplemented by annual payments. There is no prescribed approach. No matter the approach taken, a key underlying objective is the permanence of the funding for the offset to guarantee its financial sustainability. The establishment of an ENDOWMENT FUND that provides guaranteed funding is the most desirable approach and should rank high in design objectives when this is feasible.

Another strategic approach would be a commitment to partially finance the establishment of a fund and over the life of the project to explore additional sources of funding that can be used for capitalisation toward long-term funding goals. Success will depend on an early commitment to generate funding to complement what the project can provide. This approach is particularly useful in smaller projects with more limited capital bases, for example. For example, depending on the offset site, the option to generate resources from PARTICIPATION in ecosystem markets may provide significant revenue and deserves serious consideration by planners.

Excel tool: Template for defining financial arrangements in offset implementation

Defining Roles in Offset Implementation – Direction/Oversight/Management/Operations/Monitoring - and associated Financial Arrangements.		
QUESTION	**ANSWER**	**RATIONALE** (How and why did you reach the decisions described in the column to the left?)
Finance		
Costs: Have the short- and long-term costs associated with following aspects of offset implementation been calculated, including: • **Program costs:** The costs associated with undertaking the offset activities themselves. • **Operating costs:** The costs associated with administering the offset, perhaps through a trust fund, or another option for financial management. • **Monitoring and evaluation costs:** The costs of running a monitoring and evaluation program to check that the offset is achieving its objectives.		
Will the developer provide all the funding necessary to cover the short- and long-term costs of implementing the offset? What is the financial mechanism, or mechanisms, that needs to be established? How will it be established?		
If all necessary funds will not be provided by the developer, what are the alternative funding options (grants, payments for ecosystem services, eco-enterprises, etc) that need to be developed, and how will they be developed?		

Worked example, with scenarios, for defining the budget of a biodiversity offset (Steps 1 and 2 of 3)

Step 1. Establish the cost of implementing the offset by creating a budget

Offset Budget

	Budget Line	Amount
1	Management	125,000
2	Community Investments	200,000
3	Research and Scientific Meetings	50,000
4	Monitoring and Evaluation	28,125
5	Admnistration (22.5%)	90,703
	Total Fund Required	493,828

The project budget represents all costs of activities and programs to ensure successful offset implementation.

In this example, monitoring and evaluaton costs are assumed to be 7.5% of all progam costs (lines 1 through 3). Administrative costs represent 22.5% of all costs including M&E (lines 1 through 4). Percentages figures or actual numbers can be used to make the budget calculations

Step 2. Calculate the size of the Trust Fund required to meet annual needs and Determine if a Trust can be fully capitalized

Determine the Amount of Money Required to cover costs each year	493,828
Determine spending rule	5%
Size of Trust Fund needed	9,876,563
Amount Available	8,000,000
Money available to cover costs annually (assume 5% spending rule)	400,000
Annual Projected Deficit	93,828
Net return needed to meet annual costs	6.2%

In step 2 the annual budget amount is used to determine the size of the endowment needed.

First, divide the total annual budget byannual percenteage of net income that the Fund expects to spend (net income is total earnings precentage less an brokerage fees and/or taxes). This is call the spending rule. In this example the spending rule is 5%. If the Fund enjoys a net return greater than 5% the Fund can reinvest and save for a rainy day, if less than 5% it will need to draw on its capital. The norm is for funds to set a relatively conservative spending rule to protect capital.

Keeping to the 5% spending rule, the Fund need to adjust its budget or find another source of income.

Change the spending rule in line 14 to see the effect of rate of return. The higher the spending rule, the smaller the endowment, and conversely in a poorer investment climate and lower returns, the endowment must be larger.

Given the annual deficit, some questions arise: Can the fund reduce the annual expenses? If so by how much? If not, what are the options? Donor funding? Revenue opportunities? See Handbook to explore options. Also, the Board can decide to go beyond spending rule when income is high. A net return of just over 6% allows the Fund to cover its costs.

Note: Scenarios will change based on the amount of endowment capital available to launch a Fund. Enter a different amount in F15 and the situation changes, affecting planning.

Worked example, with scenarios, for defining the budget of a biodiversity offset (Step 3 of 3)

Step 3. Using Grant Financing to Meet Partial Expenses and Increase Capital

The Fund finds a donor interested in the management of the offset and willing to provide funding. The donor makes available a grant of 125,000 per year for 4 years. This is sufficient for the Fund to maintain its 5% spending rule and cover its deficit. It even allows for a larger contribution to capital. How could this work?

Scenario Planning

Annual Grant	125,000
Funds needed annually	493,828
Amount Required from Fund each year	368,828

These examples show how a fund might be capitalized by taking advantage of grant funds. The higher percentage of costs covered by the grants funds, the greater the capitalization potential. Returns play a large factor also.

Assume a Average Net Return of 7.5% over the 4 years of the the Grant

Assume actual net returns of the fund	7.5%
Years of the Grant	4.0
Amount earned per year at that rate	600,000
Annual Grant Amount	125,000
Total Fund Income	725,000
Amount required for offset management	493,828
Surplus/Deficit from Earnings	231,172
Value of additions to the Fund (4 years)	924,688
Total Value of Endowment with Interest Year 4	11,717,767
Annual Spending Amounts with 5% spending rule	585,888

In years with good returns, a Fund can grow quickly if the income is reinvested. If the offset managers can obtain grant funding, the capital growth can occur quickly.

Under this scenario, the offset Fund has sufficient funding to cover all its costs. It has successfully leveraged the grant funds and benefitted from a good market with high returns.

Assume a Different Scenario with Returns of only 4.0% over the 4 years of the grant.

Assume actual net returns of the fund	4.0%
Year of the Grant	4.0
Amount earned per year at that rate	320,000
Annual Grant Amount	125,000
Total Fund Income	445,000
Amount required for offset management	493,828
Surplus/Deficit from Earnings	-48,828
Value of additions to the Fund (4 years)	0
Total Value of Endowment with Interest Year 4	9,358,868
Annual Spending Amounts with 5% spending rule	467,943
Net return to meet annual costs after year 4	5.3%

Under this scenario the Fund has a defiicit that offset managers can try to cover through a variety of cost reductions, by raising funds from some other source, or through the use of some of the Fund's capital. The latter strategy may make sense if the Fund expects to increase its rate of return in the near future. Economic conditions must be analyzed. If the Fund cuts costs by $50,000 annually, it will increase its capital as can be seen. After the grant ends, a 5% spending rule approach will not quite allow the Fund to meet all its obligations, but by seeking to earn at least 5.5%, the Fund will break even.

Note: the figures used are illustrative and do not take into account costs increases, inflation, etc. These would be factored into the analysis.

Part 3: Guidance and Additional References for Offset Implementation

This section provides more detailed information and guidance to supplement the general outline presented in Section 1, including references on key issues should additional information of the topics covered in the document be needed. Links to potential tools that will aid in implementation of certain activities are also included.

Activity 1: What are the offsetting activities and where will they be carried out?

The design of the offset, including which activities need to be undertaken and what the boundaries of the offset will be, needs to be completed prior to initiating any of the implementation-related activities defined in the Biodiversity Offset Implementation Handbook.

KEY ISSUE: What are offset activities to be implemented and where will they be carried out?

Offsetting activities should be determined through the processes defined in the Biodiversity Offset Design Handbook. These activities should include determining the appropriate location of the offset, its boundaries and the overall quality of the biodiversity values that will be offset. A summary table should be completed as the starting point for subsequent steps in the offset business planning process, covering information such as conservation management objectives, conservation activities, rationale, location and requirements to ensure the activity can be successfully completed. The summary table below (Table 1) illustrates how central elements of biodiversity offset design can be organised prior to undertaking offset implementation activities.

Table 1: Illustrative example of Biodiversity Offset Design Summary from the Biodiversity Offset Design Handbook

BIODIVERSITY OFFSET DESIGN: SUMMARY										
OBJECTIVE	[Enter here a short narrative listing the goals of the offset, as defined using the Offset Design Handbook:] • Goal of offset • Brief description of key elements of the offset, including some key biodiversity components to be conserved • Location and identity of offset site(s) • Summary of nature of offsetting activities • Whether some or all of the offset is in kind or whether it involves trading up • Summary of the proposed partners and stakeholders who will be involved in implementation • Summary of the legal and institutional arrangements needed to implement the offset									
DESIRED OUTCOMES FOR EACH COMPONENT OF THE BIODIVERSITY OFFSET	**OFFSET ACTIVITIES AND LOCATION**			**OFFSET GAINS**			**IMPLEMENTATION ISSUES PREVIEWED**			
	ACTIVITIES	**LOCATION**	**RATIONALE**	**IN KIND OR OUT OF KIND**	**PRINCIPAL BIODIVERSITY COMPONENTS CONSERVED**	**PRE-DICTED GAINS**	**REQUIREMENTS / BUDGET**	**HUMAN & INSTITUTIONAL RESOURCES NEEDED**	**REQUIREMENTS / EQUIPMENT**	**REQUIREMENTS / PROFESSIONAL ADVICE**
COMPONENT 1: Improved land management in Area 1 (Protected Area)	Pay protected area guards (including recruiting new guards from local communities) to increase surveillance of illegal and unsustainable activities in core area and buffer zone Pay local community members to: a) Plant and tend native seedlings in degraded patches; b) Strip invasive alien species.	Area 1 (core and buffer zones of existing protected area – see Map)	Economic incentive for conservation provided by providing jobs for local people formerly involved in illegal activities.	In kind	o Species A o Habitat B o Ecosystem service C	x habitat hectares	• Annual budget to pay guards • Funds to cover contracts with local communities • Investment funds to purchase plant material and gardening equipment	• Institution designated to manage the site • Training	Wood and tin roof to build potting shed for seedlings, seedling trays and pots, bags of compost.	Legal assistance to support establishment of community associations
COMPONENT 2: Conservation corridor created in Area 2 (between X National Park and Area 1).	Purchase and manage land in Area 2 Develop integrated management plan with Area 1	Area 2 (see Map)	• Add more high biodiversity values to protected area estate. • Address fragmentation which threatens viability of key species.	Out of kind. Traded up to higher priority ecosystem.	o Species A o Habitat D o Ecosystem service E o Species A o Habitat D o Ecosystem service C	y habitat hectares	• Capital to finance purchase of land • Funds to develop business plan	· Training in business planning and in biodiversity management		Legal assistance to ensure title to the land
COMPONENT 3: Reduce pressure on Area 1 from local communities and ensure provision of ecosystem services.	Reduce pressure on Area 1 from local communities and ensure provision of ecosystem services. Support local NGO providing agroforestry extension services to help local communities sell organic produce to local and national markets.	Area for PES scheme marked 'Area 3' on Map. Criteria for eligibility for PES and extension support in Annex.	• Compensate for project at impact site and provide incentives for conservation on offset sites. • Improve conservation status of watershed's biodiversity (particularly key freshwater biodiversity values identified).	In kind	o Species A o Habitat B o Ecosystem service C	z habitat hectares	• Funds to launch PES scheme and make annual payments	• Mechanisms in place to ensure flow of funds between buyers and sellers and appropriate monitoring systems.		• Legal assistance to create the contacts between buyers and sellers

Additional references

- Biodiversity Offset Design Handbook (**www.forest-trends.org/biodiversityoffsetprogram/guidelines/odh.pdf**).

Potential tools

- Template for Summary of Offset Design Activities (derived from the Biodiversity Offset Design Handbook).

Activity 2: How will the offset operate and be managed?

This section explores three aspects of establishing an offset, including: (1) the various roles that need to be involved in operating and managing an offset and which potential stakeholders are best placed to assume those roles; (2) the legal framework within which the offset will operate and the legal instruments that are available to set up the offset, and; (3) whether existing institutions can be used to run the offset, or whether a new institution needs to be created.

2.1 What are the roles and responsibilities and potential stakeholders in offset implementation?

There are several different roles involved in implementing a biodiversity offset. For each role, a number of different, potential players can be considered. The management structure of the offset will reflect the roles and players selected. Determining appropriate roles for the various stakeholders involved in implementing an offset is crucial for its long-term success. National conditions and the specific nature and location of the biodiversity offset will play a significant part in determining which stakeholders should be involved in the offset design process. Once the key stakeholders are defined, it will be important to determine which roles and responsibilities they should assume in implementing the offset. Some key issues to consider include:

KEY ISSUE: What are the different roles involved in offset implementation?

While there are various necessary roles that need to be assumed in the implementation of an offset, they generally fall into three broad categories:

- *Direction / oversight / management:* These roles define who is responsible for taking decisions on how the offset will be run and administered and who will carry out the day-to-day management and oversight activities. Once the offset site is determined, a developer needs to decide which entity or entities (local or indigenous communities, NGO, government agency, company, multi-stakeholder group) should and could legally govern the offset.
- *Operational:* Operational roles define the stakeholders that will undertake the offset management activities, such as patrolling protected area boundaries, removing invasive species or working with local communities on offset implementation.
- *Monitoring:* A range of stakeholders could be involved in developing INDICATORS and collecting and analysing the data necessary to determine whether the offset is achieving its stated objectives. These entities will generally be responsible organisation responsible for managing the offset.

KEY ISSUE: Who are the potential stakeholders and which groups should be selected for each role?

As noted above, it is important to define and engage the stakeholders whose involvement is critical to ensuring that an offset is successfully implemented. Determining appropriate roles for offset implementation activities will generally require quite extensive engagement efforts, particularly with those stakeholders central to the offset's success. By this stage of the process – preparing for offset implementation – an OFFSET PLANNER will already have spent considerable time working with a variety of stakeholders on the design of the biodiversity offset. Both the Biodiversity Offset Design Handbook and the Cost-Benefit Handbook discuss the identification and involvement of stakeholders: Who is affected and how? How should they be involved in order to secure the long-term success of the offset? Work at this stage should build on this analysis and identify and decide upon the specific roles that stakeholders that could and should assume in the initial and long-term implementation of the offset. These stakeholders include:

- *Government:* Given the number of legal, regulatory and financial roles that government could play in offsetting activities at various levels (national, regional and local), and within different timeframes, it is the stakeholder with the potentially largest roles to play in offsetting activities. A government could in many instances be the only stakeholder with whom a developer has to work, such as when an offset is added by incorporating unprotected state land into an existing protected area already under government management or if the offset area is officially gazetted into the protected area system. In such cases the Government would take charge of offset implementation, unless it delegated that authority to a third party. As part of this process it is generally necessary to engage other stakeholders and define appropriate roles for them in offsetting activities (e.g. management planning and implementation) as appropriate to the offset and legal context within which it is developed.
- *Developer:* Whether a developer is legally obligated or not to create an offset, it usually assumes important roles in supporting its design and implementation, either directly or through supporting other stakeholders such as communities and NGOs to carry out offsetting activities. Developers also play a critical role in providing both expertise and resources needed for the mechanisms, such as CONSERVATION TRUST FUNDS, that provide long-term, sustained support to the management of an offset, even after cessation of the developer's project lifecycle. In some cases the developer may decide to maintain management control over the management of the offset area throughout all or part of the life of the investment. Developers can have different preferences about the manner in which they are involved in offset implementation. Some companies prefer to be involved, at least jointly, in defining and even implementing the offset activities, so they can ensure these are undertaken successfully and the company's risks are well managed. Others, especially larger companies that believe that biodiversity offsets are likely to become standard practice in the future may, over time, develop in house expertise on designing and implementing offsets. Other companies prefer to pay third parties to undertake the offsets on their behalf, while others would find it attractive to purchase credits. Some different options for the GOVERNANCE of the offset are discussed below.
- *NGOs:* International, national and local NGOs are increasingly engaging the private sector and government on the issue of offsetting negative impacts from economic activities, giving them potentially important roles to play in offset implementation activities. By providing expertise and support on a broad array of issues related to offset activities, such as conservation strategies, conservation trust fund development, governance, community engagement and MONITORING AND EVALUATION, NGOs are potentially important stakeholders that could assume a wide variety of roles in offset implementation, though national and particularly local NGOs may need additional capacity-building support in highly technical issues, such as monitoring, needed for effective offset implementation. A local non-governmental institution could take on the management responsibility for the offset through agreement with the developer and relevant stakeholders.

- *Community groups or associations:* Unless a project is in an extremely remote area, it is likely that it will to some degree directly or indirectly impact an area used by a community to sustain part of or their entire LIVELIHOODS. This makes inclusion of affected communities important in determining roles for implementing offsetting activities. Given their proximity to and reliance on areas impacted by a project and its offset, communities can play potentially important roles in all facets of offset implementation, though capacity-building is often needed to ensure they can carry out their defined role. In some countries, local community groups or associations will be officially designated as managers of an offset site or will have the legal ability to take on a management role.
- *Donors:* Donors (multi-lateral, bi- and private) can obviously play an important role in providing the funding needed to implement offset activities, including supporting long-term funding mechanisms like trust funds. However, they can also play potentially important roles in convening stakeholders to determine appropriate governance and funding structures and supporting capacity-building activities necessary to make offsets successful.
- *Multi-stakeholder group:* Successfully implementing an offset will more than likely require the inclusion and participation of a number of stakeholders. For example funds may be provided to a conservation trust fund by a developer to cover the costs of long-term management of an offset, while a government agency or NGO would have the responsibility for management activities, with a community undertaking the day-to-day operations of patrolling offset boundaries and collecting data for a monitoring system. In such cases specific agreements among the parties must be developed and signed to establish the management, oversight and fund management protocols. As each offset will have its own unique set of stakeholders, it is necessary to assess which roles would be appropriate given the offset's needs and stakeholders willingness and capacity to assume them. As noted in Section 2.1, determining the most appropriate roles for the stakeholders involved will require engagement efforts and, if necessary, capacity-building for those willing but not yet able to assume certain roles.

When assessing which stakeholders need to be involved and what their appropriate roles are in offset implementation, it is important to define each possible stakeholder taking on a particular role, based on experiences, existing relationships and legal issues. Table 2 below details the advantages and disadvantages of various possible stakeholders and the various roles they could assume in offset implementation activities. Consideration of these advantages and disadvantages, coupled with the local and national context within which an offset is developed, could enable further refinement in determining which stakeholders are best for the various roles in offset implementation.

Once the key players are identified the parties could usefully develop a memorandum of understanding, or similar agreement to formalise the roles and responsibilities and lay out the general parameters for implementation. Early in the process, not all implementation issues may be well-defined and amendments to the agreement may be required as final decisions are reached.

Table 2: Assessing advantages and disadvantages of different roles for stakeholders

Option	Advantages	Disadvantages	Notes
DIRECTION / OVERSIGHT / MANAGEMENT			
Developer	Developer is in charge of the voluntary offset. Manages the land it owns / controls, therefore governance can be viewed as a natural extension. Links responsibility with consequence for failure to perform to a suitable standard. Often has higher levels of capacity in more technical aspects of direction, oversight and management than other stakeholders	Developer is not a conservation expert, which may negatively impact ability to oversee the conservation activities required in the offset (but could contract that expertise). Developer may withdraw (for planned or unplanned reasons) before offset is established or while governance is still required. May appear to be 'green-washing' if developer takes both 'poacher' and 'gamekeeper' roles.	In some cases it may be best for the developer to devolve decision-making to a third party, preferably a body comprising representatives of the different groups involved (e.g. local communities, conservation experts, government). The developer can maintain a role by being represented on this body. Or developer can maintain ownership of the offset site and devolve management to a local institution with the goal of transferring ownership in the future.
Government	Maintains in perpetuity responsibility for land use and national conservation, promoting continuity of offset management. May have title to land that can be used. Can co-ordinate offset with national environmental strategies. Often has strong 'convening' power to bring together various stakeholders to work together.	Government's priorities (and personnel) may change over time. May be difficult to get subsequent governments to make the same commitments. Can be top-down in approach and out of touch with local needs. High level of bureaucracy and potentially slow reaction times. NGOs and local communities may be suspicious of and cautious about working with government. Lack of capacity, particularly at the local level, can often impede effective implementation of roles. May not have a mechanism or be allowed to receive and dedicate money to a specific site.	From developer's perspective, control of offset (and thus its abilities to generate the business benefits of license to operate and reputational management that were the rationale for the offset in the first place) may be lost.

