DEVELOPMENT BANK OF LATIN AMERICA

SECTOR GUIDELINE

BIODIVERSITY AND ECOSYSTEM APPROACH

SECTOR GUIDELINE FOR BIODIVERSITY AND ECOSYSTEM APPROACH

Overview

This sector guideline provides a general overview of the affected area in terms of connectivity, corridors, and ecological viability of the affected area. Its action is complemented with the annexes 2C[1], 2E[2], and 2H[3], contained in the document of the "Environmental and Social Safeguards Manual for GEF-CAF Projects.

The Convention on Biological Diversity defines Biodiversity as "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and ecosystems."

25% of the world's biodiversity is concentrated in the Latin-American Region. Brazil, Colombia, Ecuador, Peru and other Latin-American countries are among the 17 countries in the world containing over 70% of the earth's biodiversity, to the extent that these countries have been included in the list of mega-diverse countries in the world. Their biological diversity has contributed important benefits to humanity through new sources of food and raw materials for medicines, cosmetics and dyes. Biodiversity is the source of many products and services utilized by society and millions of rural people depend on biodiversity for food, medicines, income, ecosystem services and cultural and spiritual needs. Currently, biodiversity provides essential inputs for diverse industries like food, cosmetics, pharmaceuticals, and tourism.

However, this natural wealth is being threatened by unsustainable rates of extraction, the expansion of infrastructure (roads, mining and oil exploitation) and land conversion, resulting in loss of natural habitats and biodiversity. Biodiversity loss often destabilizes and reduces the productivity of ecosystems, weakening their ability to generate products and services, as well as their capacity to deal with natural disasters and human-caused stress, such as environmental pollution and degradation and climate change. The sustainable use of biodiversity is thus fundamental for long-term sustainable development. Despite the richness of biodiversity in the Latin-American Region, it faces the great challenge of combining poverty alleviation and economic growth with sustainable use and conservation of biodiversity

This guide[4] also provides a brief introduction on how to apply the ecosystem approach to a project or issue. The ecosystem approach is a tool; it provides a framework that can be used to implement the objectives of the Convention on Biological Diversity, including the work on, inter alia, protected areas and ecological networks. There is no single correct way to apply the ecosystem approach to management of land, water, and living resources. The principles that underlie the ecosystem approach can be translated flexibly to address management issues in different social, economic and environmental contexts. Already, there are sectors and governments that have developed guidelines that are partially consistent, complementary or even equivalent to the

[1] Annex 2C : *Ecosystems Management Plan*
[2] Annex 2E: *Minimum requirements for the construction of a Sustainable Forest Management Plan*
[3] Annex 2H: *Terms of Reference for the socioeconomic assessment of projects that affect natural habitats*
[4] Most of the contents of this document are based in the guidelines designed by DBSA (2014) "Environmental and Social Safeguards Standards".

ecosystem approach (e.g. the Code for Responsible Fisheries, the Sustainable Forest Management approach, Adaptive Forest Management).

There are a number of options for implementing the ecosystem approach. For example, the principles can be included in national and regional policies, planning processes and sectoral plans. The principles can also be applied at a local level to smaller projects.

1.1 In terms of biodiversity pattern, identify or describe

i) Community and ecosystem level.

ii) The main vegetation type, its aerial extent and interaction with neighbouring types, soils or topography

iii) The types of plant communities that occur in the vicinity of the site.

iv) Threatened or vulnerable ecosystems conservation plans, Regional or National State of Biodiversity Report.

v) The types of animal communities (fish, invertebrates, avian, mammals, reptiles etc.).

1.2 Species level

i) Special attention should be given to species listed under the Vulnerable, Endangered and critically Endangered categories of the IUCN and National Red List of Endangered Species and habitats. Information about species location has to be included[5].

ii) The viability and estimated population size of the IUCN Red List´s species that are present. It must be included, the degree of confidence in prediction based on availability of information and specialist knowledge.

iii) The likelihood of other IUCN Red List´s species, or species of conservation concern, occurring in the vicinity (include degree of confidence).

1.3 Other pattern issues

i) Any significant landscape features or rare or important vegetation/faunal associations such as seasonal wetlands, Igapó or flooded Amazonian forests, salt marshes or others, in the vicinity.

ii) The extent of alien plant cover of the site, and whether the infestation is the result of prior soil disturbance such as ploughing or quarrying (alien cover resulting from disturbance is generally more difficult to restore than infestation of undisturbed sites).

iii) The condition of the site in terms of current or previous land uses.

[5] Give location if possible using GPS.

