



**United Nations Development Programme  
Global Environment Facility**

## **Biodiversity Planning Support Programme**

### **A GUIDE FOR COUNTRIES PREPARING NATIONAL BIODIVERSITY STRATEGIES AND ACTION PLANS**

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**CHAPTER I**  
**INTRODUCTION**

**Purpose of this Guide**

The purpose of this booklet is to provide clear, pragmatic guidance to national planning teams for the preparation of effective national biodiversity strategies and action plans. In particular, this guide seeks to do the following:

- Define the required versus optional content of NBSAPs;
- Define options for how to organise for the preparation of a NBSAP and present advantages and disadvantages of each option;
- Provide guidance on the required versus optional studies that need to be conducted as part of the stocktaking and assessment phase along with model outlines and TORs for key studies;
- Provide guidance on methodologies for the identification, analysis and selection of options for strategy development with emphasis on stakeholder participation in the process;
- Provide guidance for the development of actions plans for strategy implementation.

**CBD objectives**

While the CBD confirms that each State is sovereign over its biological diversity, countries that have signed the CBD have agreed to support the three basic objectives of the Convention:

- 1) Conservation of biological diversity;
- 2) The sustainable use of its components, and;
- 3) The fair and equitable sharing of the benefits arising out of the utilization of the use of genetic resources.

Each country that has signed the Convention on Biological Diversity is called a "Contracting Party". Article 6 of the Convention defines some of the key obligations of the Parties:

*Each Contracting Party shall, in accordance with its particular conditions and capabilities:*

- (a) Develop national strategies, plans or programs for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programs which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned; and*
- (b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programs and policies.*

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#### **COP guidance**

Although the Convention defines basic objectives and principles, it has been left to the Conference of the Parties (COP) to interpret the framework of the CBD and to develop specific guidance for its application. All Parties periodically meet at a COP. Since the Convention went into effect on December 29, 1993, there have been four such meetings, and COP5 is scheduled for May 2000.

A review of COP guidance shows the following elements should be incorporated into national biodiversity strategies and action plans (NBSAP):

- Strategies for biodiversity conservation;
- Strategies for sustainable use of biological resources;
- Strategies for equitable sharing of benefits derived from the use of genetic resources;
- Strategies for the conservation and sustainable use of agricultural biodiversity;
- Strategies for bio-safety;

Guidance from the COP for NBSAP development identifies the following priorities for NBSAP development:

- Support for projects and programmes that have national priority status and that fulfill the obligations of the Convention;
- Development of integrated national strategies for the conservation of biological diversity and the sustainable use of its components;
- Strengthening the conservation, management and sustainable use of ecosystems and habitats identified as priorities by national Governments in accordance with Article 7;
- Identification and monitoring of wild and domesticated biodiversity components, in particular those under threat, and implementation of measures for their conservation and sustainable use;
- Capacity-building, including human resources development and institutional development and/or strengthening, to facilitate the preparation and/or implementation of national strategies, plans for priority programmes and activities for conservation of biological diversity and sustainable use of its components;
- Development of innovative measures that create economic incentives for biodiversity conservation and that compensate local communities that incur opportunity costs associated with its conservation;
- Strengthening the involvement of local and indigenous people in the conservation and sustainable use of biodiversity;
- Conservation and sustainable use of threatened coastal and marine resources and of the biodiversity of environmentally vulnerable areas such as arid and semi-arid and mountainous areas;
- The conservation and sustainable use of endemic species;
- The integration of social dimensions, including those related to poverty, into the conservation and sustainable use of biodiversity.

#### **UNDP-GEF Support for National Biodiversity Strategies and Action Plans**

The UNDP Global Environment Facility (GEF) is the interim financial mechanism for

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providing funding for the implementation of the Convention. The Implementing Agencies for GEF are UNDP, World Bank and UNEP. The COP has directed the GEF to provide funds for "Enabling Activities" to help parties in meeting their CBD obligations, specifically the preparation of national biodiversity strategies and actions plans (NBSAPs).

Of the three GEF Implementing Agencies, UNDP is the most active in supporting national biodiversity strategies and action plans. As of April 1998, UNDP was supporting NBSAP development in 82 countries. Some of the common characteristic/ principles of NBSAP preparation funded by GEF are the following:

- National governments are fully responsible for NBSAP development under the CBD and COP and within administrative regulations on the use of UNDP funds;
- One of the key principles of GEF support is that countries will develop strategies based on existing research/inventories and other information, recognizing that the resulting strategy won't be perfect. The thinking is that it is more important to develop an initial strategy based on the best available information than to delay strategy development until further research/inventories and studies can be conducted. One of the objectives of strategy development is to identify gaps in the information base. Actions to fill the gaps would be part of the strategy and the action plan.
- The NBSAP preparation should be a strongly participatory process involving stakeholders in all phases of the planning process, especially in the identification, analysis and selection of strategy options.
- The process should encompass the full range of sectors concerned with the use and conservation of biodiversity. The involvement and support of high level decision makers in the planning process is critical.

#### **Lessons Learned from Similar Planning Exercises**

Over the past 10 years, a great deal of experience has been gained from the development of national environmental action plans, tropical forestry action plans, national conservation strategies and from similar planning exercises. One of the principal lessons learned (the hard way) is that none of these strategies and plans are of any use if they are not implemented. They will not be implemented if there is not a sufficient level of national commitment to the plans. Two other related lessons learned concern key factors that determine the level of commitment to national planning processes:

- **Stakeholder participation :** If those who are most affected by the plans are not directly involved in the planning process, they will rarely be committed to the successful execution of the plan.
- **Level of donor/expatriate involvement :** Some national strategies and action plans have been prepared with very heavy donor involvement and intensive use of expatriate consultants. This rarely results in a sense of national "ownership" of the plans produced nor does it lead to a commitment to the implementation of the plans.

#### **Problems Experienced in NBSAP Development**

Regional workshops on Biodiversity Strategies and Action Plans (NBSAPs) have recently been held in Nairobi, Kenya and Santo Domingo, Dominican Republic to assess problems

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faced by countries in developing NBSAPs. The workshops reached a consensus on the finding that

the NBSAP process is weaker than it should be. Direct causes of the core problem were identified as follows:

- Inadequate political support on key issues (at the country level);
- Insufficient institutional harmony (country level);
- Insufficient expertise and experience for good planning (country level);
- Insufficient information available for good planning (country level);
- Lack of clarity in the NBSAP process (at the level of countries and of the GEF Implementing Agencies)

This guide will help countries to address all of these problems to some extent, but is primarily intended to directly address the last problem of lack of clarity in the NBSAP process. Amongst the causes of the lack of clarity in the NBSAP process identified by the Nairobi workshop were the following:

- Inadequate/unclear guidelines;
- Poor dissemination of information;
- Poor understanding of the NBSAP process and CBD requirements (new concepts);
- Different perceptions and interpretations of CBD issues (CBD being a framework convention for national elaboration of strategies for action);
- Lack of qualified personnel to explain and facilitate the process.

### **Principal Steps in the NBSAP Process**

The principal steps in the biodiversity strategy and action plan development process are summarized as follows:

1. Organisational phase -- the creation of structures (such as a steering committee and a planning team) to undertake the planning process ;
2. Stocktaking and assessment -- this phase consists of:
  - taking stock of the biodiversity within the country, (both wild and domestic);
  - identification and assessment of the threats to this biodiversity;
  - identification and assessment of the causes of these threats;
  - gathering information on socio-economic issues and resource use regimes;
  - assessment of the sustainability of the present use of biological resources;
  - assessment of the equitability of the sharing of benefits from the use of biological/genetic resources;
  - assessment of the legal, policy and institutional framework governing the use and conservation of biological resources within the country.
3. Definition of priorities and objectives -- based on the results of the stocktaking phase, one must begin to define priorities for biodiversity conservation and to define the strategy objectives in a participatory manner;
4. Identification and analysis of options for achieving objectives -- this phase needs to be a strongly participatory phase involving those stakeholders that use biological resources, those that are involved directly or indirectly with the causes of biodiversity loss and those



- who have a stake in the sharing of the benefits from the use of biodiversity resources;
5. Drafting of the national strategy -- the final strategy must clearly define national priorities and objectives and those options that emerge from the planning process as the most effective for achieving the stated objectives;
  6. Preparation of the national action plan -- the action plan must define, in much more concrete terms the following:
    - resources needed to implement the strategy and timetable for implementation;
    - definition of roles and responsibilities of institutional and other stakeholders;
    - a monitoring and evaluation plan;
    - calendar for implementation.