Option	Advantages	Disadvantages	Notes
NGO	Likely to promote and be more responsive to local needs and involvement than private firms or government. Most NGOs have developed institutional knowledge and expertise on issues (such as BIODIVERSITY CONSERVATION) that government and the private sector lack. Well suited for institution strengthening of local NGOs and providing support to local grass-roots projects that can benefit the offset. Independent of government, thus offering institutional continuity and political neutrality. NGOs can facilitate dialogue between communities, government, and the private sector.	A country's laws may limit an NGO's rights to own land, enter into contracts or the (conservation) activities they can undertake. Not being associated with government may make it harder to co-ordinate the offset with national environmental strategies. Some private companies are cautious about working with NGOs, and vice versa. NGO's staff capacity and financial security may be limited. Larger (international) NGOs may be out of touch with local needs and perspectives.	See point under 'Government' above.
Community group	Familiar with local needs and perspectives. Very strong sense of 'ownership' of the offset. Maintains in perpetuity responsibility for land use and national conservation (where land ownership is not an issue). Bottom-up approach – with a project focus.	May lack the necessary technical and financial understanding and skills to direct, oversee or manage the offset. Biodiversity offsets may be just one of a range of environmental and social issues that exist between the developer and community group – poor performance by the developer on other issues may affect how the community works on the offset. Lack of trust towards other stakeholders, notably government, developer and NGOs, may impede ability to assume certain roles. Lack of legal title or recognition of traditional rights may impede certain groups (such as indigenous peoples) from assuming certain roles.	Communities are not a homogenous group – defining appropriate direction, oversight and management roles will require engagement efforts tailored to a community's specific characteristics and needs. Indigenous and traditional communities may require culturally-specific modes of engagement and role definition to ensure appropriate levels of PARTICIPATION. Long-term capacity building for certain direction, oversight and management responsibilities may be necessary to ensure communities are able to assume specific roles. If specific legal titles are lacking, assistance may be needed in helping communities acquire appropriate titles or recognition to ensure participation in direction, oversight and management.

Option	Advantages	Disadvantages	Notes
Multi-stakeholder group	Developer maintains a role. Key affected stakeholders have the opportunity to participate in the direction, oversight and management of an offset, creating a broader sense of ownership. Various stakeholders can be given defined powers and constraints through trust instrument. Can serve to institutionalise and secure long-term cooperation between the public and private sector. Can combine bottom-up and top-down approach to ensure both perspectives are accommodated. May be easier to establish multiple committees to address the diverse offset-related issues.	Decision-making is more complex and consensus on some issues may be difficult to reach. More complex to establish and costly to run. May suffer from a lack of focus due to 'pulling' in different directions. Imbalance in the membership may result in lack of credibility in the eyes of some member's constituencies.	
OPERATIONAL			
Developer	Developer is in charge of the voluntary offset. If the offset is managed as an asset of the developer, it is a natural extension to undertake the offset implementation. Availability of on the ground staff. Avoids risk of third parties not implementing offset adequately.	Developer is not a conservation expert, which may negatively ability to undertake the conservation activities required in the offset. Staff may have multiple roles (e.g. commitments outside of the offset) reducing time dedicated to the offset. Developer may withdraw (for planned or unplanned reasons) before offset is established or while ongoing conservation work is still required.	May be best for developer to delegate implementation to a third party, preferably a body comprising representatives of the different groups involved (e.g. local communities, conservation experts, government). Developer can maintain a role by being represented on this body.
Government	Maintains in perpetuity responsibility for land use and national conservation. May have title to land that can be used.	Government's priorities (and personnel) may change over time. Availability of dedicated staff for suitable lengths of time may be limited. May be difficult to get subsequent governments to make the same commitments. NGOs and local communities may be suspicious of and cautious about working with government. If government takes on offset implementation and does not deliver, the developer (and other stakeholders) might have a claim against it. Capacity issues may prevent adequate implementation of operational role.	From developer's perspective, control of offset (and thus its abilities to generate the business benefits of license to operate and reputational management that were the rationale for the offset in the first place) may be lost.

Option	Advantages	Disadvantages	Notes
NGO	In certain countries, NGOs may control land. Most NGOs have developed institutional knowledge and expertise on issues (such as biodiversity conservation) that government and the private sector lack. May have a long-term involvement in the region and a useful network of contacts and local experts.	A country's laws may limit an NGO's rights to own land, enter into contracts or the (conservation) activities they can undertake. Some private companies are cautious about working with NGOs, and vice versa. NGO's staff capacity and financial security to undertake long-term operational roles may be limited.	
Community group	May control land over long-term. May have principal influence on status of biodiversity in area. Key stakeholder for companies to maintain good relations with (often the key driver of the BUSINESS CASE for a developer to undertake a voluntary offset).	Activities have to be suitable for long-term. Communities may not be interested in undertaking conservation activities, even if compensated. Communities' interests may change in the future. Communities may lack the necessary technical capacity to undertake long-term operational role in the offset. Lack of legal title or recognition of traditional rights may impede certain groups (particularly indigenous peoples) from assuming certain roles.	Long-term capacity building for certain operational roles may be necessary to ensure communities are able to assume specific roles. If specific legal titles are lacking, assistance may be needed in helping communities acquire appropriate titles or recognition to ensure participation in operational roles.
Multi-stakeholder group	Developer maintains a role. Key affected stakeholders have the opportunity to participate in the operational aspects of an offset, creating a broader sense of ownership. Can combine bottom-up and top-down approach to ensure both perspectives are accommodated. May be easier to establish multiple committees to address the different aspects of conservation action required.	Decision-making is more complex and consensus on some issues may be difficult to reach. More complex to establish and costly to run. May suffer from a lack of focus due to 'pulling' in different directions.	
MONITORING			
Developer	Developer may own / control land where offset takes place, so is able to regularly monitor. Developer may have regulatory requirements to monitor related parameters, making it cost effective to undertake offset monitoring. Developer has resources for and access to technical expertise in monitoring. Developer can call on external independent VERIFICATION if necessary.	Developer monitoring its own offset may not be objective, or perceived as not objective by other stakeholders. Developer is not necessarily a conservation expert and could omit certain biodiversity and social indicators for monitoring important to the offset's long-term success.	Developer could publish evaluation it conducts with communities and NGOs (e.g. in the same way that NGOs and institutional investors are invited to comment in companies' annual safety, health and environmental reports).

Option	Advantages	Disadvantages	Notes
Government	Government maintains in PERPETUITY responsibility for land use and national conservation, so monitoring could be aid in evaluating land use and national conservation objectives. Government often has links to publicly-supported entities, such as national universities, which could undertake a long-term monitoring role.	Government's priorities (and personnel) may change over time. Availability of dedicated staff for suitable lengths of time may be limited. NGOs and local communities may be suspicion of and cautious about working with government. If government takes on offset monitoring and does not deliver, the developer (and other stakeholders) might have a claim against it. Capacity issues may prevent adequate implementation of monitoring role.	
NGO	Strong sense of ownership. May have strong monitoring expertise and biodiversity knowledge of area to be monitored, particularly local NGOs. Independent of government, thus offering institutional continuity and political neutrality.	NGO's staff capacity and financial security may be limited to undertake long-term monitoring roles. Larger (international) NGOs may be out of touch with local needs and perspectives needed for effective monitoring.	
Community group	Communities are familiar with local area and ecosystems to be monitored, and can provide valuable insights on economically and / or culturally important species and areas. Role in monitoring activities could create a sense of ownership in communities for project goals, as they are given responsibility for monitoring impacts and reporting to project managers.	May lack the necessary technical skills to monitor various aspects of offset implementation. May be difficult to secure long-term monitoring role from community, particularly after a developer has ended economic activities. Lack of trust towards other stakeholders, notably government, developer and NGOs, may impede ability to assume certain monitoring roles.	
Multi-stakeholder group	Developer maintains a role. Key affected stakeholders have the opportunity to participate in the monitoring aspects of an offset, creating a broader sense of ownership. Can combine bottom-up and top-down approach to ensure both perspectives are accommodated. May be easier to establish multiple committees to address the different technical aspects of monitoring, such as data collection and data analysis.	Decision-making is more complex and consensus on some issues may be difficult to reach. More complex to establish and costly to run. May suffer from a lack of focus due to 'pulling' in different directions.	Worth noting the important role that affected communities can have in MONITORING AND EVALUATION?

KEY ISSUE: How should the offset be governed?

Defining clear management responsibility and authority at the outset is extremely important for offset management. Management authority should be clear and legally established. Defining clear management responsibility does not preclude the PARTICIPATION of diverse stakeholders. Assessing the potential roles and advantages and disadvantages of stakeholders in those roles will help a developer and / or offset designers determine whether one or more stakeholders are needed to implement offset activities. Inclusion of many stakeholders in implementation activities must be weighed against creating an efficient and manageable project management structure. In some cases, it may be advisable to establish an advisory committee to provide specific scientific or technical advice to the governing body of the offset. Membership of such a committee could include the developer, government representatives, scientific representatives, NGOs and community representatives.

KEY ISSUE: How to handle attribution of offset gains to the developer if the offset is delivered through a partnership or there are other offset or conservation activities in the area?

In some cases, biodiversity conservation activities may be designed to go beyond offsetting one development project's impacts. In other cases, other developers and donors may contribute to the conservation activities that form part of the offset. For instance, a company may work in partnership with an NGO to implement a biodiversity offset, and the NGO may attract additional funding to expand its work in the area. Or a company may sell carbon credits from the offset area and use some or all of the income to finance the offset. In such cases, how can an individual developer determine which offset activities it is responsible for (through its own activities or by paying others to undertake the offset)? What share of the overall CONSERVATION OUTCOMES can the developer reasonably claim and how is that defined? The most practical solution to this apparent conundrum is for each developer to be able to communicate clearly the scale and nature of the conservation activities needed to offset its impact (see Step 8 of the Offset Design Handbook, for instance), and to be able to point to the Offset Workplan and associated budget that will implement these activities. In other words, the extent of the offset is clearly defined in agreements, memoranda of understanding or other documents that define roles and responsibilities among parties. The developer can then point to the specific activities for which it is responsible, and can explain (where this is the case) that its work therefore represents just a share (preferably quantified) of the overall offset activities. Similarly, if a developer obtains income from the offset area (through carbon credits, ECOTOURISM revenues, or other means), it would help to be transparent about this and give as much information as possible about the proportion of the overall costs of the offset that this represents and whether the revenues are being used to implement the offset. This could be accomplished by identifying sources of revenue, projecting the flow of that revenue to the offset over time, and monitoring actual versus project income over time to ensure that sufficient funds are generated from project revenue sources. Agreements could establish mechanisms through which developers might cover revenue shortfalls to ensure that expenditures do not fall short of commitments.

As governments begin to employ offsets, they may begin to set up key areas where biodiversity is banked to ensure that offsets contribute to the greatest conservation result. In such cases developers may be allowed to purchase offset credits *in lieu* of creating new offset areas. Provided the credits can be appropriately defined from a biodiversity perspective, the approach may offer efficiencies both from the developer's and government's perspectives. For the developer the rules of the game are clear and for the government, biodiversity conservation outcomes are maximised. These systems are not yet in place, but their potential should grow as interest in offsets increases.

2.2 What are the legal aspects of establishing an offset?

The legal framework of the country where the offset is to be implemented will likely influence how an offset will be designed and implemented. Key issues to address in determining how an offset will be operated and managed include:

KEY ISSUE: What is the country's legal framework?

In the offset design process as defined in this Handbook, it is important to determine whether the legal system of the country in question requires a biodiversity offset in or merely facilitates or encourages biodiversity offsets. For example, the United States, EU and Australia require the creation of biodiversity offsets under certain circumstances, so the offset will need to comply with the related regulatory requirement (see Step 2: Review the legal framework and / or policy context for a biodiversity offset in the Biodiversity Offset Design Handbook for additional guidance). However, in many countries there is no requirement for an offset *per se*, but there are laws on ENVIRONMENTAL IMPACT ASSESSMENT and project planning approval processes that require the minimisation of environmental (including biodiversity) impacts and MITIGATION measures that can go as far as biodiversity offsets would. Fiscal incentives, such as tax breaks, may even be available for companies implementing such measures (see Biodiversity Offset Design Handbook, Step 2). Finally, it is worth noting that for offset implementation, the existing legal framework of the country where the biodiversity offset will be implemented can have a significant bearing on how the offset is structured, depending on a number of factors, most notably whether the country has a COMMON LAW system or a CIVIL LAW system. This issue is discussed in more detail in Section 3 below on TRUST FUNDS.

KEY ISSUE: Will the offset be part of a protected area system or managed independently?

If the offset is to be part of a country's protected area system, existing laws on the status of protected areas will determine how the offset will be managed (see Conservation and protected area law below). Provided the requirement described in the Biodiversity Offset Design Handbook for the offset to be able to demonstrate that it will bring about additional conservation outcomes is satisfied, it may be an attractive option for the offset activities to lie within a protected area or form part of the broader protected area system, since the framework of national protected status may help guarantee long term management – especially in the case here funding is assured. In cases where the offset will be officially gazetted, offset designers will need to coordinate closely with Government for assistance in having the protected area established. If the offset is not going to be part of an official protected area system and will be managed independently, important implementation issues and the relevant legal and institutional issues for long-term conservation of the offset must be addressed. The offset could be privately managed, managed by communities, or be delivered through a public-private agreement. Guidance on important legal and institutional issues is presented in this section.

KEY ISSUE: What are the laws that will influence the implementation of biodiversity offsets and what are the available legal mechanisms to enable the offset to be managed independently?

As noted above, the existing legal framework of the country where the biodiversity offset will be implemented can have a significant bearing on how the offset is structured and implemented. In particular, five key areas of law are likely to shape the legal and institutional arrangements for the offset and the structure it will take:

- *NGOs, civil associations and FOUNDATIONS:* A country's laws on non-governmental organisations (NGOs), civil associations and foundations will determine whether these can be established, the rights and responsibilities of their officers and beneficiaries and the nature of activities they can undertake (e.g. owning land, entering into contracts). This body of law may also determine whether an organisation can be

established for 'NON-PROFIT' or tax / public benefit purposes, offering certain tax exemption or other fiscal advantages. Such organisations may offer a very good institutional home for the management of a biodiversity offset.

- *Trusts and CONSERVATION TRUST FUNDS:* 'Trusts' are legal entities established for a specifically defined purpose[13]. One such purpose could be to meet the specific conservation objectives of a biodiversity offset. Some trusts have broad, national-level objectives, while others have more specific, site-based ones. The scope of activities covered by the trust is defined by its 'charter' or 'deed'. As legal entities, trusts can own land, hold financial assets, and manage resources. However all such assets are held in trust and managed only in accordance with the objectives established in the charter. No private benefit from the investments accrues to those who govern the trust (generally known as 'directors' or 'trustees')[14]. Consequently, a trust can own and / or manage the land where a biodiversity offset will be implemented and it can manage the finances needed to fund conservation activities in perpetuity for the long-term implementation of the offset. A 'trust fund' is often established to hold the assets, such as money and stocks and shares, which can pay for the activities described in the trust's charter. Where the purpose of the trust is conservation, such a trust fund is commonly known as a 'conservation trust fund' (CTF).

Procedures for creating trusts exist in most countries with legal systems based on UK or US models, while other countries (particularly those with a civil law system) may not have relevant laws on trusts or charities. In such countries, particularly those with a civil law system, trusts or charities cannot be established, but there may be provisions for establishment of foundations[15] or civil associations that could play a similar role. In other cases, trusts could be established in third countries. Most Latin American countries have laws allowing creation of conservation trust funds (see Conservation Finance Alliance 2008). A country's laws on trusts and charities will ultimately determine whether and how a group of people (trustees) can take on a legal responsibility to manage funds and investments for the benefit of other people (beneficiaries). The range of powers and duties that trustees have, the rights of beneficiaries, the tax status of charities, and the permissible duration of trust instruments (e.g. can trusts be established in perpetuity?) will influence whether an offset is set up using a trust or charity as the vehicle. It may also influence the country where the trust is established. Some CTFs are established in a country other than the one where the environmental activities are implemented, where trust law enables appropriate legal arrangements to be established, and where there is particular expertise on trust or fund management (see Box 3 – the Sangha Tri-National Foundation).

13 A trust is a disposition of property to a person (trustee) or persons jointly (trustees) in whom the legal title then vests in the confidence that the benefits will be applied to the advantage of one or more other persons (beneficiaries) or some other object permitted by law.

14 Trustees can be remunerated for some services, and can be reimbursed for expenses, but all payments must be demonstrated to be 'reasonable', with no trustees profiting from the operations or investments of the trust.

15 In 2004 the Government of Madagascar passed a law allowing the creation of foundations for charitable purposes. The foundation law permits the creation of CTF.

Box 3: Sangha Tri-National Foundation – an African Transboundary Fund registered in the UK

The Sangha Tri-National Foundation was registered as a UK-based charity in 2007. The foundation has been established to support the management of three protected areas located in three countries in Central Africa. Funds from the foundation will support conservation in Lobeke National Park in Cameroon, Dzanga-Ndoki National Park in the Central African Republic, and Noubale-Ndoki National Park in the Congo, and their buffer zones. The protected areas are contiguous and their management involves coordination between the park authorities of all three countries.

None of the countries has a legal framework that supports the establishment of a trust fund. As a result, project designers opted to create the organisation in the UK, where the process faced no legal barriers. A British lawyer drafted the foundation's articles of creation and the by-laws to ensure compliance with UK law. The Governments of Germany and France have already committed funds to the endowment. Their contributions along with additional funding of approximately €3.5 million from a German brewery that raised money by charging €1 per crate of beer sold will capitalise this conservation trust fund with approximately €11.5 million.

The foundation is structured with four funding windows, allowing donors to allocate their contribution to the management of any of the three protected areas. This approach results in percentage allocation of foundation resources, based on the total amount of funding available in each window. The foundation also specifies that 10% of all income earned is designated for transboundary conservation. The Sangha Tri-National Foundation expects to receive its capitalisation in 2008, once the investment strategy is finalized and the Board holds a competition for asset managers

Source: Conservation Finance Alliance 2008

- *Land law:* Land TENURE and land law are important considerations in offset design as they determine who owns which land, security of that ownership and 'in perpetuity' considerations, including the issue of indigenous or traditional lands. As biodiversity offsets are generally activities planned for particular parcels of land, this aspect of law can be important to their design and implementation. In implementing an offset in a particular area, the developer needs to determine whether there is clear ownership for the land in question and whether the title to the land can be challenged. In the event that the current land users do not have legal title, or are occupying land illegally, the developer needs to determine what can be done to secure title to the land, or at least to usufruct rights (i.e. the legal right to use and derive profit or benefit from property that belongs to another person). Additional questions that may arise in determining how land laws will be applied to an offset include:
  - What kind of organisations or individuals can own or have rights over land in the country where the biodiversity offset will take place? Can people own land collectively? Can foreign companies own land?
  - Is it possible to place covenants, EASEMENTS or other rights that are attached to land in perpetuity, to ensure land use will be consistent with certain objectives (e.g. conservation) in the long term?
  - Are there indigenous and / or traditional lands that overlap the area to be offset? Is there legal recognition of these rights, and how does legal recognition or, lack thereof influence, the implementation of an offset?
  - Could obligations that restrict certain land uses (e.g. commitments to manage land only for conservation purposes) be registered against a land title and run with the land in perpetuity? If so, how could these be established? Can land be owned by a conservation trust with a mandate to manage the land for conservation purposes?

- *Conservation and protected area law:* While there are many alternatives, some biodiversity offsets may establish new protected areas (terrestrial or marine), buffer zones to existing protected areas, or increase the level of conservation work undertaken in existing protected areas. A country's conservation and protected area laws will also help determine whether an offset with protective status can be managed independently, as a private reserve, or whether it needs to become part of a formal protected area system in order to be secured for the long term, and how this could be done. Some countries have laws that allow for community-level or local management of protected or sustainable use areas, allowing for local control of the offset site. Key questions that need to be asked include:
  - Should the offset become a part of the protected area system?
  - What categories of protection for conservation purposes are available under the law of the country where the offset is planned? What types of management regimes are permitted? Would one or more of these offer an appropriate framework for a biodiversity offset?
  - Does protected area law cover the full range of ECOSYSTEMS, terrestrial, aquatic and marine? If not, would protected area law offer an adequate framework for an offset, or would legislation need to be amended for it to cover a biodiversity offset containing these elements?
  - Are certain species and genera protected, irrespective of whether they fall within a protected area, and can legal obligations related to conservation be imposed on private landowners? Could biodiversity offsets thus be required and implemented on private land through regulations, or would voluntary agreements be needed?
  - Can protected areas be both publicly and privately owned and managed? This may clarify whether a biodiversity offset could be established in the private domain, or whether it would need to be part of the public estate in order to ensure long-term conservation. Are community-managed protected areas an option that can be considered?
  - If the area of land (or sea) considered for the biodiversity offset were to obtain protected area status, who would be responsible for its management (including financial provisions) in the long term? Does the protected area authority have the capacity to take on additional management responsibilities? Or can a decentralised approach be coordinated with government policy work? This will affect the roles and responsibilities for offset implementation.
  - Is there a requirement that the national government manage the site? If so, the offset design will need to determine how to structure the offset and determine how to incorporate the offset's management system into existing protected area management structures. It will also be important to be able to show how the offset will give rise to conservation outcomes additional to those that government would achieve anyway (i.e. how will the offset satisfy the test for 'ADDITIONALITY'?)
- *Legal status and personality, and CONTRACT LAW:* Some biodiversity offsets operate through agreements with community members, delivering benefits to them in exchange for improvements in conservation practices and land management. The legal status and personality of indigenous peoples, members of local communities, and collectives have a bearing on their ability to give their INFORMED CONSENT to certain activities and to enter into binding contracts. If such agreements with such groups are legally possible in the country concerned, the following questions should be asked to determine whether a contract would be a suitable mechanism for an offset:
  - Who would be the parties?
  - What would be the contract's terms?
  - How long would the contracts last and could they be renewed and amended, changing or even bringing to an end the obligations?