1.4 In terms of biodiversity process, identify or describe

i) The key ecological "drivers" of ecosystems on the site and in the vicinity, such as floods, fire, etc.

ii) Any spatial component of an ecological process that may occur at the site or in its vicinity (i.e. corridors such as watercourses, upland-lowland gradients, migration routes, coastal linkages or inland-trending dunes, and vegetation boundaries such as edaphic interfaces, upland-lowland interfaces or biome boundaries).

iii) Any possible changes in key processes e.g. increased fire frequency or drainage/artificial recharge of aquatic systems.

iv) The condition and functioning of rivers and wetlands (if present) in terms of: possible changes to the channel, flow regime (surface and groundwater) and naturally-occurring riparian vegetation.

v) Would the conservation of the site lead to greater viability of the adjacent ecosystem by securing any of the functional factors previously described?

vi) Would the site or neighboring properties potentially contribute to meeting regional conservation targets for both biodiversity pattern and ecological processes?

vii) Is this a potential candidate site for conservation stewardship?

viii) What is the significance of the potential impact of the proposed project, alternatives and related activities –- with and without mitigation –- on biodiversity pattern and process (including spatial components of ecological processes) at the site, landscape and regional scales?

2 Indicate on a map

Indicate on a topographical map or orthomap, preferably at a scale 1:10 000:

a) The area that would be impacted by the proposed development.

b) The location of vegetation, habitat and spatial components of ecological processes that should not be developed or otherwise transformed.

c) Areas, including the site and surrounds that must remain intact as ecological corridors.

3 Actions

Recommend actions that should be taken to prevent or, if prevention is not feasible, to mitigate impacts and restore disturbed vegetation or ecological processes. Indicate how preventative and remedial actions will be scheduled to ensure long-term protection, management and restoration of affected ecosystems and biodiversity.

4 Limitations

Indicate limitations and assumptions, particularly in relation to seasonality.

5 Mitigation

Indicate how biodiversity considerations have been used to inform socio-economic aspects of the proposed project, e.g. through changes to the location or layout of infrastructure, or retaining public access to biodiversity-related amenities or resources such as beaches or grazing.

THE ECOSYSTEM APPROACH IN CAF-GEF PROJECTS

The main steps for using Ecosystem approach in CAF-GEF projects are:

1 Problem Definition

The first task is to define the problem or problems that need to be addressed. If the problem is very complex it might be necessary to break it down into several smaller problems so that each can be addressed more easily. For example, to conserve a wetland ecosystem while facilitating its sustainable use, it might be necessary to address (i) ecological degradation resulting from unsustainable use of wetland resources, and (ii) community well-being such as health, education, food security, and cultural values.

Having identified the issues, the next step is to ascertain what tasks would allow the problem to be addressed. The problem can be assessed against the tasks listed below as an initial step towards identifying a plan of action. This process can also be used to prioritize the actions to be undertaken.

2 Identifying the tasks to meet the problems identified

The tasks below have been drawn from the principles of the ecosystem approach. In each case the ecosystem approach principle has been rephrased into a question which can be asked in relation to the problem(s) being addressed. The tasks are not listed in order of importance, they should be used in a way which best fits the problem. For more information on how to answer the questions posed by the tasks and the rationale behind each please refer to the Environmental and Social Safeguards manual.

Task 1: How do you involve all members of society in decisions associated with the management of land, water and living resources?

Task 2: How do you ensure management is decentralised to the lowest appropriate level?

Task 3: How do you ensure the effects of management actions (potential or actual) on adjacent and other ecosystems are taken into account?

Task 4: How can the economic context be understood so that market distortions that affect biological diversity are reduced, incentives are developed to promote biodiversity and sustainable use, and ecosystem costs and benefits are externalized?

Task 5: What measures could be used to conserve ecosystem structure and functioning so as to maintain ecosystem services?

Task 6: What measures can be taken to ensure ecosystems are managed within the limits of their functioning?

Task 7: What actions can been taken so that the problem(s) is (are) addressed at the appropriate temporal and spatial scales?

Task 8: How can varying temporal scales and lag-effects be taken into account when considering the sustainable use of ecosystems?

Task 9: How can adaptive management be used to address the problem(s) identified?

Task 10: How can an appropriate balance be sought between, and integration of, conservation and use of biological diversity?

Task 11: How do you ensure all forms of relevant knowledge including, scientific, local knowledge, innovations and practices are included?

Task 12: What measures can be taken to facilitate the involvement of all stakeholders including all sectors of society and scientific disciplines?

It is important to remember that whilst there is no single correct way to implement the ecosystem approach, it should be stressed that all its principles need to be considered in a holistic way, and appropriate weight given to each, according to individual circumstances.

3 Cross-cutting issues

In addition to the individual tasks identified above there are a number of crosscutting issues that need to be considered when applying the ecosystem approach.