***Changes in the types of expertise needed during the planning process :*** One should note that the nature of the activities changes significantly from one phase to another, as does the types of expertise needed. For example, the stocktaking phase is primarily a desk study that consists of collecting, analyzing and summarizing existing information and requires the use of specialists in different disciplines. Participatory identification and analysis of options requires a different range of skills with a premium placed on communication skills and the ability to facilitate the involvement of a wide range of stakeholders.

## CHAPTER II GETTING ORGANISED

This section will present options on how to structure and initiate the development of the NBSAP and clarify roles and responsibilities of stakeholders

### **Strategic Considerations**

The creation of structures for the biodiversity planning process and/or the definition of roles and responsibilities for the process must be studied very carefully. Biodiversity strategy development frequently presents a challenge to vested interests, i.e., to the conduct of "business as usual". The planning process involves the analysis of who has access to biological resources, how the resources are used and who benefits from their use. Some of the politically sensitive areas where change may be needed include the following:

- . Land and resource tenure systems;
- . Resource-based production systems;
- . The distribution of benefits from natural resource use;
- . Markets and economic incentives;
- . International trade and agreements;
- . Institutional mandates;
- . Cultural practices;
- . Government budget allocations.

The ability to address these types of issues in a fair and objective fashion necessitates a careful choice of the institutions and individuals who will lead and conduct the planning process. Some of the key considerations in this choice are the following:

- . Government agencies that are mandated for managing, or regulating the use of, biological resources, must be involved in the planning process as stakeholders, but probably should not be given a lead position in the process because of their vested interests in the outcomes.
- . National environmental agencies in many countries are often relatively young institutions that lack strong political clout, but they are frequently given the lead role in the development of national biodiversity strategies. They may not be strongly positioned strategically for recommending and supporting significant changes. Such agencies might consider the advantages of delegating much of the responsibilities for strategy development to relatively independent, but respected bodies such as universities or environmental/research institutes. This may take the onus off of the NEAs for recommending changes, while leaving them relatively free to support changes recommended by others.
- . A critical choice to be made in organising the planning process is the selection of individuals to oversee the project, manage day-to-day project activities, prepare studies, analyses and undertake consultations. Much of the success or failure of the planning process will hinge on the profile and the qualifications of these individuals. The roles of project staff will be further developed later in this chapter.

## **Suggested NBSAP Planning Process Structures**

The preparation of a national biodiversity strategy requires the mobilization of significant human, institutional and financial resources over a period of 10 months or more. It is generally necessary to create a range of entities to guide and implement the planning process, although existing structures should be used or modified as appropriate. There is no single best formula; each country needs to set up structures best adapted to their particular situation. The principal planning process entities/individuals that have been found to be useful in different countries are the following:

- High-level steering committee;
- Planning committee;
- National coordinator;
- Project manager or lead consultant;
- Technical review panel;
- Individual national consultants as needed.

### ***Steering Committee versus Planning Committee***

Most NBSAP project documents call for the creation or recruitment of an steering committee, a planning committee a national coordinator and national consultants. The exact roles of these entities are not usually detailed in the project document. Some of the key issues that different countries have encountered in selecting amongst the above entities and in defining their roles, are the following:

- Some countries that have opted for both an steering committee and a planning committee have found it difficult, in practice, to distinguish between the roles of the two. The steering committee has ended up as a "micro-manager" involving themselves with details that go well beyond the role of a high-level oversight function.
- One of the key issues is whether or not to create a planning committee that would be responsible to the Steering committee, and who would, in turn oversee the National Coordinator. Such a planning committee can be effective if qualified individuals can be found who have enough time to devote to substantive planning functions in addition to their duties with the institutions that employ them. Under UNDP regulations, planning team members who already have full-time jobs cannot receive fees for serving on a NBSAP planning committee. In at least one country (Cape Verde), it was decided to replace the planning committee with a technical review panel of varying membership whose only real function was to conduct technical reviews of studies/reports conducted by national consultants. Such a panel need only meet infrequently, if ever. The national coordinator then became directly responsible to the Steering committee. Governments must decide how much of the planning functions they are willing to delegate to independent consultants employed with project funds.

## ***The Steering Committee***

### **Functions**

The Steering committee should provide high-level guidance to the biodiversity strategy and action plan development to ensure that the NBSAP is in harmony with other government plans and programs and to maximize the chances of the NBSAP becoming a formal government policy document. The terms of reference (TORs) for the Steering committee might resemble the following:

- Provide high-level guidance and orientation for the strategy and action plan development;
- Raise the level of awareness of the importance of the national biodiversity strategy within high-level bodies of government;
- Ensure that NBSAP development is in compliance with the Convention on Biological Diversity and with the NBSAP project document;
- Ensure that all measures are taken to maximize the probability that the biodiversity strategy and action plan will become a formal government policy. The oversight committee should endorse the strategy and action plan documents before they are submitted to the appropriate government bodies for approval as formal government policy documents.
- Facilitate the work of the planning entities (planning committee, national coordinator, national consultants) and ensure access to archives and information held by their parent institutions;
- Participate in national NBSAP workshops;
- Each Steering committee member should serve as focal point within their parent organisation for NBSAP development activities.

### **Membership**

The Steering committee should, ideally, be composed of representatives of high level government bodies and representatives of key stakeholders from outside of government. As high-level understanding and support is critical for NBSAP adoption and implementation, one should consider having representation from such bodies as the president's office, the prime minister's office and/or parliament. On the non-government side, the steering committee should include representatives of resource user groups, local communities and NGOs (see section on stakeholders in this chapter). In addition, mechanisms should be explored to make the Steering committee a permanent structure and guide the implementation of the NBSAP upon its completion.

### ***The National Project Director Position (NPD)***

Most countries appoint a senior civil servant in a non-technical role, as the NPD to oversee project implementation and liaise between the steering committee and project staff. The NPD can be critical in catalyzing inter-ministerial and broader stakeholder support towards the objectives of this project and liaising with counterparts in other ministries, regional/local governments.

The NPD's administrative role typically consists of regularly monitoring the progress of the project, appraising the performance of national consultants in collaboration with the Project Manager, preparing recommendations to the steering committee, organising workshops and consultations. The NPD duties are normally assigned to a civil servant in addition to his other duties. It is, therefore, normally only a part-time position and not remunerated from project funds.

**Specific Duties of the NPD entail:**

- . Organise and convene steering committee meetings;
- . Oversee the organisation of national workshops and consultations;
- . Assist the consultants in carrying out their assignments by facilitating interaction and contacts with government and other organisations and institutions;
- . Ensure a transparent and participatory approach is followed, stakeholders are consulted and involved in the project;
- . Overall management of the project team (project manager and national consultants) and conveying the official position of the steering committees;
- . Review project budget revisions and all other administrative arrangements required under government and UNDP procedures;
- . Collaborate fully with UNDP in providing administrative inputs into the project and monitoring arrangements as per UNDP procedures;
- . Prepare reports and recommendations to the project steering committee;
- . Take all the steps necessary to ensure political commitment and support to obtain formal political approval of the NBSAP and its subsequent implementation;
- . Prepare the groundwork to move from preparation to implementation.