- What would be the mechanisms for monitoring performance, including procedures for dealing with contract breaches and enforcement?

- *Rights of indigenous peoples and local communities:* Indigenous peoples and local communities may have rights that go beyond the areas of land tenure, legal personality and contract described above. These rights may be espoused in international, national and customary law and may influence their involvement in the design and implementation of biodiversity offsets. This topic is discussed briefly in the BBOP RESOURCE PAPER ON BIODIVERSITY OFFSETS AND STAKEHOLDER PARTICIPATION (**www.forest-trends.org/biodiversityoffsetprogram/guidelines/participation.pdf**), which lists some of the key sources of law and policy in this area, such as the ILO Convention 169 on Indigenous Peoples (1989), Rio Declaration and Agenda 21 (1992), The Convention on Biological Diversity (1992), The Aarhus Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters (1998) and Declaration on the Rights of Indigenous Peoples (2007). The Resource Paper also provides references to guidance on BEST PRACTICE on stakeholder participation, with particular reference to indigenous peoples and local communities and contains a related bibliography.
- *Other Legal Issues:* In developing offsets, there may be tensions and conflicts between the biodiversity based recommendations that OFFSET PLANNERS make on the siting of the offset activities, and local political preferences. There have been several cases where local authorities have turned down recommendations for LIKE-FOR-LIKE offsets that companies and *their* stakeholders regarded as preferable because the benefits would accrue in a neighbouring political jurisdiction, rather than in their own. On some occasions, this has led to the final choice of offset site and activities lying within the original municipality but offering virtually no true biodiversity benefit. In other cases, lack of adequate consultation will result in identification of an offset that provides biodiversity benefits but does not contribute to broad conservation and sustainable development goals and thus does not enjoy broader stakeholder support. Ensuring a good understanding of the policy and political environment in which the offset will be developed will help in resolving some of the broader institutional issues and will minimise difficulties.

KEY ISSUE: How is an offset maintained when there is a change in company ownership?

The permanence of the offset in legal terms is a factor that needs to be addressed during the design. A legal agreement between the company, government, and other relevant stakeholders needs to be developed to clearly define the role, responsibilities and commitments of all parties. This legal agreement will also need to stipulate the transference of responsibility in the event of a sale of the project to another company or if a merger occurs. All commitments of the project developer vis à vis the offset will thus be transferred to the new party. The legal options and approaches may differ by country but will need to ensure that offset agreements cannot be revoked by a new asset owner – that the offset is part of the conditions for operating the business in question and that the existence of the offset is disclosed at the point of sale. These legal arrangements should be enshrined in the original offset agreement and incorporated as part of any ownership transfer. This may operate much like a concession agreement, where all terms and conditions of the concession are taken over by the new owners as part of the operational agreement. Depending on the nature of the offset, and especially if it will be managed by a government agency, government may need to play a role as party to development of the agreements that assures the transfer of established responsibility for offset implementation. This legal aspect should be catered for as part of the offset implementation plans.

2.3 What are the institutional aspects of establishing an offset?

Another issue for consideration is whether existing institutions can be used to manage the offset, or whether a new one needs to be created specifically for that purpose. Specific key issues to address include:

KEY ISSUE: Is there is an existing institution appropriate to house the governance and management structures of the biodiversity offset, and does it have the capacity to manage the offset?

Management of the offset will move more smoothly and quickly when existing institutions with conservation experience can be identified to play leading roles. The challenge involves identifying the institutions and clearly specifying their roles and responsibilities and determining whether those institutions truly have the capability to provide the desired level of management. In addition, the chosen structure may require some level of coordination among various institutions. If there are existing institutions that could manage the offset, such as an NGO or community association, it will be important to assess their capacity to undertake the various roles and responsibilities necessary for implementing offset activities (see Section 2.1). Also, as mentioned in a previous section, an offset may fall under management of a country's protected area authority, which may or may not build in collaboration with other institutions. No matter which organisation takes control, if capacity in certain key areas of offset implementation is lacking, it may be necessary to provide the necessary training or resources needed to build capacity to adequate levels as part of the offset implementation. Several questions need to be considered:

- What are the institutions available to carry out the offset management?
- Of these institutions, what is the overall level of capacity to undertake that management? Is there adequate staff? Are the financial management, monitoring and management planning capability in place to deliver management? If not, what has to be done to ensure adequate capability?
- Is there an existing ENDOWMENT FUND or other established financial institution to manage the flow of funds? Is that institution able to take on the financial management of the offset? Could an existing conservation trust fund have legal ownership and management responsibility for the biodiversity offset?
- How will the financial management be coordinated with the technical management of the offset?

Table 3 provides an example of how the capacity of institutions involved in launching the offset could be assessed and appropriate actions to fill any gaps determined:

Table 3: Determining capacity gaps for institutions involved in launching an offset: a worked example

Institution	Proposed role / responsibility	Capabilities	Gaps	Actions
Park Authority	Undertake responsibility for offset management.	GIS, park planning and management, research, law enforcement, monitoring.	Lack of trained staff, poor financial management capability, dependence on state funding.	Provide training for new staff, provide funding for management planning that includes improved budgeting and financing planning.
Conservation Trust Fund (CTF)	Disburse funds to the offset's management authority and / or other entities implementing the offset on their behalf.	Financial management and reporting, solid and transparent accountability, community support, local development outreach, land ownership option, monitoring and reporting.	Potentially slow disbursement systems, limited management capabilities outside financial management.	Develop mechanism to facilitate flow of funds based on appropriate plans and approval procedures, develop technical staff as needed to fill gaps.
International NGO	Co-management role and scientific research.	Biodiversity monitoring, management, some fundraising.	Potential poor coordination with the Park Authority, possible lack of legal authority.	Develop Memorandum of Understanding to clarify roles, create work plan.
Developer	Limited – provide funds to purchase land and manage site. Land purchase, and transfer to appropriate management authority with provision of some oversight.	Potential board member role for CTF. Contribute management ideas.	Limited knowledge of biodiversity conservation.	Create steering committee to oversee offset management, provide capital for endowment fund, provide some technical support.

KEY ISSUE: If no suitable institution exists to implement an offset, how will one be created?

In some cases successful management of the offset may require the creation of new institutions, such as creating a local community association or NGO to implement various offset activities, or an organisation to manage an offset's endowment. Important legal and institutional issues to address when creating a new a new institution to implement an offset include:

- Understanding the legal context: See Section 2.2. What are the steps required to create an institution and how difficult is it according to the law? It will be necessary to consider both the opportunities and constraints (tax status, registration with the government, permitted activities, etc).
- Determining a realistic timeframe: Determining a realistic timeframe to establish a new institution will have a significant impact on when an offset can be implemented. In planning offset implementation, developers should keep in mind that the process of creating new institutions to manage an offset can often require a minimum of two years. Registering and incorporating new institutions generally takes significant time and resources. Budgeting sufficient time and any financial resources will be important, particularly if offset

implementation activities need to start on a specific date. Moreover, simply planning an adequate time period to create the new institution, will not guarantee its smooth functioning. Ensuring that a new institution has the technical and financial capability to undertake its mission is another challenge and is likely to take several years. Consistent support for the institution during the start-up period (first five years at least) will help get the offset implementation off to a good start.

- Establishing appropriate oversight mechanisms: Establishing appropriate oversight mechanisms for a new institution will be another important step. Many legal frameworks require the formation of a board to oversee the management of an institution, so creating a board with members who will have the time and expertise to contribute to the strategic direction and regular management of the offset will be an essential part of establishing appropriate oversight mechanisms. Special attention will be required to ensure that the board selection process avoids potential conflicts of interests and that mechanisms are established in the legal documents to ensure transparency and the best interests of the institution and offset management.
- Creating a staff: A new institution will require a staff to operate effectively, with clearly defined roles, allowing appropriate individuals to be hired.
- Training a staff: The staff hired may be highly qualified but not experienced in the particular roles in biodiversity offset management planned for them. It may be important to organise training for new staff on a range of topics, including management planning, accounting, financial management, monitoring, grant making, strategic planning and other management-related fields.
- Identifying outside technical assistance needs: In some cases, the organisation may need outside technical assistance to ensure its effective operation, and it may help to build this assistance into the process early. A steering committee established for the purpose or the new board (if it has that capability) may be needed to contract and supervise those providing the technical assistance.
- Identifying non-staff training needs: Depending on the type of institution being formed, people other than members of staff may need to be trained. For example, board members selected to oversee the institution's performance may need training in analysing financial reports or the results of a monitoring programme.

KEY ISSUE: What are the most important short-term capacity-building needs that should be addressed for an institution implementing an offset?

Adequate institutional capacity will be needed to ensure that whatever management system is put in place, it will work effectively. Training will be required in a variety of areas depending on the nature of the offset, the institution(s) implementing offset activities, the type of management systems put in place and existing capacity. Once the implementing institutions and management system are identified, it will be important to undertake a short-term capacity needs assessment to determine where to focus efforts prior to or in tandem with launching offset activities. Some of the most pertinent short-term issues that need to be addressed include:

- *Board development:* An offset and its funding mechanism, such as a TRUST FUND, should have a governing body, which will likely be a board of trustees or directors. Prior to the offset activities getting underway, board members should be trained so they have at least the basic capacity required to oversee initial implementation activities. Plans should be formed to provide any training necessary for board members (see Section 3.1 for additional details).
- *Investment and money management for the board:* A sound investment strategy and good money management are crucial for an offset's funding mechanism, especially if an endowment is created. In addition, board members often bear legal, fiduciary responsibilities, so it is extremely important that they understand their role and responsibility and how the investment strategy will work and what the guidelines will be for managing income derived from it (see Section 3.1 for additional details).

- *Grant making protocols and good practice:* If an offset's financial mechanism, such as a trust fund, is to provide grants to outside organisations to achieve the offset's objectives, grant making protocols and best practices for grant making will need to be developed and adopted prior to any funds being disbursed.
- *Programme Implementation:* Offset planners need to ensure that appropriate institutional structures, systems and skills are in place to implement and oversee the OFFSET MANAGEMENT PLAN. Ensuring that staff have the ability to create effective management plans that include broad stakeholder input, and that management activities are linked to realistic costs is key.
- *Financial tracking:* Correctly tracking how funds are being used both internally and externally (in the event that grants are being administered) is critical to the long-term success of an offset. Prior to launching an offset, project managers should ensure adequate financial tracking mechanisms are in place, including allowing for periodic audits (preferably third party). Additional provisions should also be made for improving financial tracking capacity over longer time frames, particularly if the funding mechanism is expected to grow and / or the number of external grants is anticipated to increase over time.
- *Fundraising:* If an offset's financial mechanism will not be able to adequately cover short- and / or long-term financial needs, it may be necessary for particular stakeholders, such as a project staff or board, to undertake fundraising activities to secure additional resources. Fundraising capacity-building can range from basic proposal writing skills to developing fundraising strategies to target likely sources of financing from potential donors.
- *Monitoring, including the development of monitoring methodologies or protocols:* Monitoring will allow a project to collect the data necessary to determine if a project is progressing towards its objectives. More sophisticated monitoring and evaluation skills can be developed over the course of implementing an offset. However it is important to have both the basic methodology or protocol in place and the appropriate individuals or institution adequately trained for initial monitoring activities prior to launching the offset (see Section 4 for additional details).
- *ADAPTIVE MANAGEMENT:* Any adaptive management components that are adopted by a project should ensure that project staff and other stakeholders (such as communities) are adequately trained for any specific responsibilities prior to launching an offset (see Section 4.4 for additional details).

2.4 How should an Offset Management Plan be developed?

Developing a management plan for the offset can assist project managers in the organisation and implementation of the activities necessary to achieve offset biodiversity objectives.

KEY ISSUE: What components should an Offset Management Plan contain?

Key components that should be included in an Offset Management Plan include:

- *Identification of an offset's management objectives*: The offset's management objectives were defined through the process detailed in the Biodiversity Offset Design Handbook. These objectives should be clearly stated in a management plan, with all subsequent outcomes, activities, outputs and costs, designed to support their achievement.
- *Identification of necessary activities and outputs to achieve management objectives*: A management plan should detail what specific activities (such as community training sessions in patrolling) and outputs (such as sustainable financing objectives) will be required to fulfil each of an offset's management objectives. The various timeframes for activities and outputs, as well as the roles and responsibilities of the various

stakeholders involved in undertaking specific offset activities or producing specific outputs, should also be included.

- *Identification of the requisite resources, or inputs, (funding, technical expertise, etc.) to carry out necessary activities and produce outputs:* Management plans should detail what specific resources (funding, technical expertise, etc) will be needed to successfully implement project activities and produce specific outputs over various timeframes (including after a developer's operations have ended). This includes resource requirements for financing mechanisms like trust funds (see Section 3) that will be required to support long-term offset activities. In addition, the plan should identify where resources such as funding will be secured. In the event there are specific funding gaps, project managers should detail how the gaps will be filled (see Sections 3.3 and 3.4).
- *Identification of roles and responsibilities:* The Offset Management Plan should outline the final agreed roles and responsibilities (particularly for oversight, direction and management; operational activities; and monitoring), as explored in Section 2.1.
- *Identification of assumptions and risks*: Offset developers need to identify the assumptions and risks inherent in whether the activities and outputs will achieve the outcomes and whether the outcomes are sufficient to meet the objectives.
- *Identification of how the offset will be monitored and adapted to changing conditions:* Most if not all conservation projects need to have monitoring and adaptation components to ensure objectives are successfully being met. Management plans should detail how an offset will be monitored, and what mechanisms will be in place to adapt project activities to changing circumstances (see Section 4 for more details on offset monitoring and adaptive management).

Additional references

Defining roles and responsibilities

- Business and Biodiversity Offsets Programme online library (**www.forest-trends.org/biodiversityoffsetprogram/library.php**).
- Department for International Development (DFID). 2002. Tools for Development: A handbook for those engaged in development activity. Performance and Effectiveness Department. Department for International Development. Version 15. London, UK.
- International Finance Corporation. 2007. Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets. Washington, D.C.

Legal framework and offset design

- Business and Biodiversity Offsets online library (**www.forest-trends.org/biodiversityoffsetprogram/library.php**).

NGOs, civil associations and foundations

- Database of Archives of Non-Governmental Organizations (DANGO) Project at the University of Birmingham (**http://www.dango.bham.ac.uk**). DANGO helps researchers find out about the archives of non-governmental organisations (NGOs), charities, voluntary or third sector organisations in the UK, with a database of Archives of UK NGOs since 1945. Contains useful resources for NGOs.
- National Council for Voluntary Organizations (NCVO) (**http://www.ncvo-vol.org.uk/askncvo/directory/?id=433**). NCVO is a UK charity that supports the voluntary and community

sectors, including research into, and analysis of, the voluntary sector. Contains links to worldwide umbrella organisations for voluntary organisations.

- ThirdSector. 2007. See **http://thirdsector.co.uk/resources/LinksByCategory/International/**. ThirdSector is a UK publication with information on the voluntary and not-for-profit sector. The web page includes links to organisations that support the voluntary sector or share research and good practice.
- United Nations. 2007. 'How can I establish an NGO, or obtain funding for a project?' (**http://www.unsystem.org/ngls/faq.htm**).
- The World Conservation Union (IUCN) membership homepage (**http://www.iucn.org/members**).

Trusts and trust funds

- See Section 3.

Land law

- Convention on Biological Diversity. 1992. Article 8(j): Traditional Knowledge, Innovations and Practices. See **http://www.cbd.int/traditional/**.
- Hardison, P. 1996. *Conclusions and Recommendations of the U.N. Experts Seminar on Indigenous Land Rights and Claims*. March 24 – 28, Whitehorse, Yukon, Canada. See full document at: **http://arcticcircle.uconn.edu/SEEJ/unresolution.html**
- Land Tenure. 2007. Website: **http://www.landtenure.info/sito.html**. (Land Tenure is a knowledge-archive providing a brief overview of the evolving agrarian structures of selected countries. This site is the result of collaboration between the International Food Security Network, ActionAid, CERAI, aGter, COPROFAM, with technical support from FAO's Rural Development Division).
- Land Trust Alliance. 2007. Resources for Land Trusts (**www.lta.org/resources/index.html**).
- The Nature Conservancy. 2007. Website has information on conservation easements including 'About Conservation Easements' and access to a 'Primer on Conservation Easements': **http://www.nature.org/aboutus/howwework/conservationmethods/privatelands/conservationeasements/** and **http://www.nature.org/aboutus/howwework/conservationmethods/privatelands/**.
- Northern California Land Trust. Frequently Asked Questions about conservation easements (**http://www.landconservation.org/conservationeasements.php**).
- Oxford University Press Online Resource Centre. Selected land law terms (**www.oup.com/uk/orc/bin/qanda/books/11land/terns/**).
- Sullivan, Preston. 2003. Conservation Easements. Appropriate Technology Transfer for Rural Areas (ATTRA) Resource Series. See **attra.ncat.org/attra-pub/PDF/coneasements.pdf**.
- United Nations High Commission for Human Rights. 1991. Convention (No. 169) concerning Indigenous and Tribal Peoples in Independent Countries Adopted on 27 June 1989 by the General Conference of the International Labour Organisation at its seventy-sixth session entry into force 5 September 1991. Office of the High Commissioner for Human Rights. See **www.unhchr.ch/html/menu3/b/62.htm**.
- United Nations High Commission for Human Rights. 1995. Fact Sheet No.9 (Rev.1). The Rights of Indigenous Peoples. Office of the High Commissioner for Human Rights. See **www.unhchr.ch/html/menu6/2/fs9.htm**.

Conservation and protected area law

- Convention on Biological Diversity. Information on protected areas, including programme of work (**www.cbd.int/programmes/cross-cutting/protected/default.asp**).
- World Database of Protected Areas 2009 (**http://www.wdpa.org/**).
- United Nations Environment Programme. 2007. World Conservation Monitoring Centre (**http://www.unep-wcmc.org/sites/wh/index.html**).
- United Nations Environment Programme - World Conservation Monitoring Centre. Parks, Protected Areas and World Heritage (**www.unep-wcmc.org/protected_areas/protected_areas.htm** -includes a UN List of Protected Areas and World Database of Protected Areas).

Legal status and personality and contract law

- Mikitin, K. 1995. Issues and Options in the Design of GEF Supported Trust Funds for Biodiversity Conservation. Environment Department Papers. The World Bank. Washington, D.C.
- Verrucoli, P. 1985. Nonprofit Organizations (a Comparative Approach). Dott. A. Giuffre Editore. Milan, Italy.

Management plans

- Department for International Development (DFID). 2002. Tools for Development: A handbook for those engaged in development activity. Performance and Effectiveness Department. Department for International Development. Version 15. London, UK
- Gasper, D. 1999. Problems in the Logical Framework Approach and the challenges for Project Cycle Management. The Courier. Jan / Feb 1999, 173, 75-77.
- Lockwood, M., Worboys, G. and Kothari, A. 2006. *Managing Protected Areas: A Global Guide*. Earthscan.
- Norwegian Agency for Development Cooperation (NORAD). 1999. The Logical Framework Approach: Handbook for Objectives-oriented Planning. Fourth edition. Oslo, Norway. See **http://www.norad.no/items/1069/38/5751098277/Logical%20Framework%20Approach%20LFA%20-%20handbook%20for%20objectives-oriented%20planning.pdf**.
- World Bank. 1996. Performance Monitoring Indicators: *A handbook for task managers*. Operations Policy Department. Washington, D.C.

Potential tools

- Template for defining roles in offset implementation
- Defining the institutional arrangements for the offset
- Template for a Biodiversity Offset Management Plan

Activity 3: How will the offset be financed over the long term?