Long-Term Viability

The ultimate aim for any project should be the continuation of the objectives beyond the project's lifespan. Financial stability is also key to long-term viability.

3.1 Capacity-building and participation

Community partnerships, stakeholder engagement, political and institutional willingness to participate and empower, and the commitment of other donors and sponsors is crucial for successful outcomes. Capacity building through financial and infrastructure support is an important requirement for success.

3.2 Information, research and development

Resource, biophysical, social, and economic information is important to the successful completion of a project using ecosystem approach. Research and development might be required to target gaps in knowledge. Information should be readily accessible to all stakeholders, to allow more transparent decision making and empowerment.

3.3 Monitoring and review

Monitoring and review are crucial components of any program using the ecosystem approach framework. They allow a responsive and adaptive management capability to be developed, and for reporting on performance and outcomes.

3.4 Governance

Good governance is essential for successful application of the ecosystem approach to a problem. Good governance includes sound environmental, resource and economic policies and administrative institutions that are responsive to the needs of the people. Having identified what tasks need to be undertaken to meet the issues raised the next step is to create a management plan.

4 Creating a Management Plan

There is no correct way to create a plan, every situation is different and it is important to modify the plan to fit the circumstances under which the project will operate. The Environmental and Social Safeguards Manual provides further information on how to create a management plan.

The following steps are thought key to the development of the management plan.

4.1 Identifying the issues

Issue identified and the project plan developed can be difficult to separate. The use of the ecosystem approach should begin with an issue. Having identified the issue (or several) it can be assessed against the tasks set out above in Section 3.

4.2 Creating a Draft Management Plan

The draft management plan sets out the tasks, determines who should be involved and creates a draft timetable for action.

4.3 Timing

Choosing the right time to set up a project can be important. Opportunities or circumstances which can help or hinder the project's success include:

4.4 Political Stability

New government policies and strategies
Re-organisation of government departments and institutions
The time taken to restore or maintain ecosystems should not be underestimated. Stakeholders should be given realistic timings so that they do not become disillusioned or frustrated by the time taken to put plans into action and for results to be achieved.

4.5 Key Actors

A primary task is to decide which organization should lead the project's development and implementation. Reliance should not be placed on one organization as this can jeopardize its success. Successful projects often have one fully-committed organization (either governmental or non-governmental) which works with other partner organizations.

4.6 Engaging with Stakeholders

Engage with the stakeholders as early as possible. Initial consultations are vital for ensuring people feel they can contribute to the development of the management plan, especially if it might impact on their activities. Stakeholders can provide ideas and reactions to help develop the project.

4.7 Setting Objectives

All projects need well-defined and readily identifiable objectives. These and any actions should be agreed through discussions with stakeholders so that an understanding of the issues and actions necessary to address them can be agreed and understood.

4.8 Project Design

The development of the project plan should consider Adaptive management

4.9 Long-Term Viability

The ultimate aim for any project should be the continuation of the objectives beyond the project's lifespan. Financial stability is also key to long-term viability.

4.10 Defining the Boundaries, Scope and Time Scale

Although boundaries lead to limitations these can be necessary for managing ecosystems.

4.11 Producing the Project Work Plan

The first task of the core work team is to produce a work plan, which should be done in a participatory and collaborative manner, using logical framework techniques to facilitate problem analysis and planning.

4.12 Reducing Risk to Project Outcomes

Risk analysis should be used to identify critical issues/risks to the project.

4.13 Monitoring and Evaluation

Monitoring can be used to assess progress and determine how future management can be developed to meet the project's goals. The monitoring of activities, aims and objectives should not be fixed but remain adaptable to changing conditions as knowledge, understanding and issues are raised and resolved. A good reference for biodiversity monitoring is the document Guidelines for Monitoring and Evaluation for Biodiversity Projects by World Bank (1998).

4.14 Project Implementation

Key concerns in implementing natural resource management projects include length of time required. Habitat restoration may require 10-15 years of work before results become apparent.

4.15 Staff Competence and Commitment Is Vital To Project Success

The creation of a network of partner agencies and interest groups, which will progressively take on the implementation of the project activities are vital. Political, institutional and community support must be secured to fulfill the project goals and objectives. Project implementation generally follows a series of stages, some of which overlap and can include several steps. For example

Stage 1
a. build project team
b. produce work plan and develop links with local community
c. establish advisory committees

Stage 2
a. determine project activities
b. desk-based actions
c. capacity-building
d. review project (adapting monitoring and research as required)

Stage 3
a. putting agreed plan into action

Stage 4
a. continuation and forward planning
b. strategic plan for future initiatives