***National Project Manager /Lead Consultant (PM)***

This is the single most critical position in the project and the success or failure of the NBSAP may well depend upon this individual. Therefore, the selection of the individual to fill this post must be made with great care. In several countries, the project manager has been responsible for the day-to-day coordination and management of NBSAP activities as follows:

The PM is normally responsible for the day-to-day implementation of this project, administers all technical project inputs and coordinates the execution of all project activities. Although reporting arrangements vary, the PM typically reports to the NPD and steering committee.

In most countries, the PM supervises the work of long/short term national consultants and interdisciplinary working groups and is responsible for the organisation of workshops and consultations. The PM is typically responsible for the preparation of outlines of key project documents and assigning responsibilities to the other national consultants. The PM is normally the primary author of the NBSAP and national report to the COP.

**Work Description**

- . Coordination of all NBSAP activities;
- . Liaison among Government, non-government organisations and the funding agency (UNDP);

- Responsibility for ensuring that all national consultants and stakeholders work as a team;
- Supervision of the work of all national consultants;
- Organisation of periodic brainstorming sessions with the planning team/national consultants;
- Organisation of workshops, consultations;
- Preparation of activity and financial reports for Government and UNDP;
- Preparation of work plans for Government and for UNDP.
- Preparation of budget revisions as necessary;
- Management of funds in conformity to Government and UNDP administrative requirements;
- Preparation of requests for disbursements in a timely fashion to assure that funds are available from UNDP when needed, for NBSAP activities;
- Assessing training needs and arranging training for national biodiversity planners;

**Qualifications :**

One should seek the following qualities in the candidates for the PM position:

- A senior, respected professional, preferably with an advanced degree in the biological sciences;
- He/she should have field experience in project management and planning processes related to biodiversity conservation as well as in developing institutional arrangements;
- Excellent communication and writing skills;
- Prior experience in the organisation, coordination and management of workshops and familiarity with participatory methodologies;
- Experience in the coordination of complex activities;
- Experience in working with both government and non-government organisations;
- Project management/administrative experience;
- Experience in the organisation and facilitation of workshops;
- Basic computer skills, especially in word processing;
- Familiarity with the CBD, recent COP guidance and emerging issues in the field of biodiversity.

Governments must decide whether to appoint a civil servant to serve as PM or to go to open competitive recruitment for this position. Each country must judge which alternative will work best for their particular situation. The PM post should be considered to be a full-time position. If a civil servant is appointed to this position, Government should seek to relieve this individual of their normal duties during the preparation of the NBSAP. Another, consideration in choosing between the two alternatives is the UNDP administrative rule that prevents civil servants from receiving a salary, unless they take formal leave from government service during the time they are paid with UNDP funds. If a full-time civil servant is appointed, this person may fill both the NPD and PM roles.

**Assuring Quality of Work by Consultants**

Most NBSAP projects funded by UNDP are designed to rely primarily upon national consultants for most of the work of stocktaking and strategy development. International consultants are typically recruited for short durations to structure project activities and provide training. For this reason it is important to consider what measures can be taken to

ensure that one obtains the highest quality work from the consultants to be recruited.

### ***Methods for assuring quality work by consultants***

- Always recruit the best candidates available. One cannot expect quality work from a poorly qualified individual. When preparing the contract for each consultant, specify that the consultant is to be paid for delivering a quality product, not for the number of weeks or months worked;
- Be very precise in the preparation of consultant TORs, especially in the outputs the consultant is to produce.
- The basic product for each consultant is the report or reports to be produced, as per their terms of reference. Final payment of honorarium must be contingent upon approval of the report by designated reviewers. The consultants should be required to complete and modify their draft reports after receiving written review comments;
- The contract for each consultant should specify a staggered schedule of payment based upon completion of work done or products delivered. For example, a consultant hired to do a study as part of the stocktaking phase might be paid 60% of his honorarium upon receipt of a full draft report and the last 40% upon formal approval of the final report;
- Each draft report should be read and critiqued by at least two designated, qualified professionals;

### ***Methods for Evaluating the Quality of Work Performed***

- Evaluate the reports produced vis-a-vis the TOR, especially the outputs and the description of work;
- Does the consultant present a clear statement of the objectives of his study and a clear statement of how his study will contribute to the national biodiversity strategy and action plan?
- Does the consultant give a clear presentation of his methodologies in his report?
- Does the consultant give a clear, logical justification for his conclusions and his recommendations?
- Does the consultant provide references for the sources of his information?
- Does the consultant present a balanced presentation of evidence for and against before drawing his conclusions?

### ***Methodology for Recruitment***

- The jobs should be advertised openly in the media and posted at key sites. Job announcements must be explicit as to deadline and procedures for applying;
- At least two weeks should be allowed from the time of advertising the position to the deadline for applications;
- A balanced selection committee of 4-5 persons should be set up by the Steering Committee;
- The selection committee should establish and agree upon a standard, weighted ranking for judging CVs and letters of application. Major factors should include education and experience; these might be assigned about 35% weighting each. Bonus points might be assigned for factors such as word processing skills or linguistic capabilities;
- Each member of the committee should rank the applications independently. The three or

four applicants with the highest average score for each position should be called in to an interview;

- A separate weighted ranking should be prepared and agreed upon for the interview;
- The day of the interview, the committee should agree upon a set of key questions to ask of each candidate. Questions should be well thought out, should be on topics of direct relevance to the position being interviewed for and should require the candidate to present a logical argument in defense of his/her position;
- The selection committee should calculate the scores for each candidate immediately after each one interviewed. After all interviews are completed, average scores for each candidate should be calculated together by the selection team. One should then proceed to negotiate contracts with the individuals selected.

### **Stakeholder Participation**

Biodiversity conservation or loss will be determined primarily by the way that farmers, herders, woodcutters/loggers, hunters, fishermen and other resource users, developers and economic interest groups use or abuse biological resources. It is essential that these groups be included in the NBSAP planning process. If they are not included as part of the solution, they will probably remain part of the problem, i.e., part of the cause of biodiversity loss or unsustainable use. Experience around the world has shown that the old, top-down, planning approach of "government knows best" has rarely been effective when these key stakeholders have been excluded from the planning process.

Participative planning is generally more time consuming and more expensive. It is often a somewhat threatening process for those whose only experience is in the more classical, centralized planning approach. In the end, however, the participatory approach generally yields a plan that enjoys a much higher level of support from the stakeholders involved, and consequently, a higher chance of succeeding.

Recognition of the need to involve all stakeholders in a participative NBSAP planning process does not mean that we fully know how best to do this. Techniques and approaches are still being tested and developed and this will continue. The biggest unknowns seem to lie in the best methodologies for involving stakeholders in the process of identifying, analyzing and choosing between options for achieving strategy objectives. This is developed in the chapter on this subject. There is clearly a need and an opportunity to better share and compare experiences among the different countries that have already completed NBSAP and those who are currently undertaking this process. UNDP will strive to support the sharing of lessons learned as countries advance in the preparation of their NBSAPs:

Key stakeholders include the following:

- Local biodiversity resource users (farmers, herders, woodcutters, hunters and fishermen);
- Local communities;
- Private sector, resource-using businesses and industries (urban charcoal merchants, logging companies, industrial-scale marine fisheries, pharmaceutical companies, safari operators, tourist agencies, etc.);
- Non-governmental organisations (NGOs);
- Local, regional and national-level government authorities;



- Resource management agencies;
- Research and academic institutions;

The types and interests of stakeholders vary from country to country. When organising for the NBSAP planning process, one of the key challenges is first to identify the principal stakeholders and then to engage them in the planning process.

### **Functions and timing of national workshops**

The main steps in the NBSAP planning process as presented in Chapter II follow a logical sequence. However, NBSAP project documents generally call for two national workshops to be held during NBSAP development, but are often unclear as to the timing and purpose of these workshops. It is important to clarify these questions as one is organising and planning the planning process. The different points in time at which the national workshops could be useful are the following:

- At the launch of the planning process to explain the need for, and the purpose of the NBSAP and to get input on who to involve and how;
- At the end of the stocktaking phase to present findings and to define priorities and objectives for the strategy;
- At the end of the phase of identification and analysis of options for achieving strategy objectives to debate the merits of the identified options;
- After the draft strategy has been drafted to present, debate and modify the strategy;
- After the action plan has been drafted to present, debate and modify the action plan.