After determining the cost of implementing the offset, offset planners need to determine where the financial resources to meet these costs will come from, and how they will be managed. The assessment of revenue options represents a key step in the completion of the OFFSET MANAGEMENT PLAN. There are several ways in which to secure the long-term financing of a biodiversity offset. One is to create a fund that can be designed to provide consistent funding over a specific time period to implement offset management activities. Another is to use standard project financing, supplemented by other revenue sources. The creation of a fund that employs a variety of mechanisms (investment and project financing) is a common approach where sufficient resources cannot be mobilised to create an endowment with sufficient capital to generate the required resources. In other cases, implementation of more innovative financing or market mechanisms will contribute to generating the resources needed. The diversity of funding sources allows greater financing flexibility and provides opportunities to increase the resources available to pay for offset management. This diversity may create investment opportunities that increase benefits and economic opportunities for people living in the area of the offset. Activity 2 discussed several of the institutional and legal issues related to offset management and implementation. This section explores appropriate mechanisms for financing the implementation of the offset, including how to design and manage the most appropriate funding option. This activity draws on a number of published documents on long-term financing of environmental projects and attempts to synthesise the core issues that need to be addressed in determining appropriate financing options for biodiversity offsets (see the *Rapid Review of Conservation Trust Funds* at **www.fmcn.org/documentos/RapidReviewCTFsMay08Final.pdf** and *Conservation Trust Fund Investment Survey* at **http://www.fmcn.org/documentos/Conservation_Finanace_Report_2008.pdf**).

For purposes of this document, the term 'CONSERVATION TRUST FUND' (CTF) refers to a fund that has a capital endowment that generates money from its investments. In a CTF model, that income would cover all or part of the cost of implementing and managing the biodiversity offset.

From a strategic perspective, it makes sense to ensure the financial sustainability of an offset. How that is defined is another matter. For many, the concept of financial sustainability for an offset implies funding in PERPETUITY, as this provides offset managers with sufficient capital to provide management and adjust to changes in conditions as appropriate. Others argue that developer responsibility may be more limited, especially if the objectives of the offsets can be achieved in a shorter time frame. In either case, creating mechanisms that can help ensure long term cash flow to support management of an offset site is more likely to contribute to desired outcomes.

If the offset planner needs to build long-term cash flow, the establishment of a CTF offers a viable approach. Key questions involve the amount required to establish a viable endowment fund and the strategy for completing the capitalisation of that fund. The strategies will depend on many factors including the funding requirements, the amount of money available from the developer, and the mechanisms that could be exploited. In determining whether or not a CTF mechanism is appropriate to support the long-term implementation of an offset, the key issues raised in the following sections need to be addressed.

Another option may be to ensure the financial viability of the offset for a set period of time, for example, during the period that the development project will operate. If the project covers a long time period, annual allocations to the offset project may be sufficient to ensure the integrity of the offset over a long period of time. In this case other funding strategies may be applied. They too are discussed in this section.

It is important to remember that there are multiple options and combination of options that will allow for the sustainable financing of a biodiversity offset. The financial planning should form a key part of the offset design, and should embrace a suite of options to ensure success.

KEY ISSUE: What are the different fund options that should be considered?

Developers can consider a variety of fund options to provide long-term support for offset activities. Consideration of potential fund options should include the long-term nature of the biodiversity offset so that the choice of fund options is based on sustainable funding flows over a longer time horizon. Fund types that might be considered include:

- *Endowments:* An endowment is a fund where the financial assets, or capital, of the fund are invested to earn income (interest) and only that income is used to finance agreed-upon activities (GEF 1998). Investments may include bonds, private bank accounts, real estate, etc (Lambert 2003). Although there are different types of endowments, they are generally thought of as permanently invested resources that generate funds on a continuing basis (Rowland 2006). Re-investing unused interest can substantially increase the size of the endowment fund over time.
- *SINKING FUNDS* are designed to disburse their entire principal and investment income over a fixed period of time until the value of the fund sinks to zero. When sinking funds are set up for relatively short terms, they operate more like typical project financing. However, many sinking funds are established to address longer term funding goals and usually operate for a relatively long period (e.g.15 years or more) (GEF 1998). Unless the sinking fund is able to generate additional resources and recapitalise, it ceases to operate once all funds are disbursed (Oleas and Barragán 2003).

A CTF with an endowment can also operate a separate sinking fund that could also contribute to increasing its endowment capital. Combining funding mechanisms offers opportunities to build the CTF, while ensuring its ability to meet both long- and short-term financing needs. See Box 4 – Mgahinga-Bwindi Impenetrable Forest Trust of Uganda and Box 5 – the Brazilian Biodiversity Fund, below.

Box 4: Bwindi Mgahinga Conservation Trust of Uganda: an endowment fund to support protected areas

The Bwindi Mgahinga Conservation Trust (BMCT) was established as a non-governmental organisation in 1995 to manage an endowment fund for the Mgahinga Gorilla and Bwindi Impenetrable National Parks in Uganda. The two Parks are particularly important, as they protect approximately half of the world's remaining mountain gorilla populations, with the Bwindi Impenetrable Forest being a World Heritage site. Prior to the establishment of the BMCT, the parks had no dedicated long-term source of funding.

The Parks are the legal beneficiaries of the Trust, but one of its central objectives is to provide benefits to local communities and encourage them to participate in conservation activities. According to its charter 60% of BMCT's funding supports economic development activities in communities bordering the two PAs while applied research and park management activities each receive 20% of available resources. To ensure local interests were incorporated into the Fund's design, both local NGOs and Ugandan Government officials played a central, active role in the planning phase of the trust. The BMCT was originally capitalised through US$4.3 million from the World Bank through the GEF, with additional project-based funding from USAID and the Netherlands Government. With two years of operational programme funding by USAID when BMCT was created, and then a similar additional 5 years funding from the Netherlands, , the BMCT was able to reinvest, rather than spend the income earned from the returns on its endowment capita investments, and increase the endowment 's value to more than US$7 million by 2007.

In 2002 BMCT modified its investment strategy and adopted a more active investment management approach that helped it increase its earnings and fund capitalisation. The combination of bilateral funding and reinvestment of the fund's capital has been key to the sustainable finance success of BMCT (Moye and Norris 2000; Crepin 2003; Victurine, personal communication).

Box 5: The Brazilian Biodiversity Fund (FUNBIO): A Sinking Fund for Conservation

The Brazilian Biodiversity Fund (FUNBIO) is a sinking fund that was founded in October 1995 as a NON-PROFIT civil association to complement government efforts to conserve and sustainably use Brazil's biodiversity. Its principle objective was "to provide long-term and sustainable support for conservation and sustainable use of biological diversity in Brazil, supporting and promoting partnership among government, non-profit organisations, academic institutions, and the private business sector" (World Bank, 2004). Legally FUNBIO was established as operating unit of the Getulio Vargas Foundation, a prestigious Brazilian think tank and university founded in the 1940s by Brazilian President Getulio Vargas.

FUNBIO received a US$20 million grant from the GEF, which was part of the same project to support Brazil in developing its national biodiversity strategy required by countries party to the Convention on Biological Diversity. The grant was established as a sinking fund to be spent over 15 years, with the condition that a mechanism be established that could raise additional, long-term funds from the private sector and other institutions to help FUNBIO achieve its biodiversity objectives. By the end of 2006, US$10.7 million of FUNBIO's funds had been disbursed to cooperatives, community associations, universities, companies and non-governmental organisations (GEF 1998; FUNBIO 2007).

FUNBIO also manages the ARPA (Amazon Protected Areas) fund, which is an endowment fund (FUNBIO 2008).

- *REVOLVING FUNDS:* A revolving fund is one that receives income from repayments taxes, fees, or payments for specified purposes (Spergel 2008). A revolving, or recurrent, fund often disburses funds to projects on a loan basis (Lambert 2003). Revolving funds provide money and expect repayment based on established terms (e.g. interest rate, time period for repayment, etc.) The terms of the repayment can differ greatly. The loans can be heavily subsidised, in which case the revolving fund would behave similarly to a sinking fund, i.e. the value of the capital will be reduced over time. Revolving funds can also lend money on market terms. In that case the fund would maintain its value (assuming no loan default) much like an endowment. Mechanisms for disbursing money from revolving funds can also be quite versatile. Revolving funds can act through the established banking system, targeting larger companies and those with the right type of collateral (a limiting factor in the case of many developing countries) or through specialised institutions and NGOs to provide MICRO-FINANCE services to the poor. Revolving funds also can provide for the receipt of new resources on a regular or periodic basis for example, proceeds of special taxes designated to pay for conservation programs and recurrent income from entry fees to protected areas. These new resources can replenish or augment the original capital of the fund and provide a continuing source of money for ongoing activities (Oleas and Barragán 2003; GEF 1998).
- *A combination of the above options*: Any environmental or CTF can manage diverse sources of capital (GEF 1998). For example, a CTF can manage its endowment fund, while receiving project funding for a specific number of years. Part of the revenue strategy for the endowment may be to receive project funding to meet its operational needs while allowing its capital to grow. An endowment fund may also involve

operation of a revolving fund that provides a satisfactory return as a result of loan repayments. Diversity of funding sources is often point of strength for any CTF, so fund managers should attempt to maximise both the amount and diversity of funding in their efforts to finance the management of biodiversity offsets (see Box 6 – the Peruvian Trust Fund for National Parks and Protected Areas).

3.1 How will short- and long-term costs of implementing the offset be calculated?

In order to calculate the amount of finance needed to cover both short- and long-term costs of implementing the offset and thus to determine the most appropriate kind of financial instrument for the offset, the first step is to itemise the activities and estimate the cost of undertaking them. The Offset Management Plan defined in Section 2.4 should identify these items, which fall under three broad cost headings:

- Programme costs: These are the costs associated with undertaking the offset activities themselves.
- Operating costs: These are the costs associated with administering and managing the offset, perhaps through a TRUST FUND, or another option for financial management, as discussed in this section.
- MONITORING AND EVALUATION costs: These are the costs of checking whether the offset is achieving its objectives. Monitoring and evaluation are described in Section 4.
- Future costs: Planners should take into account potential increases in costs (e.g. fuel) and inflation and assess risk factor that will lead to unanticipated expenditures to ensure that sufficient funds are available in the future to manage the offset.

The OFFSET PLANNER should estimate all the costs of implementing the offset under each of these four headings, including any short-term start-up costs such as setting up a new institution to manage an offset. With respect to programme costs, the roles and responsibilities for implementing the offset will need to be clarified first (see Section 2.1), including any payments needed to communities, NGOs, government agencies or others to compensate them for undertaking the conservation work, and the costs of any materials, equipment and training. When estimating operating costs, the offset planner will need to know the legal, institutional and financial arrangements (see Sections 2.2, 2.3, 3.2 and 3.3). For instance, if a conservation trust fund is to be established, important components of the operating costs may involve staffing a Secretariat to support the Board of the trust fund, estimating the costs of legal and financial advisers, and the costs of any training needed for staff, board and advisers. Similarly, the costs of monitoring and evaluation can be properly estimated once the data that must be gathered and analysed, and who will undertake these tasks, have been determined. These costs should be combined and a contingency percentage added to cover unforeseen items and events to arrive at a total estimated cost for implementing the offset.

Box 6: The Peruvian National Fund for Protected Areas (PROFONANPE): a combined fund supporting protected areas

The Peruvian National Fund for Protected Areas (PROFONANPE) was established as a non-profit organisation in 1992 to provide a stable source of long-term financing for protected areas in Peru. Among its statutes are provisions for a long-term grant making programme, as well as the ability to create independent sub-accounts to support specific protected areas.

PROFONANPE is structured as an umbrella fund that manages a number of sinking funds and an endowment fund in its portfolio. The sinking funds are generally supported through debt-for-nature swaps and are dedicated to specific protected areas. In 1995, the GEF made a US$5.2 million initial contribution

in seed money to PROFONANPE's endowment fund, which supported protected areas as well as the Fund's operational costs. By 2003 PROFONANPE was managing a combined portfolio of over US$84 million for Peru's protected areas. To increase its endowment capital, PROFONANPE has employed a number of innovative measures. For instance, the organisation uses interest generated from the sinking funds it manages to build the endowment. The greater endowment fund allows PROFONANPE to increase its support to protected areas as well as to cover its operational costs. By using the endowment to cover operational costs, more of the revenues from sinking funds can be dedicated to conservation activities. PROFONANPE has also established an institutional development fund to which donors can contribute directly in order to support operations (PROFONANPE 2003).

3.2 What are the potential long-term funding options?

Ensuring the success of biodiversity offsets will generally require the creation of a long-term funding mechanism to guarantee their permanence and sustainability. Conservation trust funds (CTFs), or environmental funds, have become increasingly popular as mechanisms to secure long-term support for conservation projects, from the local to the national level. In considering the nature and purpose of environmental funds, the 1998 GEF *Evaluation of Experience with Conservation Trust Funds (*recently updated by the Conservation Finance Alliance in *Rapid Review of Conservation Trust Funds* – see **www.fmcn.org/documentos/RapidReviewCTFsMay08Final.pdf**) observed that CTFs "are not simply financial mechanisms, but must be viewed as institutions that have several roles to play, in addition to channelling funds. These include roles as key actors in the development of national conservation strategies, as technical experts who can work with public and private agencies to develop agile and effective management approaches and, in some countries, as capacity-builders and nurturers of an emerging group of non-governmental organisations becoming involved in BIODIVERSITY CONSERVATION" (IPG 1999). When setting up a fund to manage and implement an offset, developers are, in effect, creating a long-term financial and institutional mechanism for the benefit of conservation. Key issues to address include:

KEY ISSUE: What activities do conservation trust funds typically support?

Conservation trust funds (CTFs) can support a number of conservation activities, but they have typically focused on three areas:

- *Protected area management or direct conservation funding:* CTFs generate annual income that can be directed to cover the costs of implementing protected area management plans. Whether an offset receives official recognition as a protected area, or some other designation, funds from a well-managed CTF can either completely or partially cover the cost of managing of the offset in perpetuity, whether the trust fund is the manager of the offset or provides grants to the management entity.
- *Community economic development:* CTFs often provide financing directly aimed at improving the lives of rural people, especially those affected in some way by a protected area (or a new offset site). Funds from a CTF support development of social infrastructure (schools, clinics, etc), agricultural and business development in communities, and general programme activities that help increase incomes.
- *Applied research:* Some funds support scientific and social science research that contributes to improved site management by improving the understanding of ecological functions on the site, or the understanding of incentives and social factors that contribute to conservation.

CTFs support these activities through:

- *Grant funding:* A CTF can serve primarily as a grant making institution. In this capacity it can support the management of the offset as well as provide financing for a broad range of conservation and sustainable development projects linked in some way to ensuring the success of the offset. The board determines funding priorities and amount available for each grant funding cycle. Grants must be given for projects that in one way or another contribute to satisfying the mission of the trust.
- *Loan funding:* A fund may decide to act as a revolving fund and provide loans and investment capital, including venture capital, to support development of local businesses. Both loans and venture capital could be explored by funds operating in regions lacking alternatives for small and MICRO-CREDIT for environmental activities and sustainable business ventures. One of the advantages of these approaches is that, in addition to having economic feasibility, they can generate considerable social and environmental benefits (Oleas and Barragán 2003).

KEY ISSUE: Is a conservation trust fund appropriate for the biodiversity offset?

A conservation trust fund (CTF) is an appropriate vehicle for some biodiversity offsets, but not for others. There are many factors that determine the appropriateness of a CTF, including the institutional or legal framework of the country, transparency and GOVERNANCE issues, or the size of the proposed biodiversity offset. For example, a small project may not have the resources to capitalise an endowment and would need to consider a more standard funding approach, or exploration of other revenue sources. Legal constraints may also exist in some countries that prevent trust fund mechanisms from being established.

When considering whether or not a CTF mechanism is appropriate for the offset, offset planners need to consider the following issues identified by the GEF as key conditions indicating when a CTF is likely to be the appropriate mechanism, and influencing the fund's ability to function as an institution and carry out its mission:

- *OPPORTUNITY COST:* The opportunity cost of putting aside a large sum of money in an investment account and only generating small annual sums may be too high for the offset when immediate conservation needs are high and the capital could be used to meet these needs Where threats to biodiversity are serious and immediate, and can be effectively addressed by the rapid mobilisation of relatively large amounts of funding, traditional project funding may be more appropriate.
- *Timeframe of the project:* If the conservation issues that need to be addressed for an offset require a commitment of at least 10 – 15 years, a CTF may be more appropriate than standard project finance.
- *Critical mass of support from the Government and other sectors:* If there is active government support for a public-private sector mechanism outside direct government control, a CTF may be a better financing option. Support from critical mass of people from diverse sectors of society can also work together to achieve biodiversity conservation and sustainable development through a trust fund mechanism.
- *Supporting legal and financial institutions:* Trust funds are easier to establish and operate in countries where there is a basic fabric of legal and financial practices and supporting institutions (including banking, auditing and contracting) in which people have confidence and that support the establishment of trust funds. Consultation with legal experts in the country of question can help provide an answer to this question. The existence of a trust in the country signals that the law supports such mechanisms so try to determine if any exist. When seeking legal advice try to find someone with experience working with trust funds.
- *Sufficient initial capitalisation.* The initial capitalisation, together with other resources available on a recurrent basis, should allow a meaningful programme in the chosen offset area over a significant time period, while keeping annual operating costs within a range of 20 – 25% of the total annual budget. With a

larger capital base, the percentage of budget required to meet operational costs generally will be lower. Where funds give out large numbers of grants and require strict monitoring, operational costs are higher. Funds need to strike a balance between programme and operational requirements and costs. Trust funds should not be created without commitments for this minimum amount of capital from the outset (GEF 1998).

- *Sound financial management:* Sufficient capitalisation is key, but the capital must be invested wisely and managed prudently to maintain its value over time. Most funds contract with professional asset managers who provide investment and money management advice. Identifying a competent asset manager should who understands endowment management is a high priority. With funds operating successfully around the world, information and recommendations on quality asset managers is available (see **www.conservationfinance.org** and **www.redlac.org** for information on funds).

A CTF may still be an option if most of the conditions above are met, but the legal system does not support a fund's establishment. In this case, offset planners may consider the establishment of the trust fund in a different country altogether. Many countries have laws that make it feasible to establish a trust fund with a mission and purpose to support specific activities outside the country where the trust is registered. Offset planners need to ensure that contracting of competent legal expertise to assist in creation of the fund. If this is an issue, it is worth consulting with legal counsel in the United States and in European countries, where funds have been established in the past. Working with competent legal expertise in the country where the trust fund will be established is key.

Potential constraints related to the establishment of conservation trust funds include:

- Creation of 'paper' funds, i.e. legally created funds, but with limited money which inhibits an ability to support intended conservation activities over appropriate timeframes.
- Slow disbursement of funds needed for conservation activities due to poorly managed grant-making or excessive board control.
- Low or unpredictable investment returns, especially in the short term, if there is no well-conceived and executed investment strategy.
- No clear focus for making grants, if criteria are not clearly set forth at the outset in the fund's legal documents or if the effective planning processes are not in place.
- Potentially high administrative expenses, especially if the fund's capital is relatively small relative to the number of employees and operating expenses, or if the fund provides a great deal of technical assistance to grantees.
- Poor investment decisions, lax oversight by the Board, limited accountability, or a downturn in markets could limit the amount of funding available to finance offset management and offset management in jeopardy.

KEY ISSUE: What common features should all conservation trust funds have?

While a conservation trust fund (CTF) can be structured and run in a number of different ways, there are certain common features of every well run trust fund, including:

- It is a legally created entity, governed by an independent board.
- The board has fiduciary responsibility for the funds held and managed by the trust.
- The fund is used to channel funding in the form of grants or loans to beneficiaries, which typically include government agencies, NGOs and local communities. Depending on the type of fund (e.g. revolving fund),

funds could be provided to individuals as part of an overall community development scheme. Funds can only be used for activities that support the mission of the trust.

- The trust fund's board raises and manages long-term financing for biodiversity conservation and / or protected areas.
- Financial contributions are additional to, and do not substitute for, resources that others (including the government) have already been providing for the management of biodiversity, particularly protected areas management.
- Its assets can only be used for the stated purpose (i.e. the fund is not a 'pot of money' for general use).
- A CTF's management will generally create an investment policy and spending rules to determine how money will be managed and to create constraints on its use.
- Capital funds (endowment, sinking) are kept distinct from other funding, such as project funds.
- A CTF often acts as an anchor for sustainable finance strategy by managing multiple sources of long-term or self-sustaining funding. For example, CTFs are increasingly used as a vehicle for managing PAYMENTS FOR ECOSYSTEM SERVICES (see Section 3.3 below). The ability of CTFs to invest and manage large sums of money, and make payments over a long time period, make them attractive funding vehicles for such payments for ecosystem services such as carbon offsets (GEF 1998).