Each country needs to define the timing and purpose of their national workshops, but experience to date indicates that the most important times to hold national workshops are the following:

- The first workshop should be held at the end of the stocktaking phase. The workshop should be used to translate the findings of the background studies into a preliminary definition of national priorities and objectives for biodiversity conservation, for sustainable use and for equitable benefits sharing. Strategy development then consists of the identification, analysis and selection of options for achieving the defined objectives.
- The second workshop should then be held at the end of that phase of the identification and analysis of options. These options would have previously been debated at a series of regional workshops. The second national workshop should serve as a national forum for the presentation and debate over the advantages and disadvantages of the principal identified options that are retained from the regional workshops.

### CHAPTER III STOCKTAKING AND ASSESSMENT

This chapter will cover the following aspects of the stocktaking phase:

- taking stock of the biodiversity within the country and definition of conservation priorities;
- identification and assessment of the threats to this biodiversity;
- identification and assessment of the causes of these threats;
- assessment of the sustainability of the present use of biological resources;
- assessment of the equitability of the sharing of benefits from the use of genetic/biological resources;
- assessment of threats to agro-biodiversity genetic resources;
- assessment of the institutional capacity needs for biosafety risk assessment and management;
- assessment of the legal, policy and institutional framework governing the use and conservation of biological resources within the country;

It is essential that the stocktaking and assessment phase be considered as a functional part of strategy development and not as a separate undertaking. One must take stock of the present situation in order to define national priorities and objectives and develop strategies and an action plan for achieving these objectives. Under the stocktaking and assessment part of a NBSAP only information/data needed for strategy and action plan development should be gathered and analyzed. Therefore, very careful thought must go into the definition of what is needed in order to avoid wasted efforts and resources. As an example, planning teams often devote considerable efforts in developing exhaustive species lists of plants and animals, only to discover later that this information, by itself, is not very useful for planning purposes.

Stocktaking activities should be defined as a function of what is needed to develop the major strategy elements of the NBSAP. We will look at the stocktaking needs for the following strategy elements one at a time:

- 1) Biodiversity conservation;
- 2) Sustainable use of biological resources;
- 3) Equitable sharing of benefits derived from the use of genetic resources;
- 4) Conservation of agricultural biodiversity;
- 5) Biosafety.

#### **1) Biodiversity Conservation**

Strategies for biodiversity conservation should be considered to be the essential core of a NBSAP. In order to define the stocktaking needs for biodiversity conservation strategies, let us look first at the key, overall steps in strategic planning for the conservation of natural ecosystems and biodiversity.

- a) Identify biodiversity conservation priorities:
  - Define criteria;
  - Gather available information needed to apply the criteria;

- Apply criteria to determine national conservation priorities.

- b) Analyze threats/pressures on priority ecosystems:
  - Identify threats to biodiversity with emphasis on priority ecosystems;
  - Prioritize threats by their importance;
  - Analyze direct and indirect causes of the threats.
- c) Identify options for diminishing the key threats to priority ecosystems through a participatory series of consultations involving all stakeholders;
- d) Identify and analyze advantages and disadvantages of each option in the same participatory manner;
- e) Select the best options to become part of the national strategy

The essential elements of the stocktaking phase then consist of gathering the information needed to define national priorities for biodiversity conservation and in gathering information on the threats to biodiversity and the causes of these threats.

***Proposed Criteria for Prioritizing the Conservation of Natural Ecosystems and their Biodiversity***

Few, if any countries, will be able to conserve all of their biodiversity. For this reason it is very important for each country to define national priorities for biodiversity conservation. To set priorities, one must define criteria for priority setting and one must gather the information needed to apply these criteria. Each country must decide on the criteria that they will use for priority setting. The following is a list of potential criteria that may be used or built upon for priority setting:

- a) Scientific and Ecological Criteria:
  - Give priority to ecosystems with the highest species diversity;
  - Give priority to ecosystems with the highest levels of endemism;
  - Give priority to ecosystems that include rare, endangered and/or threatened species, especially of higher animals and plants;
  - Give priority to ecosystems that are the most pristine (the least degraded)
  - Give priority to the conservation of unique ecosystems that do not exist elsewhere;
  - Give priority to the conservation of areas large enough to maintain viable populations of key species of animals and plants (Most population ecologists believe that when a population falls to around 50 individuals, it is in imminent danger of disappearing);
  - Seek to conserve representative areas of all types of ecosystems within a country;
  - Give priority to natural areas that play key ecological functions (such as critical watersheds);
  - In general, at the species level, give priority to the conservation higher plants and animals.

- b) Socio-Economic criteria:
- Give priority to natural areas and species of higher economic value;
  - Give priority to the conservation of wild and primitive relatives of crop plants and domesticated animals;
  - Give priority to natural areas and species of particular cultural/historical/religious interest.

Discussion on criteria should be one of the first activities of NBSAP planners at the beginning of the stocktaking phase. Early discussion of criteria is critical because it should guide the development of the TOR for the consultants who will do the biodiversity analyses during the stocktaking phase. Discussion and debate should be ongoing during the stocktaking phase, should involve as many stakeholders as possible, and should be a key topic of the first national workshop.

In Rwanda and Senegal, the NBSAP planning teams applied the criteria through the use of a simple matrix with criteria on one side and type of ecosystem on the other. In working groups, each criteria for each ecosystem type was ranked for high, medium or low priority for conservation. The results were then used to group ecosystems into three categories of high, medium and low priority for biodiversity conservation. This was then used to better plan the subsequent NBSAP planning steps, in particular, to define the geographic foci for the field work during the participatory phase of identification and analysis of biodiversity conservation options.

### ***Key stocktaking needs for conservation strategies***

Some of the key stocktaking needs for conservation strategies are the following:

- Collection, synthesis and analysis of information on the biodiversity of the country, primarily by ecosystem and primarily in terms that will allow the application of the criteria for priority setting;
- Geographic location, areal extent and condition of these ecosystems (ideally, mapped and spatially referenced);
- Identification and prioritization of the threats/pressures on the biodiversity of each ecosystems, identification of socio-economic issues and resource use regimes;
- Identification and analysis of the direct and indirect causes of biodiversity loss by ecosystem;

The first two stocktaking needs presented above correspond to the information needs for priority setting. The second two concern human threats to/pressures on biodiversity. Effective strategy development necessitates a good understanding of what people are doing to these resources and why. Strategies must concentrate on changing behavior and practices of people and institutions. One cannot expect to do this effectively without a good understanding of the reasons why people are doing what they do.

Identification and analysis of threats and pressures on ecosystems and their biodiversity must begin during the stocktaking phase and continue to be refined during the phase of identification and analysis of strategy options. Emphasis should be placed on identifying and analyzing threats on to ecosystems and biodiversity resources that have been identified as national conservation priorities.

## **2) Sustainable Use of Biological Resources**

The Convention defines sustainable use as the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity. Sustainable use of biological resources also normally implies that the resources are used by man in a way that does not diminish the productivity of the resources and the ecosystems they are a part of over time -- that one can sustain a given level of harvest of certain products over time. Sustainable use is; therefore, economically crucial to those user groups who are dependent upon the use and management of biological resources. There is clearly a large degree of overlap between the CBD objectives of conservation of biological diversity and of sustainable use of biodiversity (as they have defined it). Sustainable use of biodiversity is one of the best examples of conservation of biodiversity.

The development of strategies for sustainable use of biodiversity requires that one do the following during the stocktaking phase:

- Identify what biodiversity is being used (what ecosystems? what species?) and how;
- Assess the sustainability of this use and analyze the causes of unsustainable use. Emphasis needs to be placed on the question as to whether the use of the biological resources results in a man-caused loss of biodiversity or of productivity;
- Assess the trends in the sustainability of resource use over time including projections of future use;
- Analyze the causes of unsustainable use. This will include questions concerning how the resource is being used, by whom and for what purposes. It will also include questions on what the land and resource tenure systems are, both modern and traditional, that determine the rights of access to the resources being used.

The classical direct uses of biodiversity in natural ecosystems are the harvest of forest products (both timber and non-timber products), hunting, fishing, livestock grazing and browsing, and for different types of tourism. Sectoral management systems for biological resources include forest management, wildlife management, fisheries management, range management and protected areas management.

Assessment of sustainability must be done independently from the existence, or lack of, management systems. Biodiversity may be used sustainably without the existence of a management plan. Biodiversity may be used unsustainably even though a management plan exists and is being applied. A natural forest may be managed sustainably for the production of wood products while the wildlife is being decimated by uncontrolled, commercial bushmeat hunters.

Distinguishing between changes in, or loss of, biodiversity which results from natural factors from that which results from unsustainable use, can be very difficult. Natural ecosystems are

now recognized as being much more dynamic than once believed and are continually undergoing change even in the absence of man's influence. A rather extreme example of "natural change" is in the Sine Saloum area of Senegal where the pre-1967 rainfall average was about 70% higher than the post 1967 average. The change in rainfall regime took place abruptly in the late 1960s. Such a drastic change in a key environmental factor must inevitably lead to major changes in an ecosystem, changes that are independent from the effects of man.

### **3) Equitable Sharing of Benefits Derived from the Use of Genetic Resources**

Of all the NBSAP strategy components, the guidance is probably weakest for strategies for equitable sharing of benefits. The third objective of the CBD calls for the "*just and equitable sharing of the advantages flowing from the use of genetic resources.*" None of the words 'fair', 'equitable', 'sharing' or 'benefit' is defined in the CBD, although each is used several times. The definition of genetic resources given by the CBD does not make any clear distinction between genetic resources and biodiversity itself -- all living organisms are genetically-based and contain genetic materials.

Some of the following questions included under the issue of equitable sharing of benefits will illustrate the range of questions to be considered (without pretending to be exhaustive):

- How should the holders of indigenous technical knowledge of biodiversity uses, benefit from use of this knowledge by others, including use by international corporations? For example, most modern pharmaceuticals were originally developed from plant and animals products. Pharmaceutical companies have learned that by targeting research on the development of new drugs on plant and animal products already used in traditional medicines increases their chances of success in identifying active ingredients for new pharmaceuticals. In the past, the holders of traditional knowledge on medicinal uses of biodiversity have rarely benefited from such commercial development. How should they benefit and how should benefits be shared? Traditional medicine is an example of traditional technical knowledge on the uses of biodiversity. A related question is how can a country prevent the loss of this indigenous technical knowledge that has been developed over generations of time?
- What can each country do to direct the development of biotechnology and genetic engineering so that the benefits of these technologies are shared equitably and that economic dislocations are minimized (example of vanilla farmers being put out of business by the development of genetic engineered bacteria that produce vanilla in a "factory")?
- What types of laws and policies do countries need to put in place to protect their "intellectual property rights" over development of products from the biodiversity over which they are sovereign? What conditions on access to their biodiversity, and on access to knowledge about their biodiversity, should countries impose?
- How should laws governing land tenure and access to biodiversity resources be modified to improve equitability of access and use of biodiversity. In some countries, most land and biological resources are owned by Government. Local communities may receive

little or no benefit from commercial harvest of local biodiversity resources done under permits granted by Government to commercial interests from outside of the local community (such as for urban charcoal supply). Conversely, tenure laws in some countries result in open access to range resources. Open access may be an extreme form of equitability, but it negates and possibility of sustainable use.

- How should indigenous forest people benefit from exploitation of the biodiversity resources in the forest ecosystems that they live in? Indigenous forest people often receive few benefits and may suffer negative consequences from the commercial logging of "their" forests undertaken by national or international corporations. In a similar vein, what voice should local fishing communities have on the sale of marine fishing rights to foreign governments/businesses? Do local communities benefit from tourism? Are benefits shared equitably?

Information to be collected and analyzed during the stocktaking phase that will be important for the development of strategies for equitable sharing includes the following (again, the list does not pretend to be exhaustive):

- Analysis of how indigenous knowledge on biodiversity is being used by national and international commercial interests and of how the holders of this knowledge are benefiting, if at all;
- Analysis of who benefits and who suffers from the development of biotechnology. The analysis should include the effect of biotechnology development both within the country and in other countries;
- Analysis of the legal basis for protecting the intellectual property rights (IPR) for biodiversity at the level of the country and of indigenous people, communities, national businesses and institutions;
- Analysis of international trade agreements that the country is party to, implications for developing national IPR regulations.
- Analysis of modern and traditional laws and policies on land tenure and resource access rights in terms of equitability of access and of benefits.
- Analysis of the equitability of the sharing of benefits from the sale of logging/fishing/resource exploitation rights, especially their sale to foreign business interests and especially the benefits received by indigenous people and local communities. Examples include logging rights, fishing rights, safari hunting rights, charcoaling/urban fuelwood cutting rights, etc.

#### **4) Conservation of Agricultural Biodiversity**

The long-term viability of agriculture depends strongly on the genetic variability of agricultural crop plants and of domesticated livestock. The genetic base of agriculture has been developed slowly over thousands of years. However, this genetic base is now being rapidly eroded worldwide as traditional, local varieties are replaced by high yielding



"improved" seed, as local races of livestock are replaced by races adapted for intensive management regimes, and as the genetic reservoir in wild populations of the "parent stock" of domesticated plants and animals is lost as natural areas are lost and degraded.

Conservation of agro-biodiversity is critical at both the national and global levels.

Conservation of the genetic base of domesticated plants and animals is very different from the conservation of natural ecosystems. Most domesticated varieties of plants and races of animals would disappear if man did not assure their regeneration and multiplication.

Critical information that must be gathered during the stocktaking phase are the following:

- Identification of crop varieties and livestock races whose existence, or whose genetic base, is presently or potentially threatened;
- Assessment of the national and global importance of these varieties and races;
- Identification and analysis of the causes of loss of agro-biodiversity for each threatened variety and race.

Planning teams developing agro-biodiversity strategies should obtain the "Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic resources for Food and Agriculture" adopted by the International Technical Conference on Plant Genetic Resources Leipzig, Germany. The Global Plan of Action is published by FAO (ISBN # 92-5-104027-3).

## **5) Biosafety**

Biotechnology is a new, rapidly developing field that holds the potential for making significant contributions to improvements in food production and feed supply, health care and environmental protection. Biotechnology also poses certain risks from the use and release of genetically-modified organisms. These risks include adverse impacts on biodiversity from the release of modified organisms. Each country needs to develop the institutional capacity to assess and manage the risks associated with biotechnology. The NBSAP should include strategies for developing appropriate national capacity.

Effective biosafety strategy development requires that the following be done in the stocktaking phase:

- An assessment of the present and planned levels of bio-technology use and development in the country. This should include the identification of what institutions/groups/individuals are using which types of genetically modified organisms for what purposes;
- A summary assessment of the risks involved with the present and planned uses of biotechnology;
- An assessment of the present legal/policy/institutional framework for assessing, managing and monitoring the risks of bio-technology development. This should include the assessment of the adequacy of the human resource base including a needs assessment for improving this framework;
- Identification of the needs for improving the legal/policy/institutional framework and the human resource base.

***BPSP: A Guide for Countries Preparing National Biodiversity Strategies and Action Plans (R. Hagan)***

For guidance planners should obtain the “UNEP International Technical Guidelines for Safety in Biotechnology”.

## **Cross-cutting and Unique Stocktaking Needs**

There are some stocktaking needs that are common to all or most of the different strategy elements. These include the following:

- Assessment of the present legal, policy and institutional framework of the adequacy of the human resource base for biodiversity conservation, sustainable use, equitable sharing of benefits, conservation of agro-biodiversity and for bio-safety.
- Assessment of the adequacy of existing and planned projects and programs for biodiversity conservation, sustainable use, equitable sharing of benefits, conservation of agro-biodiversity and for bio-safety.