KEY ISSUE: What are the advantages and disadvantages of conservation trust funds?

Experience with conservation trust funds (CTFs) has revealed a number of strengths and weaknesses that need to be considered when deciding whether a fund or non-fund option is better for the long-term support of a biodiversity offset. Trust fund advantages include:

- Funds can provide a stable, long-term source of funding for biodiversity conservation, not only to cover recurrent costs, but also to smooth out year-to-year fluctuations in project funding. This can also provide a better basis for long-term planning and strategy implementation.
- Funds are able to attract a diverse range of national and international funding sources, and can leverage other funds.
- National, permanent civil society trust funds focused on biodiversity have been created and gained credibility, in many cases bridging the public and private sectors.
- There is high potential for broad participation of stakeholders (e.g. representatives from indigenous peoples groups, community organisations, local and national government agencies, private businesses, the academic community, and international donor or NGO representatives) in the design and operations of trust funds, demonstrating strong 'ownership' of the funds.
- Many models for asset management characterised by good returns on investments, transparency and integrity exist for CTFs.
- A good CTF will attract highly qualified people for boards and staff.
- New national parks have been created and park systems expanded. The reliability of financing from trust funds has encouraged even cash-strapped governments to authorise new protected areas.
- Improved 'resource security' for managers in protected areas, allowing them to focus on broader conservation issues (and additional sources of support) and retain experienced staff.
- CTFs have established effective, efficient and transparent mechanisms for transferring resources to field activities.

- Funds can absorb major amounts of funding and disburse it over time consistent with the absorptive capacity of recipient organisations.
- Funds can be politically independent of particular administrations or parties, and can provide continuity from one government to another.
- CTFs generally can operate quickly and responsively to a variety of organisations that have relatively limited institutional capacity, avoiding much of the bureaucracy of large donor or financial agencies.
- Funds can provide a vehicle for collaboration among government and non-governmental organisations in defining funding priorities, and for constructive engagement with the private commercial sector.
- Funds can take on long-term funding commitments that require annual outlays of funds that would be impossible under short-term project funding.

Disadvantages of conservation trust funds include:

- Conservation trust funds can tie up substantial amounts of scarce resources for conservation and development to generate often modest amounts of income, some of which, in turn, is spent on administering the fund.
- The additional and steady flow of resources from conservation trust funds can relieve pressure for continuing or increased government or donor expenditures on conservation and sustainable development, resulting in decreased government or donor spending and commitment in these areas.
- Funds require highly technical and sophisticated management skills to safeguard the fund's capital, provide a predictable income stream in sometimes volatile economic environments, and create a participative and transparent governance structure involving multiple stakeholders.
- There can be enormous pressure to disburse funds, particularly after lengthy start-up phases, which can lead to an erosion of capital assets and excessive project-focus, financing a profusion of activities without developing clear strategies.
- Funds can be overwhelmed with demands for resources from a variety of sources (often well beyond the environmental groups originally involved), and with efforts to effectively accommodate the involvement of a large number of diverse stakeholders.
- Funds give direction and control of potentially large sums of resources to independent organisations (although governments and donors may be represented on their boards), and activities financed can lack coordination with national environment strategies and priorities (GEF 1998).

KEY ISSUE: What are the steps involved in establishing a conservation trust fund?

The establishment of a trust fund may involve a long and expensive preparation period. While each legal and institutional context will ultimately determine how a conservation trust fund (CTF) is established, there are a number of steps that all funds typically share, including:

- *Defining the purpose of the trust fund:* The starting point for all CTFs is the definition of the purpose for which the trust has been created, its objectives, the focus of its operations and who will be eligible to receive funding. This has legal implications and will define the uses to which finances can subsequently be put.
- *Securing the support of stakeholders, including national and local governments in the development of the trust fund:* Given the role a conservation trust fund can play in supporting conservation activities in an offset, it will be important to ensure stakeholder support for the fund and its objectives. Involving

government and key stakeholders in the offset and leaders in civil society in the dialogue about the creation of the fund and even including their representatives on the board will help to build acceptance.

- *Creating a board of directors or trustees (including the decision-making process for ensuring that the board membership is capable, truly representative of stakeholders, and includes effective mechanisms to replace members with equally competent members in the future)*: Generally it is recommended that the board size should be kept as modest as possible. Large boards run the risk of being difficult to manage and require significant financial outlays (for example, resources are generally needed to cover board travel and meeting expenses). Rather than a large board, it is preferable to create board committees and to invite outside experts to participate in these. Typical boards range in number of members from 7 to15 people (for additional information on board formation, see below).
- *Drafting of legal statutes or ARTICLES OF INCORPORATION and requisite by-laws:* Once the purpose of the trust is established and the board members identified, legal documents can be completed. Professional legal support from in-country professionals, such as lawyers, in this undertaking is recommended. The fund will also need to develop operational manuals for human resources, procurement, accounting and grant-making.
- *Legal registration of the fund:* The fund will need to be legally registered in the country in which it is based. Competent in-country legal assistance should be sought to assist in this process and proper time allocated, as in some countries the legal registration process for funds can be complicated and time consuming**.**
- *Government recognition of 'public benefit' and / or tax-exempt status of fund:* Being eligible for public funds and tax exemptions can be very beneficial for a CTF and should be explored early in the planning stage of offset implementation. Tax-exempt status ensures that the CTF will not have to pay taxes on its investment income or on funds transferred from an offshore asset manager to the fund each quarter, thereby enabling all funds to be directed to offset management. Tax exemption for a fund may also apply to value added tax (VAT) and / or import duties. Project designers can consult with professional legal assistance to determine how best to pursue a request for tax-exempt status in the country where the offset is located. Active involvement of government stakeholders in the CTF design process may also facilitate achieving tax-exempt status. In some cases, a trust fund can be designed to be eligible for international tax exemptions. Eligible funds, especially those that invest their assets in the US, may need to acquire charity equivalence in the US to avoid paying taxes on dividend income. If the trust fund intends to invest in the US or the UK, for example, the Articles of Incorporation need to include language that meets the charity equivalence requirements, which mainly focus on assurance of charitable mission. As with other elements of fund design, legal expertise from lawyers based in the country where the investment will take place (as well as the country where the offset will be carried out) is advisable for such international trust funds. Lawyers with TRUST FUND and NGO experience are recommended when exploring international tax emption possibilities.
- *Developing an investment policy and identifying asset managers*: A CTF's board will need to develop and approve an investment policy to guide where and how the capital in the trust fund is invested and how funds are to be disbursed. Once approved, the board will need to identify competent asset managers to manage and invest the fund's capital. (CTFs often adopt a 'multi-manager' approach, where more than one asset manager is retained.) The fund could issue requests for proposals (RFPs) to appropriate, experienced asset management firms and solicit investment management proposals. The proposal will allow the board to review different investment approaches, costs, and levels of service and decide on the asset manager that best responds to the trust fund's needs. It is important to ensure the independence of asset managers who has the freedom to provide investment advice to the board / offset managers. For example – the developer should not oversee investment or base its payments on stock contributions.
- *Acquiring the fund capital:* Ideally the conservation trust fund will be able to obtain the amount of capital needed so that it earns enough each year to cover the entire anticipated cost of implementing the

biodiversity offset. Generally, investment policies establish what is called a spending rule. The spending rule sets the percentage of the income earned from capital investments that the Fund will spend each year to cover its operational and programmatic costs. Generally the rule is based on a average of several years (3 to 5) to take into account both good years and bad. If one assumes a 5% spending rule, the amount of capital needed to cover 100% of the costs is the annual requirements divided by 5%. If, for example, the fund requires US$300,000 per year to operate (grants, administration, etc.), the capital amount required to endow a trust fund would be US$6 million. In some cases the amount of money available for capitalisation will be predetermined and could well be less than the budget required to secure an endowment to cover all the annual costs in PERPETUITY. If this case arises, some mix of strategies will be required to ensure sufficient flow of resources to manage the offset. Offset implementers could explore cost cutting measures along with identification of supplementary funding sources. These could include donor grants and / or income (e.g. payments for ecosystem services).

- *Securing adequate funding for both start-up costs and long-term activities, ideally from diversified sources (for example, projects, revenue sharing, government budget, private sector, etc).* Where feasible, the design of the offset should include securing an initial lump-sum payment to cover at least one year (and ideally two or three years) of activities and start-up costs (see Section 2.3 for more details on what start-up activities will have to be funded). If start-up costs and initial activities are covered in this way, the capital for the trust fund will be allowed to grow and require no drawdown, permitting the endowment to get established. Fund managers and the board should also develop fundraising strategies for potential donors that could increase the capital base or provide funds for specific offset investments or activities.
- *Decide where the investment account will be based and deposit of the initial capital of the fund*: Once the asset manager is chosen, funds are transferred to the asset management account established with the investment advisor. The asset manager should then provide the board with quarterly financial reports as well as end of year summaries to allow the board to track overall investment performance. As part of the process of trust fund establishment a decision is required on where to create the investment account. There are generally three options: A CTF could set up its investment fund (1) in the country where the offset will be implemented; (2) in a third country (an offshore account) or (3) through some combination of the two. Under some circumstances, it may be best to keep the capital in the country, in local currency, especially if the fund is denominated in local currency and the cost of conversion to another currency is high. Moreover, if the country where the offset will be implemented has well-established financial markets, quality investment services, and lower inflation, there may be little reason to move the capital offshore. However, where high inflation and exchange rate losses could erode the value of the fund an offshore investment option should be considered. An offshore location for the capital may bring substantial benefits, especially given the greater diversity of investment options in larger capital markets and the potential for higher net returns. The choice to place the capital offshore makes sense in cases where the state of the economy of the offset country may pose certain downside market risk. Ultimately the choice will depend on considering issues of political and economic stability, as well as the overall objectives for net return from the fund. *Sources:* adapted from Oleas and Barragán (2003), Norris (2000), GEF (1998).
- *Develop operational procedures and manuals:* The directors, trustees and staff involved in decision-making and administrative tasks for the trust fund will need clear policies and procedures on vital aspects of the management of the trust fund, such as human resources, procurement, fund management and grant-making. It helps to establish these policies and procedures and make them available to all concerned before the trust fund starts to operate.

KEY ISSUE: How should a conservation trust fund be governed?

Regardless of which type of fund mechanism is chosen, a CONSERVATION TRUST FUND (CTF) needs a governing structure that allows it to manage funds effectively and transparently for the purposes intended. An effective trust fund governance structure generally includes a board of directors (or trustees) with representation by relevant stakeholders, including representatives of people affected in some way by the project of the offset. The governance structure of the conservation trust fund will be specifically defined in the ARTICLES OF ASSOCIATION or Trust Deed. Depending on the scale of the offset and scope of activities envisioned, the governance structure may include local consultative committees or technical review groups, if appropriate. Generally, such bodies help guide the use of funds or provide technical support in the review of grants or implementation plan. Their establishment and stated purpose are defined in the trust by-laws.

Governing boards, whose members are elected in their personal capacity, as opposed to formal representation of organisations, agencies or sectors, tend to develop a stronger sense of 'ownership' of the CTF as an institution, and work more effectively to implement the fund's mission. The more formally representative boards tend to see their roles in terms of allocating resources among their agencies and sectors over achieving the objectives of the trust. Few of them do an adequate job of reporting to their constituencies and keeping them involved (GEF 1998). The following represent some of the lessons learned related to the governance structures of conservation trust funds:

- Governance structures vary, including boards of directors, general assemblies, administrative boards, and councils (Oleas and Barragán 2003). The structure of the governance systems is articulated in the articles and in the by-laws that create and dictate the operations of the trust.
- Generally boards create expert or technical sub-committees to address particular management issues (e.g. finance and investments) and draw in expertise from the broader community to provide advice and guidance.
- Where CTFs manage large grant portfolios, boards may create technical committees of experts to review grant proposals for quality assurance.
- Boards can also establish special arrangements to manage funds from other projects (fund windows), creating separate steering committees to oversee the management of particular resources.
- Governance may demand a good deal of time and creativity from all concerned parties: the board, the executive secretariat, and the donors (GEF 1998).

None of the alternatives for governance of a CTF is superior to the other (Mikitin 1995). Each one fits a particular situation after an analysis of issues and factors. The selected approach will often depend on the complexity of funding needs, level of stakeholder involvement required, level of openness and transparency in government, size of the fund, etc. A key element in the process is the selection of high quality trustees to guide management, provide strategic guidance, and, to the extent possible, assist with increasing the resource base of the CTF. However, even highly skilled trustees in subjects such as finance may not have prior board experience, so appropriate training should be provided to help trustees understand and effectively carry out their roles and responsibilities. The ability to work with the trustees to build a strong team with a sense of the organisation's mission is also beneficial.

In developing the governance structure and management design, it is important to keep in mind that CTFs are more than simply funding mechanisms. They can play an important role in society. Often, CTFs are the only non-government institutions available with proven financial management capability. In some cases they provide private sector investors with a level of assurance that funds provided for an offset will be used in

accordance with established agreements. The creation of new funds, or strengthening of existing funds, should be considered as part of efforts to manage project risk.

3.3 What are the potential non-conservation trust fund options?

Establishing a conservation trust fund (CTF) mechanism may not be, under certain circumstances, the best or most feasible option to finance an offset. In some cases, non-fund options, such as standard project-based financing, may be preferable. Or project-based funding may represent a short-term funding strategy, used, for example, to create the conditions that would help establish a long-term funding mechanism. For example, if a fund receives a five year grant that covers all its expenses (operating and programmatic), the fund can avoid drawing down its capital and reinvest that money to increase the fund's capitalisation (as in the example in Box 4). A fixed-term grant thus becomes a vehicle to further capitalise the fund, without a direct payment into the capital account. For example, a trust fund with a capital of US$5 million receives a grant from a donor to cover all its operational and programmatic costs over a five year period. During those five years the fund does not use any investment income but simply reinvests all earnings. If a conservative net return of 5% per year is assumed, the fund's capital would have increased to US$6.4 million over that time period, while grant money was used for offset management.

KEY ISSUE: If a conservation trust fund is not appropriate for the offset, or is not possible to create due to financial constraints, what are alternative funding options?

Section 3.2 detailed some of the circumstances which may make a trust fund inappropriate, or impossible to establish, for an offset. In these cases, other financing opportunities should be explored, perhaps supplemented by the potential market-based options that appear in Section 3.4, as well as traditional project financing. Potential non-fund sources of support for offset management could include:

- Annual payments directly from the developer over the life of the project.
- Grants from individuals, national organisations or international organisations operating in the country and established national and foreign philanthropic FOUNDATIONS.
- Support from bi- and multi-lateral organisations (USAID, the World Bank, the Global Environment Facility, etc). Where donors are active in a specific country, or where governments have set priorities to protect biodiversity or ecosystem services, offset managers should develop multi-year funding proposals to bi- and multi-lateral organisations. Funding from these sources may be particularly useful as they could allow conservation activities to begin while alternative revenues sources are still being developed.
- Targeted fundraising activities, such as local lotteries, events with entry fees, auctions, etc.
- Targeted levies and / or taxes, such as when a hotel or tourist service adds a charge representing a fixed sum (e.g. $1.00) or 1 – 2% to the price of a hotel room or service and dedicates that sum directly to support conservation of the offset site.
- Branding or green labelling, which earn a percentage on the sales of certain products (such as handicrafts) that are somehow connected to the site or to conservation (Lambert 2003; Oleas and Barragán 2003).
- Sale of ecosystem services, such as carbon resulting from reduced emissions from deforestation and degradation (REDD) (see Section 3.4).

As many of these funding options are probably not sustainable over longer timeframes (such as donations), project managers will need to develop strategies that use shorter-term funding resources to lay the foundation for more sustainable revenue options (see the following section). Sustainable revenue development will not necessarily come about through one funding source. Long-term funding success may be best achieved by

diversifying funding sources and revenue opportunities to ensure sustainable cash flows. Building financial diversification should form part of any strategic planning effort for the offset. In the case of small projects (see Box 7) that may not have the capital to establish a fully-capitalised endowment, efforts could focus on tapping these funding sources, as well as those detailed in Section 3.3, potentially in strategic partnerships with NGOs, government and the donor sector. Ultimately, successful long-term support for the offset will require managers of smaller projects to create innovative fundraising strategies that focus on non-fund resources as central elements of an offset's management plan.

Box 7: What Are the Potential Funding Options for Small Project Offsets?

Large-scale industrial projects often have the financial resources available to establish a long-term funding source, like a trust fund. However, small-scale projects may lack such resources. Fortunately, there are a number of potential non-fund options that smaller projects could develop to support long-term management of an offset. These options include the non-fund sources, such as grants, detailed in Section 3.3, as well as the sustainable revenue sources detailed in Section 3.4. A combination of potential non-fund sources of support, such as grants from a multi-lateral organization like the World Bank to start a biodiversity based enterprise or ecotourism facility, could also be developed. Forming partnerships with local and international NGOs and companies with expertise in developing non-fund revenue options could also help small projects secure the long-term resources necessary to manage an offset.

3.4 How can sustainability be built or enhanced through alternative revenue options?

A key consideration for OFFSET PLANNERS is that successful offset implementation will require the development of a revenue generating strategy that can ensure long-term offset financing. Ideally, the project developer will provide sufficient funds to create a funding mechanism, such as a conservation trust fund, that can generate the long-term revenues needed to support offset activities. However, the 'ideal' situation may not materialise and offset planners might be faced with different scenarios such as:

- A conservation trust fund may only have a capital base sufficient to ensure only partial funding of annual needs, in which case offset managers will need to identify supplementary revenue sources.
- A SINKING FUND is established but offset planners decide to supplement the funding it provides with other sources (such as donors) in an effort to build a long-term funding mechanism such as an endowment.
- Although the goal may be for project developers to cover the entire cost of the offset from investment capital or through earnings, in some cases, developers may fall short. For example, smaller projects may have only limited project-level funding, making the creation of a trust fund or even covering the annual management costs of the offset unfeasible.

In all these cases, offset managers will need to identify additional and diverse revenue generating and funding options to ensure a sustainable and sufficient flow of funds to support offset management objectives. Developers will need to work with the various stakeholders to identify potential funding options to supplement existing resources. Key issues to consider include:

KEY ISSUE: What are the potential alternative revenue options that can be developed?

A variety of potential revenue sources may be available to finance offset implementation sustainably in addition to some expected funding from the project developer. In principle, a developer is responsible for

covering the costs of the offset for its own impacts. However, if the developer does not have all the necessary funding available, then efforts are required to explore alternatives. One option is to use the offset area itself to generate additional revenues (for instance, through tourism-based revenues or payments for ecosystem services). The developer can generate cash flow estimates from the proposed business or activity and put in place the necessary mechanisms to ensure the funds flow to offset management (e.g. they are managed by a conservation trust fund). The developer is also responsible for developing the enterprise or activity that will generate the revenue for the offset. Essentially, the basic premise remains – the developer should ensure the financial and operational integrity of the offset, but can take advantage of a variety of mechanisms to meet the financial obligations.

This Handbook will focus primarily on project-level (offset level) options for generating revenue to supplement the developer's investment in the biodiversity offset, though some potential policy-level options are briefly described as well. The developer or implementing organisation can employ a variety options alone, or in combination, in an effort to generate needed revenue.

Some potential site based revenue options include:

- **Payments for ecosystem services**

  Ecosystem degradation is relevant to business because companies not only impact ecosystems and the services they provide but also depend on them, as do local communities. Finding ways to ensure the protection of these services can reduce business risk and may even provide economic benefits. PAYMENTS FOR ECOSYSTEM SERVICES (PES) are mechanisms which aim to overcome market failures in land management. They give land managers incentives to protect or enhance the provision of ecosystem services, such as water, biodiversity, and carbon storage, to name a few. In some cases the beneficiaries of these services, for example industrial water users, pay land managers or provide the funds to reimburse land owners for undertaking land management that produces a desired outcome. In others, payments are made by governments or NGOs or donors on behalf of users or society in general / as a whole. In a third type of PES, more common in developed countries, the government creates a market through regulation allowing trading in emission reductions or in compensatory mitigation requirements. The key feature of PES is that payments made are conditional on landowners carrying out the contractually agreed conservation or land management activities.

  How are PES relevant to biodiversity offsets?