Each country must analyze whether or not there are some stocktaking needs that are unique to their particular situation. For example, in Rwanda many of the documentation centers and databases that contained data and information on Rwanda's biodiversity were partially or completely destroyed during the events of 1994. Rwanda included a special study during the stocktaking phase to assess what had been lost, what remained, what data existed outside of the country and how it might be repatriated.

## **Sample Terms of Reference for Stocktaking Phase Studies**

Each country must decide how to define and to organise their stocktaking phase studies. Studies that have been commissioned by countries include the following:

- Biodiversity Assessment and Identification of Priorities for Biodiversity Conservation;
- Analysis of the Threats/Pressures on Biodiversity and of the Sustainability of the Use of Biological Resources;
- Analysis of the Equitability of the Sharing of Benefits from the Use of Genetic/Biological Resources;
- Assessment of Agro-Biodiversity Genetic Resources and of the Causes of its Loss;
- Assessment of the Institutional Capacity Needs for Bio-Technology Risk Assessment and Management;
- Analysis of the Adequacy of the Institutional Framework and Human Resource Base for Biodiversity Conservation, Sustainable Use, Equitable Sharing of Benefits and Agro-Biodiversity Conservation;
- Analysis of the Adequacy of the Institutional and Policy Framework for Assuring Conservation of Biodiversity, Sustainable Use, Equitable Sharing of Benefits and Agro-Biodiversity Conservation;
- Review of Existing Programs and Projects for Biodiversity Conservation, Sustainable Use, Equitable Sharing of Benefits and Agro-Biodiversity Conservation.

Sample terms of reference (TORs) for these studies are presented in Annex A.

## **CHAPTER IV STRATEGY DEVELOPMENT**

### **Overall Steps in Strategy Development**

Methodologies for strategy development are not as clear-cut as methodologies for stocktaking. These guidelines are correspondingly less precise for this phase. Strategy development must be planned as a function of the results of the stocktaking phase in each country -- no two countries will be alike. But more importantly, participatory methodologies for biodiversity strategy are still being developed. It is doubtful that anyone can accurately define at this point what the most efficient participatory techniques are for any specific situation. For this reason this guide concentrates on stakeholder participation in strategy development.

A logical sequence of steps for strategy development is the following:

- Definition of an appropriate timeframe for the national strategy;
- National workshop focusing on definition of objectives;
- Definition of target stakeholder groups/geographic areas;
- Organisation of geographic/thematic teams;
- Participatory diagnostics and identification of options;
- Regional workshops/fora;
- Preparation and distribution of options papers;
- Second national workshop;
- Finalization of the National Biodiversity Strategy document.

### **Time Frame for Biodiversity Strategies**

Planning teams are commonly confronted with the question of the appropriate time scale for biodiversity strategies. Should the strategy be developed to be valid over a period of five years or fifteen years or for some other timeframe? NBSAP project documents normally don't specify nor has the COP provided guidance on this.

Nearly all countries are doing biodiversity strategies for the first time. UNDP funding requires that each country develops their NBSAP based largely on existing inventories/data and information. Some countries have good baseline data/information on their biodiversity. Many do not. For countries that do not have good baseline data, the needed inventories and studies can be built into the first strategy and action plan. In such a case, it may make good sense to plan to redo the national strategy at a relatively early date once the baseline studies on the country's biodiversity are completed and priorities can be more meaningfully defined. The first strategy and its action plan could be for a period of five years and the second strategy could be for a significantly longer period.

## **Priorities and Objectives**

If you don't know where you are going, then all roads will take you there. A strategy can be thought of as a road leading to the achievement of defined objectives. The first step in strategy development is to begin to define national priorities and objectives. Although each country is free to add other objectives as appropriate to their situation, CBD/COP guidance demands that each country establish objectives for the following:

- Biodiversity conservation
- Sustainable use of biological resources;
- Equitable sharing of benefits;
- Conservation of agro-biodiversity;
- Biosafety.

The definition of objectives provides focus to national planning teams and to strategy documents and action plans. The lack of defined objectives results in confusion, wasted efforts and weak strategies and action plans. Once strategies are defined, the question becomes, "how can we achieve the objective?". A strategy lays out a logical plan or path for reaching the objective. The action plan then defines the institutional roles and responsibilities and lays out the resources and timescale for implementing the strategy.

The definition of national priorities and objectives is obviously of critical importance in strategy development. It is of high importance that their definition be as participatory as possible. If there is no consensus on objectives, there will almost certainly be no consensus on which road to take to achieve them. National NBSAP planners should take the lead in drafting tentative objectives, but their validation calls for some sort of national forum. The first national workshop should be organised in such a way as to serve as a forum for a debate on, and validation of, the objectives of the national biodiversity strategy.

## **First National Workshop**

The first national workshop should provide a critical bridge between the stocktaking and strategy phases. Some planning teams organise the first national workshop as part of the stocktaking phase. They use it simply to present the results of the stocktaking phase and to correct and complete these findings. If this is done, the planners are left with little if any guidance as to how to proceed. They will be left to make the most critical decisions of the whole NBSAP process, the identification of priorities and objectives, on their own. If objectives are defined this way, there is little if any "ownership" of the objectives by the broader community of stakeholders in the country. At a minimum, stakeholder support for objectives may be less than it could have been had they been part of the decision making process. Or stakeholders may reject the objectives simply because they were not consulted, even though the objectives may be sound. Finally, in a worst case scenario, the objectives defined by the planning team may be in disagreement with the values of the larger community of stakeholders.

It is critical that the first national workshop should not be just a dry presentation of facts and findings. The key findings should be presented as tentative priorities and objectives. The participants should be challenged to agree or disagree. The following examples of presentation strategies are recommended:

***Biodiversity conservation:***

- These are the criteria that we think are important for determining priorities for biodiversity conservation: ...
- These are the key findings of the information gathered in order to apply the criteria: ...
- These are the key gaps or weaknesses in the information base: ...
- Our application of the criteria indicates that these should be the national priorities for biodiversity conservation: ...
- These are the geographic locations of what we consider priority ecosystems: ...
- The most important threats to these priority ecosystems are: ...
- The causes of these threats are: ...
- Do you agree or disagree with our findings?
- Is there key information that we have overlooked?
- We propose that the national strategy should have the objective of assuring the conservation of these priority ecosystems. Do you agree or disagree with our proposed priorities, and why?

***Sustainable use of biological resources:***

- These are unsustainable uses of the country's biological resources that we have identified: ...
- Our evidence for unsustainability is: ...
- Our analyses indicate that the most critical unsustainable uses are: ...
- The geographic locations of the problems are: ...
- The causes of these unsustainable uses are: ...
- The reasons we think these are the most important are: ...
- We propose that the national strategy should set the objective of developing sustainable use strategies for: ...
- Which of these findings do you agree or disagree with and why?

***Equitable sharing of benefits:***

- These are cases of apparent inequities in the sharing of benefits from biological/genetic resources that we have identified: ...
- Our analyses indicate that the most important are: ...
- Our reasoning is: ...
- The causes of these inequities appear to be: ...
- We propose that objectives for improving the equitability of benefits sharing should be: ...
- Do you agree or disagree with these findings/proposals and why?

***Agro-biodiversity:***

- Our analyses indicates that the most critical agro-biodiversity resources of the country are: ...
- Those of global importance are: ...
- The most important threats to our agro-biodiversity are: ...
- We propose that strategy objectives for agro-biodiversity conservation should be: ...

***Biosafety:***

- Our analyses indicate that the principal biosafety hazards facing the country are: ...
- Our reasoning is: ...
- We propose that the biosafety objectives of the strategy should be: ...

The debate on objectives may best be done in working groups followed by reporting back and discussion in plenary sessions. Biodiversity conservation and sustainable use both concern natural ecosystems and are fundamental to national strategies. It may be appropriate for all workshop participants to analyze the proposed objectives for these two subject areas in working groups. Equitability, agro-biodiversity and biosafety are more specialized topics and could be treated separately by individual working groups.

By organising the workshop in this fashion, the linkage between the stocktaking phase and the strategy development becomes obvious. The participants become directly engaged in translating findings into objectives. For those areas where there is a clear consensus on objectives, the task of the planning team becomes a relatively straightforward one of identifying the best strategies for achieving the objectives. This requires that one identify a range of possible options for achieving the objective, that one analyzes the advantages and disadvantages of each option and that one then chooses the best options for incorporation into the national strategy.

If consensus cannot be reached during the workshop, planners will have to determine how best to deal with this. This may require gathering more information, bringing in other stakeholders, follow-up meetings between key stakeholders or different forms of compromise.

**Participants for the National Workshop on Objectives**

The institutions and people invited to the first national workshop should represent groups that have a stake in the conservation and use of biodiversity resources. A suggested list of appropriate stakeholders follows:

- . NBSAP Oversight Committee;
- . NBSAP Director, Manager and national consultants;
- . Representatives of the Prime Minister's office, President's office and of Parliament;
- . Institutes of higher learning concerned with biodiversity resources;
- . Research institutions concerned with biodiversity;
- . Sectoral ministries including agriculture, forestry, range/grazing/livestock, marine and freshwater fisheries, wildlife, protected areas and tourism as appropriate;

- Private sector/economic interest groups involved with use of biodiversity use such as loggers, industrial fishing interests, agri-businesses, tourism operators, pharmaceuticals, professional hunting associations, etc.;
- NGOs that work with or represent natural resource user groups or that have interests in environment and/or conservation and sustainable use of biodiversity;
- Representatives of biodiversity user groups (farmers, herders, woodcutters, fishermen, hunters, etc.)

### **Identification of Stakeholder/Geographic Priorities**

As stated earlier, successful strategies for biodiversity conservation, for sustainable use and equitable sharing of benefits involves changing the behavior and the resource use systems of farmers, herders, woodcutters, hunters, fishermen, businessmen and others. It is critical that these stakeholders be brought into the strategy development process. To do this, NBSAP planners must go out and engage these stakeholders in the regions where they live.

NBSAP planners must decide where to go in the field. This is not at all a decision to be taken lightly. Due to restrictive GEF Enabling Activity criteria, many NBSAP projects tend to be under-funded on this aspect. Transportation, lodging and other expenses for field work can add up quickly. All that one can hope to do is to involve a representative sampling of the user groups and communities concerned. The choice of where to go and who to involve is critical. The following criteria should be considered in making these decisions:

- The bulk of resources for field work should be targeted on those geographic areas that have been identified as priority areas for biodiversity conservation, for the development of sustainable use, for improved equitability of benefit sharing and for agro-biodiversity conservation.
- For each priority geographic area, one must review the analysis of the key stakeholder groups involved and improve on this as possible. One must take special care to include all the groups that are negatively impacting on biodiversity, because it is the practices and land use systems of these people that one must seek to change.
- In particular, one must try to define the geographic sites/areas where the key stakeholders are located. This may sometimes be relatively difficult to do based on information available in the capital city. It is especially difficult for mobile groups such as transhumant herders and charcoal makers.
- Where private sector businesses/market forces are involved, one must try to identify the different levels in the production and marketing chains that need to be involved in strategy development.

Criteria for the selection of representative communities/user groups should be developed before planning teams go to the field.



## **Organisation of Field Teams for Strategy Development**

The NBSAP planners must carefully study the make-up of their field teams for the strategy development phase. The types of expertise needed can be significantly different from those of the stocktaking phase. The following factors need to be taken into consideration:

- One of the most critical skills needed for strategy development are participatory facilitation and communication skills. More than anything else, one needs people who can constructively engage a diverse range of stakeholders in a improved, field-level diagnostic of the problems, in the identification of options/solutions and in the analysis of the advantages and disadvantages of each option.
- The types of technical expertise needed should be strongly conditioned by the priorities and objectives that emerge from the stocktaking phase and the national workshop;
- Other factors being equal, one should retain those consultants who performed the best during the stocktaking phase;

It may be necessary to hire additional consultants with expertise in participatory techniques for the strategy development phase. An effective composition for field teams would be a combination of expertise in participatory approaches and in the technical areas involved in each geographic area.

In planning field work, NBSAP planners will need to take a pragmatic approach to balance the following factors:

- Budget available and the consequent number of consultants/teams that can be fielded;
- The most efficient choice of field sites representative of the priority stakeholder groups;
- Matching of expertise available for field teams with the geographic distribution of the different field sites.

One of the key decisions to make is whether to form teams that will each treat a particular theme regardless of where that takes them geographically in the country versus less specialized teams that may treat a variety of technical issues within a specific geographic sector of the country. The latter may be necessary where distances are great, costs are high and budgets are limited.

Each team may be composed of a mix of consultants/members of the national team plus a variable number of members from the geographic region concerned. At a minimum, each team should include at least one person who is responsible directly to the NBSAP manager who will be the leader of each team and will be responsible for written reports on the results of each team's work.

Once core members of the field teams have been assembled, a training workshop should be organised. Any newly recruited members should be fully briefed on NBSAP

development to date. Training in participatory techniques to be used should be conducted. The full team should brainstorm on field methodologies to be used and reach agreement on overall approaches.

All stakeholders should have the opportunity to participate in the identification of options for the achievement of strategy objectives, and this certainly involves the NBSAP planners. As part of the training workshop, the Project Manager or another facilitator should lead the team in a brainstorming session on potential options for achieving the strategy objectives defined in the national workshop. The team should go on to do a joint analysis of the advantages and disadvantages of each option. This should serve to identify potential options and should serve as a practical exercise for the team to learn better how to facilitate the same process with other stakeholders.

### **Essential Elements of Participatory Strategy Development**

Each country must decide what participatory methodologies are best suited for their needs. Part of this decision will be based on pragmatic considerations of what methodologies are already known in the country and what expertise is available. Regardless of the specific techniques, the following elements should be considered to be essential elements of stakeholder participation:

- Stakeholders participate in a better identification of the problem(s);
- Stakeholders analyze the direct and indirect causes of the problems;
- Stakeholders have a voice in defining appropriate objectives;
- Stakeholders identify possible options for achieving objectives;
- Stakeholders analyze the advantages and disadvantages of the options and become advocates of options they consider the best suited.

For this portion of the strategy development, the main role of the NBSAP planners is to facilitate this process. The most fundamental requirement for participatory methodologies is to show respect for the opinions of all stakeholders -- to be willing to listen to all parties involved and to include each point of view into the mix of options to be analyzed.

### **Participatory Techniques**

There are a wide variety of participatory techniques that may be adapted for biodiversity strategy development. The terminology used here is taken from Volume II of "Beyond Fences"<sup>1</sup>. These publications are recommended as an excellent resource book for involving stakeholders in conservation initiatives. For each of the following techniques, "Beyond Fences" gives a description of the technique, summarizes its purpose, lays out the steps in using the tool and lists the strengths and weaknesses of the technique:

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<sup>1</sup> Beyond Fences -- Seeking Social Sustainability in Conservation", edited by Grazia Borrini-Feyerabend and published in 1997 by IUCN, Publication Services Unit, 219c Huntington Road, Cambridge, CB39ODL, United Kingdom, e-mail [iucn-psu@wcmc.org.uk](mailto:iucn-psu@wcmc.org.uk), fax 44 1223 277175

**Natural Group Interviews** are interviews conducted with groups of people in their natural settings. For example, this could be an interview with a group of pit sawyers at work in the forest, an interview at the weekly market with several people who are selling bushmeat or a conversation with farmers in their fields. Such interviews give the planning team members an especially good sense of the real world conditions of those interviewed. Such interviews are good for getting a broad sense of local views on some issues. A list of key, open-ended questions should be prepared in advance.