  The relevance of PES to biodiversity offsets depends on the form that the offsets take. Firstly, it is possible that biodiversity offsets may evolve from location-specific offsetting actions by the project developer to ones where there can be some trade. This has happened where offsetting of residual impact is a formal part of regulations on environmental permitting, and where there is a supporting institutional framework. In the US, since the 1980s off-site habitat restoration (wetland mitigation banking) has been an allowable COMPENSATION option for projects affecting wetlands. Over time and particularly since the issuance of federal guidance in 1995, wetland banking has seen a shift from single user banks, for which the project developer is both bank sponsor and principal credit user, to private commercial banks, sponsored by private entities with the aim of selling credits to project developers. These now make up over 70 per cent of the mitigation banks in operation (Bean, Kihslinger and Wilkinson 2008). Nevertheless, permittee-responsible offsetting remains the dominant approach for meeting compensatory requirements (*ibid*).

  Secondly, and of more immediate importance even in permittee-responsible approaches to offsetting, the project developer may be able to pay others to deliver the CONSERVATION GAINS it needs to offset its residual impacts. Instead of buying land to protect, it may be simpler and more cost effective to pay local

landowners to protect local biodiversity. The landowners provide the protection or enhancement of ecosystem services through the agreed actions and the project developer benefits to the extent that this enables them to meet their biodiversity offset commitment.

This has similarities with trading in biodiversity offset credits as described above for wetland banking. The difference is that the PES scheme is more likely to be project-specific and designed by the project developer in conjunction with those receiving the payments to meet the offsetting needs of that project. A private commercial wetland bank is often developed in isolation from the projects it sells credits to and most important sells credits to a variety of projects. The North Fork Wetlands Bank in Virginia, US, has provided compensation credits for wetland impacts from more than 40 projects (Bean *et al*. 2008).

Box 8: Payments for ecosystem services – Ecuador's *Fondo para la Protección del Agua* (FONAG)

In 1998 the Nature Conservancy (TNC) and *Fundación Antisana*, with support from the United States Agency for International Development (USAID), implemented a PES-type system to provide sustainable funding to manage Ecuador's Condor Biosphere Reserve. In the Reserve are the Antisana and Cayambe-Coca Ecological Reserves, which serve as critical watersheds for the national capital of Quito, an urban area with over 2 million inhabitants TNC and *Fundación Antisana* proposed to the Municipality of Quito that the Water Conservation Fund (*Fondo para la Conservación del Agua*-FONAG) be created to both protect two of the capital's most important watersheds and conserve the area's rich biodiversity.

The Municipality approved the creation of FONAG, after which the organizations began engaging large water users in Quito to support the fund. Among the largest users engaged were the Quito Municipal Water and Sewage Agency (EMAAP-Q), Quito's Electric Company (EEQ) (a key user of hydropower in the watersheds) and large beverage companies. EMAAP-Q eventually committed 1 percent of its monthly water sales to FONAG (generating approximately US$360,000/year), EEQ committed US$45,000/year and a privately owned beer company committed $6,000 / year (the Swiss Agency for Development and Cooperation also gave FONAG US$10,000 / year for two years). Cumulatively these commitments provided FONAG with over US$2 million in capital by the end of 2004. This capital enables FONAG to generate over US$300,000/year to support watershed protection. By 2011, FONAG estimates that its capital will grow to over US$7 million, providing over US$800,000 annually for watershed protection projects (Krchnak 2007).

A third way in which PES is relevant to biodiversity offsets is that PES might contribute to an offset if the creation of an offset site involves protection of an area that provides an ecosystem service for which there is a market. Markets already exist for a variety of ecosystem services such as carbon sequestration, with substantial growth in the last several years. For instance, the carbon markets have grown exponentially in the past several years. While the Kyoto markets were first launched in January of 2005, in their second year of operation, 2006, the regulated carbon markets transacted over US$30 billion. Unfortunately few land-based carbon programs are eligible under Kyoto, so few of these resources have supported protection of natural resources. Markets in water, biodiversity and landscape beauty are much smaller, but emerging. The voluntary carbon market has also demonstrated substantial growth since 2005 and offers some potential for supporting BIODIVERSITY CONSERVATION, as does the development of a new post 2012 global agreement on emissions reductions which is expected to include land-based carbon. Some examples include:

- *Reduced emissions from deforestation and degradation (REDD)*: Depending on the nature of the biodiversity offset, carbon financing may be feasible. A project that brings under protection forested area that would not otherwise have been protected and which can demonstrate that carbon financing is key to its long-term protection, may be eligible as a REDD project under current rules in the voluntary market (and for future compliance markets). A feasibility study will determine the eligibility. In such cases, carbon payments could provide an important source of revenue to support the protection and management of the offset. In pursuing this option, it is essential that the offset designers give consideration to carbon as an option during the design phase and not after protection is given to the site. As with biodiversity offsets, in order to be eligible for the market, carbon projects must be additional and not represent business as usual. In addition, the design of any REDD initiative should be coordinated with national governments to ensure the likelihood of inclusion and eligibility in future international agreements.
- *AGROFORESTRY / improved natural resource management:* Agroforestry projects are also eligible for participation in the carbon market. Opportunities could be considered as part of the overall land use management planning for the offset, for example including buffer zone management to enhance protection of the core offset area. Agroforestry initiatives could also be funded via a carbon offset (see PES above). In such cases, if the offset is managed by a fund of some kind, the fund could act as a carbon bank, linking the tree owners to the carbon buyers. The development of a carbon-financing scheme could help provide some of the desired community benefits identified as part of the offset.
- *Payments for biodiversity:* Another important service can be achieved through business ventures and generate resources to help manage the offset.
- *ECOTOURISM:* In areas of high biodiversity, there is the potential to develop a tourism site linked in some way to the offset. Development of a viable business can generate income from visitors, lodging and wildlife viewing that can contribute to financing the management of the offset, or providing desired local benefits (see the Elerai Ranch and Conservation Area example in Box 9 below).

Box 9: The Elerai Ranch and Conservation Area, Kenya

In 1998, landowners of the jointly-owned 4,200 ha. Elerai Ranch in Kenya asked the African Wildlife Foundation (AWF) to work with them to develop a resource management plan that would allow them to improve their livelihoods and contribute to the region's biodiversity, including many of Africa's megafauna, such as elephants and lions. The ranch's biodiversity and prime geographic location – near Amboseli National Park and with views of both Mount Kilimanjaro and Chyulu Hills – made it an ideal location for a high-end ecotourism lodge.

To develop the area, AWF secured two grants totalling US$332,000 (US$146,000 from USAID and US$186,000 from the EU) and ranch owners contributed US$5,000 in in-kind support. These combined resources allowed for the establishment the Elerai Conservation Area, with an ecotourism lodge to generate resources sustainably to manage the area and improve the livelihoods of the ranch owners. Resources to manage the area and to improve the livelihoods of the ranchers will be generated primarily through two means: (1) the lodge operations will make an annual rent payment of US$5,000 to the ranchers to compensate them for forgoing use of resources in the Conservation Area; and (2) a US$25 night bed fee is charged as part of a tourist's daily rate for staying at the lodge. Revenues from the bed fee support direct conservation activities, such as game patrols, and improving and maintaining infrastructure and water pans. The bed fee alone is expected to generate approximately US$95,000 by the end of 2008 (Kiyiapi *et al*. 2005).

- *SMALL BIODIVERSITY BASED ENTERPRISE (e.g. sales of non-timber forest products):* Product market development has the potential to provide benefits to local communities while earning funds for management of the offset. Some products, such as *acai* from the Brazilian rainforest, have gained an international market and generated funds for sustainable forest management. However, development of such products and markets require significant investment and a long time horizon. Success in terms of revenue will depend on developing a robust market and ensuring adequate production. Funds derived from the sale of such products may not necessarily flow to the offset managers. Instead, income may be earned by people living around the offset. Creating better income opportunities for rural communities around an offset site may be part of the overall conservation strategy and developing biodiversity businesses may provide the needed support for conservation. Offset managers will need to identify potential products and develop business plans to determine an appropriate option(s) (see the example of Arabuko-Sokoke Forest Reserve in Kenya in Box 10 below);

How can PES support offset implementation?

PES has advantages in situations where:

- Purchasing land to ensure biodiversity conservation may not be practical or may arouse local sensitivities, while paying individuals to generate conservation benefits on their land that contribute to the offset may be accepted.
- The underlying causes of BIODIVERSITY LOSS at the offset site are linked to unsustainable resource use practices by local stakeholders, raising concerns about LEAKAGE and the sustainability of offset activities. Payments to those currently using resources unsustainably to change their resource practices could address the underlying cause of loss and contribute conservation gains needed for the offset.
- The offset project creates an additional service, such as in the carbon market. If a project results in protection of forest that would not have come under protection, the carbon stored in those forests could potentially be sold as credits as part of an avoided deforestation (REDD) or agroforestry project.
- The offset site has special characteristics where the ECOSYSTEM SERVICES can be effectively linked to the marketplace (e.g. market for water services, natural beauty demanded by tourists, etc) and thereby enhance local income opportunities.

Box 10: Small biodiversity based enterprises promoting conservation in East Africa

For the last 20 years, there has been a multi-stakeholder project to develop small biodiversity based enterprises to help conserve Kenya's 37,000 ha Arabuko-Sokoke Forest Reserve. The Reserve is part of Kenya's highly threatened coastal forests region and is home to a number of endemic species, notably birds. Local communities, many of them poor, rely on the Reserve's resources to sustain their livelihoods, so they were originally hostile to the idea of it being declared a protected area.

To help ease tensions and make communities active participants in protecting the Reserve, local NGOs began to work with communities to develop a number of biodiversity based enterprises that would support local livelihoods and conservation. Among the enterprises developed were apiculture, tree plantations, mushroom harvesting, handicrafts, aloe vera production and butterfly cultivation (Thompson *et al.* 2007). Collectively these enterprises have given local communities a stake in protecting the Reserve, with some being very successful. For example, butterfly cultivation in Arabuko-Sokoke (the 'Kipepeo Project') has to date earned over US$800,000 and has been used as a model for similar projects in the region, such as the Amani Butterfly Project in Tanzania's Amani Forest Reserve. Though relatively new, the Amani Project earned over US$50,000 from pupae sales in 2006 alone (Amani Butterfly Project 2007; Thompson *et al.* 2007).

Paying local stakeholders (financially or in-kind) to change to sustainable resource use practices or to assume conservation responsibilities may avoid the need for the project developer to acquire land for an offset. Care must be taken to ensure that the agreements do not lead to displacement (leakage) whereby individuals degrade areas of identified important biodiversity elsewhere. Establishing clear roles and responsibilities and formalising them in agreements is an important step. Local stakeholders are given viable and continuing alternatives to meet their economic and income needs in the form of cash payments or in-kind contributions but these benefits are made conditional on compliance with the provisions of a jointly agreed contract.

If handled well, the negotiation and implementation of a PES scheme may contribute to good relations with local stakeholders, one of the goals of biodiversity offsets. But careful preparation is needed and considerable investment needs to be made in negotiation with and capacity-building of local stakeholders.

What constitutes best practice PES?

- Appropriate enabling conditions:

  PES are likely to have more chance of success in contexts where there is clear land and resource tenure so that those paid for land and resource practices / for protecting ecosystem services have clear control and can prevent encroachment from others. This does not necessarily mean formal land titles, and customary tenure or recognition by other local stakeholders will usually be sufficient. PES will encounter difficulties in areas where there are competing claims for land and conflicts over boundaries but such problems would probably also preclude their use for offset activities.

  Another important prerequisite is the presence of community organisations and / or other local organisations, trusted by local stakeholders, with the capacity to handle funds and transfer payments to individuals or groups as negotiated. If such organisations do not exist locally, the project developer will have to assess whether it has the capacity and willingness to administer the payments to individual stakeholders or whether an organisation can be created specifically for this purpose.

- Contract terms tailored to the needs and capacity of local stakeholders

  This involves:

  - Realistic payment levels that are at least as high as the opportunity costs in terms of returns from land and resource uses being given up or the costs of introducing new practices.
  - Contract lengths which provide security for both sides but also flexibility. For example, contracts of 25 years or more as used in some carbon projects may not work for small, poor rural communities. Contracts of five years with the option to renew for further five year periods as in the Costa Rica National PES provide security to landholders and flexibility. Generally contracts in the range of 3 to 7 years seem satisfactory to both parties. Since most biodiversity offsets require CONSERVATION OUTCOMES over the long term and sometimes in perpetuity, offsets based on PES will need to consider carefully how their long term success can be ensured.
  - Provision for risks such as fire, or storm damage that are beyond the landholder's control and may affect the compliance with contractual commitments.
  - A transparent and inclusive negotiation process
  - STAKEHOLDER PARTICIPATION – make sure that all those who will carry out the activities are involved in an informed capacity in the discussions on contractual arrangements, including payment terms.
  - Shared understanding of what the payments are for, what is expected on both sides, how contract compliance will be monitored, and what will happen if contractual conditions not met.

- Establishment of a mechanism to address or resolve conflicts arising from the implementation of the contracts.

- Policy measures

  In addition to project-based revenue options, a number of policy measures can be used to generate revenue for conservation projects and funding mechanisms such as trust funds. However, policy options usually require intervention by government, whose interest or goals may be larger in scale than a single biodiversity offset, or even a national system of biodiversity offsets. Offset managers may want to coordinate with other stakeholders to address policy issues and determine how certain policy options might support offset management. Potential policy measures that are commonly used to support conservation projects include:

  - *'Green levies':* These are levies typically added to the cost of hotel stays or exit visas at airports, with the revenues being dedicated to conservation projects.
  - *Tax policies:* these generate resources that can be targeted toward conservation and resource management. Money paid in accordance with court orders or out-of-court settlements related to pollution cases. For example, US courts in several cases have ordered industrial polluters to make contributions to funds for long-term restoration and protection of damaged ecosystems, in lieu of or in addition to fines paid to government agencies.

  The major challenge in implementing effective green levies and tax policy is the collection and redistribution of receipts. In many cases, such collections enter national treasuries rather than project or programme accounts. Effective accounting measures and fund transfer mechanisms would need to be put in place to benefit an offset site, for example,

  Governments, NGOs and land managers are exploring a variety of market mechanisms that will support conservation. It is likely that new markets will be created for ecosystem services as governments adopt greater regulation in an effort to protect dwindling biodiversity resources. In developing a long-term funding strategy for offsets, project developers should assess options early in the design period, especially in those cases where the development itself will not generate sufficient income to support management.

Additional references

Trusts and trust funds

- Adams, J. 2005. Meeting the spending needs for a Conservation Trust Fund. *Focus on Conservation Finance*. 1(1), 2-4.
- Bayon, R., Fox, J. and Carroll, N. 2007. *Conservation and Biodiversity Banking: A Guide to Setting Up and Running Biodiversity Credit Trading Systems*. Earthscan
- Business Planning for Protected Areas (see **http://capps.wsu.edu/SustainableFinance/**).
- Conservation Finance Alliance. 2007. Conservation Finance Guide
- Conservation Finance Alliance (CFA). 2008. Rapid Review of Conservation Trust Funds. Prepared for the CFA Working Group on Environmental Funds by Barry Spergel and Philippe Taïeb (see **http://www.fmcn.org/documentos/RapidReviewCTFsMay08Final.pdf**).
- Ford Foundation. 2007. A Primer for Endowment Grantmakers (**www.fordfound.org/pdfs/impact/primer_for_grantmakers.pdf**).
- The Foundation Center (see **http://foundationcenter.org/**).

- Convention on Biological Diversity. 2007. Global Environmental Facility. See **http://www.cbd.int/protected/sustainable.shtml**
- DuPree, A.S. and Winder, D. 2000. Foundation Building Sourcebook. The Synergos Institute. New York, NY (see **http://www.synergos.org/knowledge/00/sourcebook.pdf**).
- Global Environment Facility Secretariat Monitoring and Evaluation Team. 1998. *Evaluation of Experience with Conservation Trust Funds*. Global Environment Facility.
- Grantcraft project (**http://www.grantcraft.org**). This site includes a calculator for determining how large an endowment has to be to generate specific annual payments.
- Mikitin, K. 1995. *Issues and Options in the Design of GEF Supported Trust Funds for Biodiversity Conservation*. Environment Department Papers. The World Bank. Washington, D.C.
- Smith, S. 1999. What is an Environmental Fund, and when is it the right tool for conservation? *In:* R. Norris (ed.). *The IPG Handbook on Environmental Funds: A Resource Book for the Design and Operation of Environmental Funds*. Pp. 10-13 (see **www.conservationfinance.org/Documents/CF_related_papers/IPG_Handbook_English.pdf**).
- Wildlife Conservation Society, RedLac, CFA, 2008. Conservation Trust Fund Investment Survey (see **www.fmcn.org/documentos/Conservation_Finanace_Report_2008.pdf**).
- World Wildlife Fund. Conservation Trust Funds. See **http://www.worldwildlife.org/what/howwedoit/conservationfinance/conservationtrustfunds.html** and **www.panda.org/standards**.

Payments for ecosystem services

- The World Bank Carbon Finance website (see **http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCARBONFINANCE/0,,menuPK:4125909~pagePK:64168427~piPK:64168435~theSitePK:4125853,00.html**).
- Conservation Finance Alliance. Conservation finance related papers: payment for environmental services (see **http://www.conservationfinance.org/Relevant_links/CF-Papers.htm#PES**).
- Ecosystem Marketplace (see **www.ecosystemmarketplace.com** and **www.ecosystemmarketplace.com/documents/acrobat/StateoftheVoluntaryCarbonMarket18July_Final.pdf**).
- European Communities. 2008. T*he Economics of Ecosystems and Biodiversity: An Interim Report*, Cambridge, UK.
- Hamilton, K, Sjardin, M., Marcello, T. and G. Xu, 2008. *Forging a Frontier: The State of the Voluntary Carbon Markets 2008*. Ecosystem Marketplace and New Carbon Finance.
- The Katoomba Group (**www.katoombagroup.org**) (includes brochures providing an introduction to PES in English, Spanish and Portuguese; for learning tools on PES, see **http://147.202.71.177/~katoomba/learning_tools.php**).
- World Business Council on Sustainable Development (WBCSD). 2008. *Guidelines for Identifying Business Risks and Opportunities Arising from Ecosystem Change,* WRI, Washington, D.C.
- IUCN. 2006. Developing International Payments for Ecosystem Services. See **http://www.iucn.org/about/work/programmes/economics/econ_ourwork/econ_currentprojects/?310/Developing-International-Payments-for-Ecosystem-Services**.

A number of guides exist for the development of PES schemes, mostly written for multiple actors involved than specifically for buyers. Some of these are listed below.

- Getting Started: *An Introduction to Design & Implementation of Payments for Ecosystem Service*. The Katoomba Group & partners:
  (online manual) **http://147.202.71.177/~katoomba/learning_tools.php**
  (pdf) **http://147.202.71.177/~katoomba/documents/publications/GettingStarted.pdf**
- The World Bank. Best practice in PES design:
  http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTEEI/0,,contentMDK:20487921~isCURL:Y~menuPK:1187844~pagePK:210058~piPK:210062~theSitePK:408050,00.html
- Setting up a PES scheme: **http://www.fao.org/es/esa/PESAL/scheme.html**.

General biodiversity based business

- Bishop *et al*. (2008). Building biodiversity business. IUCN / Shell
  (see **http://www.iucn.org/dbtw-wpd/edocs/2008-002.pdf**).

Ecotourism

- Conservation Finance Alliance. Conservation finance related papers: ecotourism
  (see **http://www.conservationfinance.org/Relevant_links/CF-Papers.htm#Ecotourism**).

Small biodiversity based enterprise

- The Darwin Initiative. 2004. Darwin Initiative toolkit for SMEs: Business planning and market research resources for SMEs. See **http://darwin.defra.gov.uk/**. Includes a compilation of sources on small biodiversity based enterprise.

Agroforestry/improved natural resource management

- The Darwin Initiative. 2004. Darwin Initiative toolkit for SMEs: Business planning and market research resources for SMEs. See **http://darwin.defra.gov.uk/**. Includes a compilation of sources on small biodiversity based enterprise, including agroforestry.
- EcoAgriculture Partners publications (**www.ecoagriculturepartners.org/resources/publications.php**).
- International Council for Research in Agroforestry (ICRAF) publications
  (**www.worldagroforestrycentre.org/library/index.asp**).
- Plan Vivo: carbon management and rural livelihoods (**www.planvivo.org**).

Potential tools

- Calculating the amount of capitalisation needed for a conservation trust fund.

Activity 4: How will the offset be monitored and evaluated?

Biodiversity conservation projects are designed in the hope that project interventions will lead to conservation of key components of biodiversity. Project success, meaning a positive conservation outcome, can ultimately only be known by measuring the change in status of biodiversity, normally extents of HABITATS, the populations of species, and the health of ECOSYSTEM PROCESSES. MONITORING AND EVALUATION (M&E) are the primary mechanisms to assess whether a project is meeting its targets and objectives over various spatial and temporal scales. Unlike biodiversity assessments, which often have a broad scope, or BASELINE STUDIES, which establish absolute biodiversity values at one specific point in time, an M&E plan should focus on success criteria or INDICATORS for the biodiversity offset. The M&E plan should form an important part of the overall OFFSET MANAGEMENT PLAN, but raises some specific issues, so is treated separately in this section.

Two major types of biodiversity indicator can be identified. The first set are implementation indicators, which measure the degree to which project activities have been implemented; the second set are impact indicators, which measure the success of project activities in influencing the status of biodiversity on the ground. An example of the former would be 'Number of staff employed'; an example of the latter would be 'Change in bird species diversity as a result of offset intervention'.

In order to determine progress in achieving NO NET LOSS of biodiversity, it will be important to measure and evaluate changes in both these types of indicator over time. Guidance is presented here for both. Impact performance indicators are often the more difficult to select and use. Impact monitoring methods must be carefully selected for the biodiversity in question. The critical biodiversity values identified via the Key Biodiversity Components Matrix in the Biodiversity Offset Design Handbook should guide the selection of the indicators needed to measure an offset's impact performance. Monitoring results must then be fed back into the management system to determine which assumptions were correct and which may need modification. ADAPTIVE MANAGEMENT offers a methodology through which a project can continually learn and improve project performance based on monitoring results.

4.1 How will an offset be monitored and evaluated?

Accepted guidelines on best practice for MONITORING AND EVALUATION of biodiversity projects are available, just as for any other type of Key Performance Indicator a company may be interested in. According to the World Bank's1998 *Guidelines for Monitoring and Evaluation for Biodiversity Projects,* monitoring and evaluation (M&E) plans are "a detailed program of work which defines what monitoring activities will take place, when and by whom, and how that information will feed back into management decisions." The 1998 World Bank *Guidelines for Monitoring and Evaluation for Biodiversity Projects* recommends that an M&E plan should contain a number of components, including cost estimates of implementation, identification of any training and capacity building needed by the staff, institutions or other stakeholders (such as communities) that will be responsible for implementing the plan, and a description of how the plan's activities will contribute to the long-term M&E capacity of those stakeholders that will continue to monitor the project, particularly after the developer's operations have ended. The World Bank guide also notes that an M&E plan should be "is simple, inexpensive, and sustainable in terms of the financial, institutional, and technical resources available," particularly in developing countries that may have lower levels of capacity and limited resources.

With regards to specific components that a biodiversity M&E plan should include, the World Bank recommends the following:

- A clear set of objectives or goals, including clearly stated questions on how these objectives could be reached.
- A clear set of INDICATORS to measure progress towards project objectives.
- Specific details on how and when monitoring and evaluation will take place, and who will undertake specific activities.
- Identification of any training, capacity-building or financial resources that will be needed to ensure necessary activities are adequately carried out.
- Identification of the intended audiences that will receive the results of an M&E plan.
- Specific details on how information and results from M&E activities will feed back into project management decisions.
- Identification of clear 'decision points' when negative trends lead to corrective actions in project implementation (World Bank 1998).

KEY ISSUE: What will be monitored?

A project should be monitored at two levels: *implementation performance* and *impact performance*.[16] Monitoring *implementation performance* involves taking stock of how a project's inputs such as funding, staff time are being used to produce specific project outputs, such as reports, number of patrols, etc). By contrast, monitoring *impact performance* tracks the project's actual impacts on the biodiversity of interest on the ground. These impacts can be monitored both in terms of measuring the biodiversity itself, but also by interviewing stakeholders to see whether they feel the objectives of the offset have been met – for example, concerning USE VALUES of biodiversity such as non-timber forest products.

Although both types of monitoring are important impact performance should be considered the most important, as it shows to what extent a project is having its intended impacts on biodiversity.

However, project managers need to monitor outputs during project implementation to ensure they are having the intended impact on an offset's biodiversity. If the changes seen on the ground are not what the project intended, monitoring of project inputs and outputs could help determine what modifications need to be made to improve impact performance.

It is also important to define the spatial and temporal scales of monitoring activities. Biodiversity management has to address ecological processes, many of which occur over long-term temporal scales, so monitoring and evaluating how specific project actions are impacting biodiversity may be difficult to detect over short- and medium-term intervals. Indeed, some project impacts may not manifest themselves until after a developer has exited the project area, so an M&E framework and plan should identify how impacts will be monitored after a developer's exit. An M&E plan will also need to determine the appropriate spatial scale for monitoring activities. The appropriate spatial scale for an M&E will depend on a number of factors, including a project's goals and objectives and what level it is focusing on (landscape, ecosystem or species level).

4.2 Implementation performance

Implementation of an offset requires organisation, funding and technical expertise, to produce the activities and outputs needed to achieve the biodiversity objectives. As resources for a project are finite, it is necessary

16 For those companies familiar with the OECD indicator system of State-Pressure-Response, these are equivalent to Response and State indicators respectively.

to monitor how they are being used not only to ensure the offset's objectives are being met, but also to ensure the resources are being used as efficiently as possible. Monitoring can help a project manager improve project design; plan how resources will be used; supervise how resources are being deployed; evaluate implementation performance; and ensure quality management (World Bank 1999).

KEY ISSUE: What will be monitored in implementation performance?

With implementation performance, the performance of those components that are under the direct control of project managers need to be monitored (i.e. those components that project managers directly manage and produce throughout the course of project implementation). While these components are described in a number of different ways according to the monitoring methodology used, they tend to fall into three different categories:

- *Inputs (funding, technical expertise, staff time, etc):* Given that resources are finite for any given project, it is important to monitor how they are being mobilised to achieve specific goals. Without a system for monitoring how inputs such as funding, staff time and needed expertise (such as technical specialists needed for training sessions) are being allocated, project managers cannot determine how efficient the operation is. Typical means for monitoring how inputs are being used include financial tracking systems, periodic project reports and audits.
- *Activities (training, data collection, patrolling, etc):* Inputs are used to carry out activities designed to achieve the offset's objectives. Project managers need to monitor activities, such as training or periodic biodiversity data collection, to ensure they are carried out as intended and are producing anticipated results. Periodic project reports and stakeholder meetings are two potential means to monitor how successfully activities are being carried out.
- *Outputs (produced from inputs and activities, such a monitoring report or a fully trained and equipped community patrol team):* The direct results of project inputs and activities should be outputs. Outputs can take the form of discrete items such as reports (on biodiversity monitoring results, for example) or larger items such as establishing a fully trained and equipped community patrol programme to protect offset boundaries. Depending on the nature of the output (such as a discrete report or a multi-faceted community patrolling programme), project managers can develop appropriate monitoring mechanisms to gauge implementation performance.

For all three components, it is important that the assumptions on which each is based are made explicit, as well as the potential risks that could prevent it from being fully carried out. For example, if a community group is going to be trained to patrol and protect an offset's boundaries, a project manager is assuming that the community will in fact be sufficiently motivated to fully carry out their responsibilities once they are trained. With regards to risk, project managers will have to assess whether the community training will be sufficient to keep the offset's boundaries protected given current and potential future threats. If community members are only trained to protect against unarmed loggers that have traditionally made incursions into the area, they may be unable to successfully protect with the training they received if the loggers begin arming themselves and taking aggressive measures against community patrols.

4.3 Impact performance

Performance indicators are measures of project impacts, outcomes, outputs, and inputs that are monitored during project implementation to assess progress toward project objectives. They are also used later to evaluate a project's success. Indicators organise information in a way that clarifies the relationships between a project's impacts, outcomes, outputs, and inputs and help to identify problems along the way that can

impede the achievement of project objectives (World Bank 1996). Impact performance monitoring is one of the most critical aspects in offset implementation. The data collected here will be used to determine if a project has achieved no net loss. There are several key stages to follow.

A well designed offset will have noted the KEY BIODIVERSITY COMPONENTS of interest through effective use of the Key Biodiversity Components Matrix. This matrix should be used to guide the selection of impact performance indicators. How can these aspects of Biodiversity Offset Design – such as the Key Biodiversity Components Matrix and BENCHMARK ATTRIBUTES – be developed into indicators to measure an offset's impact performance? The Biodiversity Offset Design Handbook describes how to develop benchmark attributes, and these are a form of biodiversity indicator. The attributes could thus form a part of the offset's monitoring system, as they will help project managers measure whether or not their activities are having the intended impact. Using the Key Biodiversity Components Matrix, project managers can prioritise which of the most important biodiversity components of an offset to monitor at various levels (species, habitats and ecosystem services) (see the Biodiversity Offset Design Handbook, Step 4). The Key Biodiversity Components and benchmark attributes can thus be used to develop a set of indicators to measure the success of the biodiversity offset over time. They can be complemented with indicators related to stakeholders' perceptions of the offset and the benefits that have accrued to the various stakeholders as a result of the biodiversity offset.

KEY ISSUE: What framework can be used for developing impact performance indicators?

Frameworks for monitoring the impact of performance are important because many projects conduct general monitoring activities which are insufficiently linked to management responses. A number of frameworks exist for the development of biodiversity INDICATORS. Whilst these are useful, the BBOP methods developed in the Offset Design Handbook provide a sufficient and convenient basis for developing a simple indicators framework. At the same time, where a company is conducting this work themselves, the indicators chosen and measurements made may well be integrated into company social and environmental reporting in general. In these cases, the indicators chosen here will need to be mainstreamed into the company management system. Where an outside agency is conducting the work, the aim is that the framework given below is sufficiently generic for broad uptake.

By following the steps below, a company can ensure that the key biodiversity components which are the building blocks of no net loss are all accounted for in a comprehensive indicator framework.

1. Identify priority components for no net loss

Use a method that has identified Key Biodiversity Components (see, for example, Step 4 in the Offset Design Handbook) to identify and prioritise the biodiversity that needs monitoring. Importantly, some components might critically depend on certain other components for their survival. For example, a frog species may only be able to survive with a certain plant species because the plant is essential for egg-laying or feeding activities. Therefore all these critical dependencies should also be identified if this has not yet been done[17]. Theoretically this stage should already have been completed to a good degree of accuracy, particularly with respect to the choice of benchmark attributes in the design of the HABITAT HECTARES method, if this approach is used.

OUTPUT: List of key components in need of monitoring to demonstrate no net loss.

17 Note that all components depend many others, such as trees on ecosystem processes like groundwater flow. These broader dependencies are too numerous to identify at this stage.

2. Develop umbrella indicators

Acknowledge that it is impractical to have an indicator for every priority component. In fact one of the aims of indicators is for them to be umbrellas to assess the status of a range of components simultaneously. Which components are best monitored by measuring the changes in extent and quality of natural habitat? This will often be the case for most of them. Note that the extent and quality of habitat can probably be measured using the same habitat hectare benchmark attributes if you have chosen them with skill to represent your most important components. However there is ample opportunity to modify these if necessary. Often there will be several different types of habitats impacted, each with their constituent set of key components. Again, these should have already been identified in the habitat hectares method.

OUTPUT: Indicator set 1: The extent and quality of each habitat type harbouring key components.

3. Develop some component-specific indicators

Some components will not be effectively monitored through broader habitat monitoring. For example, the impacts of shipping on whale migration will require specific counts of whales. These key components will often need their own indicator. Sometimes it may be sufficiently easy to measure these components directly, such as counting whale numbers. In these cases the component itself is the indicator. In other cases, the component may be difficult to measure, such as elusive species of mammal or the nutrient flows in an ECOSYSTEM. Often ecologists measure the occurrence of a biodiversity component indirectly. Examples include counting chimpanzee nests or dung frequency; and using measures of aquatic insect family diversity to assess water quality. An ecologist will be useful in designing indirect indicators.

OUTPUT: Indicator set 2: Component-specific indicators.

4. Set targets

Develop two targets for each indicator:

a) Offset outcome target e.g. ‘300 ha of grassland at 80% quality’ or ‘120 species per hectare’. It may take many years to reach this target. The indicators should obviously be designed to measure progress towards this target, e.g. ‘species diversity per hectare’.

b) Progress targets. Often the data collected will only be indicative of whether things CONSERVATION OUTCOMES are improving, staying the same, or become worse. It should also be possible to measure the magnitude of this change. The following 7 levels may be useful:

- Large improvement.
- Medium Improvement.
- Small Improvement.
- No change.
- Small deterioration.
- Medium deterioration.
- Large deterioration.

OUTPUT: Outcome and progress targets set for each indicator.

5. Develop practical details of the monitoring plan.

As set out in the World Bank 1998 *Guidelines for Monitoring and Evaluation for Biodiversity Projects* the practical issues of how the monitoring plan will operate are critical for its success. This is the case as for any company M&E. Examples include: personnel, method, frequency of measurement and cost.

OUTPUT: Human and financial resources, methods and timelines for monitoring plan described.

4.4 Linking implementation and impact performance

Logically we perform conservation interventions – such as sustainable use initiatives to reduce pressure on marine biodiversity – with the intention of improving the status of biodiversity on the ground. Often, however, although the causative links between activities and conservation outcomes appear theoretically obvious, it is difficult to know for sure that a certain intervention will bring a certain result. The question, therefore, is how can implementation and impact performance be effectively related?

KEY ISSUE: How can implementation performance be linked to impact performance?

Perhaps the biggest challenge a project manager faces is ensuring that a project's implementation performance produces the intended impacts on an offset's biodiversity. In other words, a project manager may be properly managing inputs and activities and producing the intended outputs, but is the project actually having the intended biodiversity impact? An output, such as a community patrol programme, is to a large degree under the direct control of a project manager, thus making him or her accountable if they are not properly delivered. However, many impacts on an offset's biodiversity are either partly out of a project manager's direct control (such as the case of illegal incursions into an offset), or completely out of their control (in the case of the effects of climate change on the offset area). Good project design needs to account for those factors which can and cannot be directly controlled by a project and develop a core set of outputs that, given project assumptions and potential risks, will most likely result in the intended biodiversity impacts.

A number of methodologies have been developed for monitoring implementation performance, and linking it to ultimate impact performance. A common methodology used by bi- and multi-lateral institutions (such as USAID and the World Bank) and some NGOs is the LOGICAL FRAMEWORK APPROACH (LFA). Through the LFA, a project manager can determine through a cause-effect analysis what outputs could best help a project achieve its objectives given existing assumptions and risks. How inputs should be allocated and what activities should be undertaken to produce specific outputs can also be determined through the LFA. Finally, indicators to monitor implementation performance for each level (inputs to outputs) can also be developed and linked to the outcomes and impacts a project needs to achieve to meet its objectives (World Bank 1999). Indicators to monitor a project's impact performance can be developed using the benchmark attributes defined in the Biodiversity Offset Design Handbook (see following section).

4.5 How will monitoring and evaluation data analysis results be used to assess and improve project performance?

Many conservation projects collect large amounts of data, but too few undertake the necessary follow up analysis and communication of results to derive optimal benefits from the data collected. Once data are collected and analysed, the results need to be used to assess project performance and, where necessary, make appropriate changes to ensure offset goals are being achieved. Moreover, results need to be communicated to key audiences, notably other stakeholders participating in offset implementation.

One potential methodology to help project managers use M&E results to continually improve project performance and report results is adaptive management. Adaptive management involves the integration of design, management, and monitoring to systematically test assumptions in order to adapt and learn. While there are various adaptive management methodologies that could be applied to a project, the following section includes an outline of an adaptive management approach advocated by Salafsky *et al.* (2001) (*Adaptive Management: a Tool for Conservation Practitioners*). Key issues to consider include:

KEY ISSUE: What are the advantages and disadvantages of adopting an adaptive management approach?

Adaptive management involves the integration of design, management, and monitoring to systematically test assumptions in order to adapt and learn. Adopting an adaptive management approach in the implementation of offsetting activities offers a number of advantages. Adaptive management allows managers to:

- *Test assumptions through systematically trying different actions to achieve a desired outcome:* Through this process, project managers determine what current conditions are at the project site and a set of assumptions about what is causing those conditions to occur. A set of specific actions is then defined that project managers believe could influence the conditions in ways that help a project achieve its goals. Once these actions are taken, project managers need to monitor the results and then compare them with the original set of assumptions to see if they were valid or not. Through such a process, project managers can determine why certain actions did or did not work, and why.
- *Take actions based on the results of monitoring that improve offset implementation performance and reach stated goals*: In the event specific actions did not achieve the anticipated results, it will be necessary for project managers to change their assumptions or actions, or both, to improve project performance. ADAPTIVE MANAGEMENT allows using monitoring results to determine what precisely went wrong with the initial actions, and appropriate corrective actions can then be taken.
- *Learn from past experiences by systematically documenting the process and the results achieved and ensuring past mistakes are not repeated:* Adaptive management allows project managers to document the monitoring process and the results it achieved, thereby allowing learning from past experiences. By learning form past experiences, project managers can avoid replicating past mistakes in future actions. It also allows for communication of results to larger external audiences, such as conservation organisations and researchers, allowing them to benefit from the knowledge generated by a project or share insights that may help improve a project's performance.

Potential disadvantages of adaptive management include:

- *Time and resource requirements may be excessive:* Though adaptive management may be suitable for some projects, it is not always the best approach for others. Indeed, the process can often be time consuming and require resources and expertise out of the reach of many project managers, particularly for smaller projects.
- *Allowing too great a change in direction may weaken the offset's ability to achieve its core conservation objectives:* An adaptive management process may lead project managers to select certain courses of action that, while logical at the time, may ultimately end up weakening the overall effectiveness of conservation efforts.

KEY ISSUE: When will adaptive management be applied to a project?

Adaptive management may not always be relevant to every project, but there are a number of project characteristics that indicate whether this approach should be pursued:

- *Complexity:* Conservation projects with a wide number of variables and contexts, with local, *national* and international factors (such as climate change) affecting their performance need management systems that recognise this complexity and help manage it. These include not only ecological variables, but socioeconomic and political variables as well.
- *External conditions are changing rapidly / unpredictably*: In addition to their complexity, many conservation projects take place in rapidly changing or unpredictable contexts, notably in many parts of *the* developing world plagued by conflict and high levels of poverty. This unpredictability necessitates the adoption of management strategies that allow for adaptability to changing conditions that could impact a project's ability to meet its conservation objectives.
- *The need to assess and plan for risk*: Given the complex and rapidly changing context in which many conservation projects occur, stakeholders need to determine potential risks that could adversely affect implementation activities and how those risks could be minimised or avoided *through* project design and adaptation to changing circumstances.
- *There are major gaps in biodiversity and other relevant information:* Most conservation projects are implemented without all the biodiversity and socioeconomic information that is ideally needed to make decisions and determine priority actions. However, pressing threats often necessitate *immediate* action despite lacking an ideal level of information. By identifying the gaps in information, decisions can be made and appropriate actions taken to fill them and feed that information back into decision-making processes, thereby helping to improve project performance.
- *Opportunities to learn and improve have been identified:* Despite the many challenges a conservation project may face, there are usually opportunities to learn from past successes and mistakes and *improve* future performance based on these 'lessons learned'. Only through a constant learning process will an offset be able to continually improve its performance and reach stated goals.

KEY ISSUE: What are the principal steps in establishing an adaptive management framework?

The principal steps in establishing an adaptive management framework for a project are:

- *Establishing the purpose of the management*: Effective adaptive management requires that stakeholders collaboratively define both a clear and common purpose and project goals in the initial phases of project *development*.
- *Designing a system model, including risk assessment (e.g. what are some of the key implementation issues and concerns; what is the likelihood that these would arise?):* Once a common purpose and goals have been defined, adaptive management requires information to be gathered and analysed on *project* area, how various project components should be managed, anticipated project risks and measures that could be taken to avoid and mitigate them. The analysis should also consider the socioeconomic, cultural and political variables which will determine the success of a project. It is good to aim for:
  - *Simplicity:* Keep the analysis simple enough for consideration by all the stakeholders involved in the offset planning process to effectively use them, while not compromising effectiveness;
  - *The ability to collect and organise relevant information and compare potential courses of action:* Enable stakeholders to review current information collected for the offset design about the site to determine current ecological, socioeconomic and political conditions and identify whether there are gaps that may need to be filled in the future to improve the knowledge of the site and the decision-making process;
  - *The ability to assess and plan for risk:* Given the often complex and unpredictable contexts of many conservation projects, it is important to anticipate potential risks (ecological, socioeconomic and

political) and plot potential courses of action to mitigate or avoid them from adversely affecting project implementation;

- *Learning from mistakes and successes:* Enable stakeholders to determine what positive and negative impacts result from specific actions. If the offset managers and stakeholders can predict positive and negative impacts, they will be able to learn which of the predictions were correct, which were not, and what measures can be taken to improve future plans for the offset.

- *Developing a management plan:* Once a project model has been chosen, a management plan should be put developed to determine what specific actions will be taken to reach project goals. (Section 2.4 addresses what components should be included in an Offset Management Plan). Effective management plans need to recognise that time, resources and staff are always limited, so project implementers need to decide how to best deploy the limited resources at their disposable to *reach* project goals. The model developed for the project should ideally aid in this process, as it will lay out the external conditions and threats to a project's goals. This will a allow stakeholders to rank threats in order of severity, determine which threats can be successfully addressed and decide what specific actions need to be taken for successful outcomes. Additional elements of successful management plans include:

  - *Maximisation of leverage:* Given that funding, time and personnel are limited, a management plan needs to determine how limited resources can most effectively be utilised to successfully counter threats to a project's success. Determining the best use of limited resources should also include consideration of how external resources, for example government funding for a protected area, could be leveraged through a project's internal resources. Moreover, this should also include determining which actions would not be effective, to avoid employing limited resources in ways that would not effectively achieve a project's goals;

  - *Treating actions as experiments:* Few if any models enable a project to operate under perfect knowledge of the context and threats to success. An element of uncertainty will always be present in every decision and action that is taken during the course of project implementation. Any actions taken should therefore be regarded on one level as experiments, testing the predictive ability of the model developed for the project. If the action turns out to be successful, the assumptions on which it was based were probably valid; if it is unsuccessful, a management plan should allow for a reassessment of assumptions in the model to improve the performance of future actions.

- *Developing a monitoring programme to test assumptions:* Without a means to measure a project's assumptions against reality, there is simply no way to determine if the selected actions are in fact contributing to a project's goals. As noted in Section 4.1, ideally a project should be monitored at two levels. At one level, a project needs to monitor its *implementation performance*, or if the project inputs are producing the desired outputs, such as monitoring reports, within budgetary and other related constraints. At another level, considered the more important of the two under adaptive management, the project needs to monitor its actual *impact performance* on the biodiversity of the area being managed, using the BENCHMARK ATTRIBUTES as METRICS. Both levels will require developing appropriate mechanism to measure their respective performances. During the course of implementing the monitoring programme, it is important to establish a data management system to regularly collect and store data used to inform the decision-making *process*. Ideally such a system would allow for easy, routine collection and storage of data that can be accessible to a wider audience. In addition to providing the raw data needed to make decisions, a data management system will also serve a record keeping function, showing when data were collected and what the conditions were at the time that data were collected. Additional characteristics that a monitoring plan should have under an adaptive management system include:

  - *Project assumptions are made explicit:* If a project's assumptions are not made explicit at the beginning of the monitoring process, it runs of the risk of both creating confusion about what certain actions are

supposed to achieve and what data need to be collected to test its validity. Project assumptions should be particularly explicit as to what effects specific actions will cause in project implementation. Without explicating stating the predicted 'cause-effect', confusion about the rationale of such actions could result and testing of the original assumptions will be difficult, if not impossible. For example, if a project assumption is that community patrols will lead to decreased deforestation in the offset, the monitoring programme has to see if areas that are being patrolled by a community are not being deforested. If community patrols are not leading to decreased deforestation in the offset, a project's assumptions have to be modified;

- *Collect only the data needed to assess project performance:* Monitoring should allow project managers to explicitly test assumptions on which actions were taken. Benchmark attributes used in monitoring should be developed that allow for such testing (see Section 4.3). Only data that help measure benchmark attributes should be collected; data that do not should not be collected, as limited resources will be unnecessarily diverted to an activity that does not advance a project's goals.

- *Analysing data and communicating results*: Once data are collected, they need to be analysed and communicated to key audiences. Too often monitoring programs result in a great deal of data being collected, but subsequent analysis and communication of results are lacking, effectively negating the benefits derived from collecting data in the first place. Through data analysis, useful information about the conditions in which a project is taking place and the impact specific actions are having can be extracted. This information and any 'lessons learned' (see below) can then be communicated to larger internal (i.e. management team) and external audiences. Through *regular* dissemination of project results to key internal and external audiences, project managers can promote transparency and allow for 'lessons learned' to be shared with a wider audience. Failure to communicate data analysis results to key internal and external audiences in a timely manner could threaten project performance on a number of levels. Poor communication of data analysis results to internal audiences could result in poorly informed management decisions or confusion about project progress. Poor communication to external audiences could lead to decreased trust or confidence in the project or developer, particularly if some external audiences interpret a lack of communication of results as the developer 'hiding something' from them. Given that some data analysis results could be very technical and hard for the layperson to interpret, it is also important that results be communicated in as simple and accurate terms as possible. Culturally appropriate methods of communicating results, such as translating of reports into indigenous languages or through direct meetings with community members, should also be used as appropriate.

- *Linking results from monitoring data to adapt management decisions and develop 'lessons learned':* Based on the results of analysing monitoring data, managers can then see if the model and assumptions developed for the project were valid. If the monitoring data validate the model and its assumptions, then few if any changes need to be made in project implementation. *However*, if the monitoring data show that the original model and assumptions were not validated by the monitoring results, appropriate adaptations need to be made to the model, assumptions and decision-making processes of a project. Through flexible application of this process, a project can adapt as appropriate to the data being collected and project managers can use the results to develop 'lessons learned' from successes and failures that can be shared with internal and external audiences. As adaptive management is an ongoing process, once the first project cycle is completed, the next can begin, with subsequent iterations and modifications ideally continuing to improve project performance.

4.6 Certification and verification

The BUSINESS CASE for voluntary offsets is generally linked to license to operate and reputational advantages. Such advantages may not materialise if a company simply asserts its own success with an offset, and there is

no trustworthy arbiter to determine or report on whether the offset is achieving its stated goals. A developer may thus choose to involve an independent organisation, or group of stakeholders, in verifying the outcomes of the offset.

KEY ISSUE: Can the success of biodiversity offset implementation be independently verified or certified?

A developer may wish to go beyond first party VERIFICATION (where the developer undertakes the verification itself) to second party (where a contractor or partner undertakes the verification) and third party verification (where the verification is undertaken by an independent third party). Under such a system it would be possible to ask an auditor to verify whether the offset was being undertaken according to a management plan. However, the auditor would not be able to measure biodiversity indicators in the field, so it may be necessary for other independent third parties such as NGOs to measure and verify the offset's actual biodiversity outcomes in the field and report on that against agreed indicators. The auditor could then report whether the third party verification was completed and what the results were.

Another potential means for a developer to provide an independent assessment of a project's success is CERTIFICATION. Certification of an offset would require a set of standards against which an independent entity can assess the offset's performance and determine whether it meets the requirements for the particular certification system. At the present time, no certification system or agreed set of standards has been developed for biodiversity offsets, but a system or set of standards could emerge from the work of groups like BBOP as biodiversity offsets become more common. One potential model for developing an independent third-party certification system for offsets is the certification system developed by the Forestry Stewardship Council to set international standards for certifying responsible forest management through accreditation of third party organisations (see Box 11 below).

Box 11: Certifying Responsible Forest Management: The Forestry Stewardship Council

The Forest Stewardship Council (FSC) is an international organisation that has developed a set of internationally-recognised standards for responsible forest management. To certify forests as responsibly managed, the FSC accredits independent third party organisations that can certify forest managers and forest product producers as adhering to FSC standards. The FSC trademark gives international recognition to organisations that are supporting responsible forest management, while its product label enables consumers to recognise products produced from responsibly managed forests. In the last 13 years, over 90 million hectares of forest in over 70 countries have been certified by FSC standards (FSC 2007).

Additional references

Developing M&E systems

- Energy and Biodiversity Initiative (EBI). The EBI developed extensive guidance on biodiversity indicators. The principal document can be accessed here: **http://www.theebi.org/pdfs/indicators.pdf.**
- World Bank. 1998. *Guidelines for Monitoring and Evaluation for Biodiversity Projects*. Global Environment Division. Washington, D.C. **http://siteresources.worldbank.org/INTBIODIVERSITY/214584-1110959186651/20611829/270310Guidlines0for0monitoring.pdf**

- Cambridge Conservation Forum. See **http://www.cambridgeconservationforum.org.uk/documents/CCF_Compound_tool_07June07.xls**. The Cambridge Conservation Forum incorporates the work of the Conservation Measures Partnership (see following reference) to develop a conservation monitoring programme from start to finish, including setting conservation objectives and targets, developing indicators and monitoring protocols, analysing data and using monitoring results to inform adaptive management processes.
- Conservation Measures Partnership. 2004. *Open Standards for the Practice of Conservation*. Version 1.0. See **http://www.conservationmeasures.org/CMP/Library/CMP_Open_Standards_v1.0.pdf**. (This document recommends standards for biodiversity conservation projects to follow.)
- World Bank. 1996. *Performance Monitoring Indicators: a Handbook for Task Managers*. Operations Policy Department, Washington, D.C.

Biodiversity survey methods

- Hill, D., Fasham, M., Tucker, G., Shewry, M. and Shaw, P. (eds). 2005. *Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring*. Cambridge University Press. Cambridge. UK.
- Institute for Environmental Assessment (IEA). 1995. *Guidelines for Baseline Ecological Assessment*. Taylor & Francis. London, UK. Note: this source is tailored for use in the UK but many of the basic principles and considerations are applicable to any project site.
- Sutherland, W.J. 2006. *Ecological Census Techniques: a Handbook*. 2nd Edition. Cambridge University Press. Cambridge, UK.
- UK Biodiversity Research Advisory Group. *Revised Draft Research Strategy for Monitoring & Surveillance of Biodiversity and Evaluation of Actions* (see **http://www.ukbap.org.uk/library/brag/MonitoringEvaluationofActionsResearchStrategy.pdf**).

Logical framework approach

- Department for International Development (DFID). 2002. *Tools for Development: A handbook for those engaged in development activity*. Performance and Effectiveness Department. Department for International Development. Version 15. London, UK.
- Gasper, D. 1999. Problems in the Logical Framework Approach and the challenges for Project Cycle Management. *The Courier*. Jan / Feb 1999, 173, 75-77.
- Norwegian Agency for Development Cooperation (NORAD). 1999. *The Logical Framework Approach: Handbook for Objectives-oriented Planning*. Fourth Edition. Oslo, Norway.
- World Bank. 1996. *Performance Monitoring Indicators: A handbook for task managers*. Operations Policy Department. Washington, D.C.

Adaptive management

- Salafsky, N., R. Margoluis, and K. Redford. 2001. Adaptive Management: A Tool for Conservation Practitioners. Biodiversity Support Program. Washington, D.C. (see **http://fosonline.org/resources/Publications/AdapManHTML/Adman_1.html**).

Risk assessment – upper level

- Foxall, J., Grigg, A. and ten Kate, K. 2006. Protecting shareholder and natural value: 2005 benchmark of biodiversity management practices in the extractive industry (see **http://www.insightinvestment.com/global/documents/riliterature/367922/protecting_snv_05**).
- Grigg, A. and ten Kate, K. 2004. Protecting shareholder and natural value. Biodiversity risk management: towards best practice for extractive and utility companies Insight Investment, London (see **http://www.insightinvestment.com/global/documents/riliterature/367922/protecting_snv_04**).

- F&C (then Isis Asset Management). 2004. Is biodiversity a material risk for companies? An assessment of the exposure of FTSE sectors to biodiversity risk (see **http://www.businessandbiodiversity.org/pdf/FC%20Biodiversity%20Report%20FINAL.pdf**).

Risk assessment – lower level

- Defra. 2008. Guidelines for Environmental Risk Assessment and Management. **http://www.defra.gov.uk/ENVIRONMENT/risk/eramguide/08.htm.**
- Reyers B., Jaarsveld A.S.V., A. McGeoch M. and James A.N. 1998. National biodiversity risk assessment: a composite multivariate and index approach *Biodiversity and Conservation*, Volume 7, Number 7, July 1998 , pp. 945-965(21).
- The Society for Risk Assessment provides an open forum and a number of generic resources (see **http://www.sra.org/**).

Potential tools

- See the Biodiversity Offset Handbook, particularly Steps 4.2 and 6.2. The key biodiversity components and benchmark attributes selected in these steps may help develop INDICATORS for monitoring and evaluating the success of the biodiversity offset.

Activity 5: Launching the offset

The guidance, references and tools provided in the Handbook provide a developer with all the basic information a developer will need to implement a biodiversity offset. While the Handbook contents will by no means guarantee the success of an offset, it will make a developer and other key stakeholders aware of what the key issues are and what mechanisms can be proactively put in place to help an offset achieve its objectives. Developing an integrated management plan that details how key offset implementation issues will be addressed over an offset's project lifecycle and beyond can help project planners organise necessary activities and anticipate challenges. Section 2.4 details the principle components that a management plan should contain, and the Tools section will assist a developer in thinking through the key issues and structuring appropriate offset mechanisms.

Table 6 below is a summary checklist of the principle thematic areas and key activities will need to address throughout the course of offset implementation, as well as some potential challenges that may arise. OFFSET PLANNERS can use this summary checklist to determine what activities have been completed and what else remains to be done as an offset is implemented. By listing the potential challenges, offset planners can proactively develop the necessary mechanisms and contingencies to ensure the challenges do not negatively impact the implementation process.

Table 6: Summary checklist for offset implementation

Thematic area	Key activities	Potential challenges
Offset design	• List activities needed to ensure offset has been properly designed and is ready for implementation.	• Design issues. • Political situation. • Other?
Roles and responsibilities for key offset activities defined	• Roles and responsibilities finalised for management, operations and monitoring.	• Insufficient capacity among stakeholders to undertake various roles and responsibilities. • Poor coordination and communication among various components and stakeholders. • Insufficient resources for start-up costs. • Other?
Legal and institutional issues	• Legal framework has been defined and approved by appropriate authorities. • Appropriate institution(s) selected to implement offset activities. • If new institution is needed, proper registration completed and staff hired. • Capacity developed to adequately implement activities. • Management plan developed and approved by necessary stakeholders.	• Government bureaucracy. • Legal ambiguities and constraints. • Lack of appropriate institutions to undertake activities. • Insufficient capacity to implement offset activities. • Lack of adequate short-term funding for necessary legal and institutional activities. • Other?
TRUST FUND / non-trust fund	• Appropriate fund structure determined and legally registered. • Board selected and in place, including any appropriate training necessary. • Fund purpose and eligible activities / beneficiaries determined. • Management plan developed, including mechanisms for raising and disbursing funds. • Funding for start-up costs secured. • Initial capitalisation secured. • Fundraising plan developed (if necessary). • Asset management plan and manager selected and funds deposited. • For non-fund options, management plans and fundraising strategies developed. • Non-fund funding options developed and funding secured.	• Start-up funding not secured. • Insufficient capital for fund mechanism to function properly over the long-term. • Lack of a fundraising plan to secure needed start-up funds and or additional capital. • Few fundraising opportunities (fund and non-fund options). • Board not finalised. • Management plan incomplete. • Insufficient capacity in board and / or staff to carry out necessary activities. • Other?
MONITORING AND EVALUATION and ADAPTIVE MANAGEMENT system	• M&E system in place, including mechanisms for measuring implementation and impact performance and collecting, analysing, storing and sharing data. • Adaptive management structures in place that, using results of M&E system to adapt offset activities as appropriate.	• Insufficient capacity for collecting, analysing, storing and / or sharing data. • Inadequate data in management systems. • Adaptive management structures not in place to modify offset activities. • Adaptive management structures too expensive and / or complicated to use • Other?

References

Amani Butterfly Project. 2007. See **www.amanibutterflyproject.org/about.htm**.

Conservation Finance Alliance. 2008. *Rapid Review of Conservation Trust Funds*. See **www.fmcn.org/documentos/RapidReviewCTFsMay08Final.pdf**).

Crepin, C. 2003. Sustainable Finance for Conservation in Africa: The Role of the Global Environmental Facility in Funding Conservation Trust Funds and Perspectives for the Future. The Global Environmental Facility. Available at: **http://www.conservationfinance.org/Africa_Conference/Documents/Arusha_documents/GEF_Crepin.pdf**.

F&C (then Isis Asset Management). 2004. Is biodiversity a material risk for companies? An assessment of the exposure of FTSE sectors to biodiversity risk.

Fondo Nacional para Áreas Naturales Protegidas por el Estado – PROFONANPE. 2003. Case Study. PROFONANPE. Lima, Peru.

Forestry Stewardship Council. 2007. See **www.fsc.org/en/about**.

Foxall, J., Grigg, A. and ten Kate, K. 2006. Protecting shareholder and natural value: 2005 benchmark of biodiversity management practices in the extractive industry. Available at: **http://www.insightinvestment.com/global/documents/riliterature/367922/protecting_snv_05**.

Fundo Brasileiro para a Biodiversidade (FUNBIO). 2007. 2006 Annual Report.

Fundo Brasileiro para a Biodiversidade (FUNBIO). 2008. ARPA described on the FUNBIO website. See **http://www.fundnets.net/Fundnets_uploadfiles/co_gsri_biodiversity_report_sep_2004.pdf**.

Global Environmental Facility Secretariat Monitoring and Evaluation Team. 1998. *Evaluation of Experience with Conservation Trust Funds*. Global Environmental Facility.

Grigg, A. and ten Kate, K. 2004. Protecting shareholder and natural value. Biodiversity risk management: towards best practice for extractive and utility companies Insight Investment, London (see **http://www.insightinvestment.com/global/documents/riliterature/367922/protecting_snv_04**).

Kiyiapi, J., Ntiati, P.O., Mwongela, B., Hatfield, R. and Williams, D. 2005. *A Community Business: Elerai Ranch and Conservation Area, Kenya*. AWF Working Papers. African Wildlife Foundation.

Krchnak, K.M. 2007. Watershed Valuation as a Tool for Biodiversity Conservation: Lessons Learned from Conservancy Projects. The Nature Conservancy / USAID.

Lambert, A. 2003. Introduction to the Establishment of Environmental Funds: A proposal for Kazakhstan, Kyrgyzstan and Georgia. *In:* International Academy for the Environment (BfN) workshop on Introduction to Environmental Funds in Kazakhstan, Kyrgyzstan and Georgia. April 13-17, Vilm, Germany.

Mikitin, K. 1995. *Issues and Options in the Design of GEF Supported Trust Funds for Biodiversity Conservation*. Environment Department Papers, Biodiversity Series. World Bank. Washington, D.C.

Moye, M. with Norris, R. 2000. Preliminary Assessment: The Current Situation and Capacity Building Needs of Environmental Funds in Africa. Pact Publications. New York, NY.

Norris, R. (ed). 1999. The IPG Handbook on Environmental Funds: A Resource Book for the Design and Operation of Environmental Funds.

Oleas, R. and Barragán, L. 2003. *Environmental Funds as a Mechanism for Conservation and Sustainable Development in Latin American and the Caribbean*. Translation by Ruth Norris from the Spanish original.

Rowland, C. 2006. *Conservation Endowments: A Mechanism for Providing Long-term Conservation Management Funding in Hawaii*. U.S. Fish and Wildlife Service.

Saccardi, D. 2008. Conservation Trust Fund Investment Survey, Wildlife Conservation Society, NY.

Salafsky, N., Margoluis, R. and Redford, K. 2001. *Adaptive Management: A Tool for Conservation Practitioners*. Biodiversity Support Program. Washington, D.C.

Thompson, H.S., Eshiamwata, G., Githiru, M., Matiku, P. and Ayiemba, W. 2007. *Enhanced Sustainability at Arabuko Sokoke Forest: Conservation Successes, Challenges, and Lessons Learnt*. Nature Kenya. Nairobi, Kenya.

The World Bank. 1998. *Guidelines for Monitoring and Evaluation for Biodiversity Projects*. Global Environment Division. Washington, D.C.

The World Bank. 1996. *Performance Monitoring Indicators: A Handbook for Task Managers*. Operations Policy Department, Washington, D.C.

The World Bank. 2004. Implementation Completion Report (TF-28310) on a Grant from the Global Environment Facility in the Amount of US$20 million to the Fundo Brasileiro para a Biodiversidade for a Brazilian Biodiversity Fund Project – Funbio. Report No. 30189. Washington, D.C.

To learn more about the BBOP principles, guidelines and optional methodologies, go to:

www.forest-trends.org/biodiversityoffsetprogram/guidelines