**Focus Group Interviews** are somewhat more formal, semi-structured interviews with a group of people who share certain characteristics in common. Examples of focus groups may be the women who gather firewood in a village or the transhumant herders who use a certain area in the dry season. Participants should be chosen using sampling procedures when possible. Again, a list of open-ended questions is used to focus the discussions of the topics of interests.

**Semi-structured Interviews with Key Informants** can be used to obtain in-depth information on specific issues from key individuals especially knowledgeable in a certain field. Such interviews can be conducted in a relaxed and informal way, again using a list of key questions to provide basic structure. Individuals should be selected to represent different perspectives and fields of knowledge.

**Observational walks and transect diagrams** through a village and the village lands can serve to identify important aspects of the local environment and land uses, including physical, biological and social aspects. Such walks should be done with selected villagers/resource users and may also include discussions with people met along the way.

**Trend Analysis** is used to assess changes over time and to raise awareness about phenomena that change slowly. They can be used as part of the interviews with groups or individuals. They consist of in-depth analysis of specific problems or phenomena, how they have evolved over time, how they are expected to evolve in the future and what can be done about them. Trend analysis can be used to analyze the changes in the abundance or the loss of habitats, natural areas and species over time. This is then depicted in graphic form with time on one axis and abundance or other indicator of the phenomenon on the other axis. Trends that are identified can then lead to a discussion/analysis of the causes which then leads into discussions of what can be done.

**Land-use Mapping** of lands/resources used by a community can be an important participatory technique that may find some application to national biodiversity planning, but is probably better suited to local resource management/conservation initiatives. Land-use maps can be very useful for identifying resources, problems and opportunities and can serve as a source of baseline data for monitoring changes over time. This technique can be a relatively lengthy, time-consuming process.

**Historical Mapping** is used to analyze and portray changes to particular resources or settlement patterns over time. One map portrays the present situation, a second the

conditions 20 or 30 years ago and a third portrays what the situation will look like at some point in the future if present trends continue. A fourth map can be done to show what participants view as an "ideal" situation they would like to see at a future time. This technique is actually another type of trend analysis that could be used for biodiversity planning to get people to visualize the changes to their biological resources over time and to aid in the analysis of causes and solutions.

**Seasonal Calendars** can be prepared to illustrate changes in various environmental phenomena and in resource and land uses. They generate information on seasonal changes in local resource use problems, constraints and opportunities. They can serve to identify how different user groups exploit biological resources over the year. Seasonal calendars can be very useful in planning the best time to conduct participatory exercises with different user groups.

**Gender Analysis:** Men and women often use biological resources in very different ways and may have very different rights to resource access. Men and women tend to have different roles, responsibilities, opportunities and constraints. Gender analysis can be used to identify and analyze these key differences. This is necessary for developing effective options to overcome problems that are identified.

**Group Brainstorming** is an exercise whereby all members of a group have the opportunity to express their views on a subject. This is especially well suited for the identification of options following the identification of problems and analysis of their causes. A facilitator leads the brainstorming and encourages everyone to put forward their ideas. All ideas are recorded before any discussion or comments can be made on them. Once the list is completed, the ideas are discussed and analyzed by the group. Duplications are deleted, some ideas may be rejected and the pros and cons of the others are identified. The final list may be subjected to a ranking exercise.

**Guided Imagery** takes the participants "on a trip into the future". The participants are asked to envisage a future environment that they would want for their children to live in. The facilitator reads from a prepared text describing a walk through a community or an area asking the participants to envisage what specific components should look like in their "ideal" future. This is done while the participants have their eyes closed. This type of exercise could be useful for helping to define objectives. Much of the usefulness of this exercise depends on the skill of the facilitator.

**Problem and Solution Mapping** is done as a group exercise using a simple map of an area of interest. Participants are asked to indicate on the map where problems exist and then to think about how they can be solved. If the problems have already been identified in a previous assessment exercise, they can use the map directly to propose options and solutions. This technique allows participants to visualize problems and solutions that have structural elements.

**Nominal Group Technique** is a tool to collect individual ideas and to reach a group consensus on one or more key issues or courses of action. It is especially useful

for consolidating individual opinions to make group decisions and for setting priorities. It requires a skilled facilitator. The facilitator presents the key question/issue to be discussed and each participant writes down their ideas on paper cards. Each participant presents their ideas and the cards pinned or taped to a wall. Similar ideas are grouped into clusters. After all ideas have been presented, the facilitator helps the group to further rearrange the clusters, to eliminate duplications and to modify the ideas as agreed to by the group. A summary write-up for each cluster should be prepared. The clusters can be ranked by priority using a ranking exercise.

**Ranking Exercises** are tools whereby the participants rank a range of actions by priority according to agreed upon criteria. It is a tool for reaching a group consensus on a course of action. This is especially good as a follow-on to a brainstorming exercise or a nominal group technique. One must make sure that the participants are representative of the stakeholders concerned. The items to be prioritized are listed where they are visible to everyone. A simple ranking mechanism is defined. Weighted priorities can be obtained by using a numbering system such as a one to five scale with one representing the lowest priority and five the highest priority. Each participant assigned a number to each item on the list. If the list of items is quite long, it may be more efficient to give each participant a fixed number of stickers and ask them to stick one or more beside the items that they consider the most important. The ranking can be done in the open or each participant can rank the items confidentially. The results are tabulated, presented to the group and discussed.

NBSAP planners should acquaint themselves with the literature on participatory techniques and should seek out local specialists. Local specialists may be contracted to provide training to NBSAP consultants/field teams and may be hired as members of field teams.

### **Organisation of Field Work**

Work in each geographic area should normally begin by visiting the regional government authorities. If possible the first meeting should be made by the national coordinator or project manager accompanied by the national consultant(s) who will be working in the area. The coordinator/manager should explain the objectives of the NBSAP project, the participatory methodologies to be used, the stakeholders to be targeted and the regional workshop to be organised. One should seek the support of the authorities and government services in the region. Arrangements should be made for the team leader to periodically provide status reports to authorities if they so desire.

Another key task of the first visit to each region should be to identify candidates to be local members of the strategy development team and to develop a more complete list of stakeholders.

If time and resources permit, two separate meetings should be held with most stakeholders as follows:

- During the initial meeting, one should concentrate on developing a better understanding of the problem(s) and their causes. The tentative objectives defined at the first national workshop should be discussed and debated.
- After the first round of meetings, the team should review and synthesize the findings and identify discrepancies and gaps in their understanding, to be clarified on their second rounds of visits;
- During the second meeting, one should validate and complete the findings of the first meetings and then go on to encourage each set of stakeholders to identify potential solutions/options. Each group should then be encouraged to identify the advantages and disadvantages of each option and to make judgments on what options are best suited for them.

If time and resources do not permit two rounds of meetings, both of these functions will have to be sandwiched into a single round.

When the team begins work in a region, they should probably begin their work by meeting first with representatives of different organisations in the area. This may include government technical services, NGOs, businesses, and local and traditional leaders and projects. Each organisation should be asked to analyze the problems and identify and prioritize causes. The criteria for selection of communities that are representative of different stakeholders/user groups should be discussed and each institution asked to suggest appropriate candidates.

For candidate communities, they should first be approached to explain the objectives of the strategy development and to determine if they would be willing to participate. If they agree, a date should be arranged for the return of the team and all the different socio-professional groups in the community should be invited to attend.

Again it is best if the diagnostic of the situation and of the problems of loss of biological resources/unsustainable use/inequitable sharing of benefits can be analyzed during a first visit with options identified and explored during a second visit. There are a wide range of techniques that have been developed that could be used or adapted by NBSAP teams to facilitate this type of participatory analysis exercises. It is much preferable if the team spends the night in the village during each visit to allow for more informal exchanges, to gain trust and for the team to better understand the reality of the villagers' situation.

Following the first diagnostic visits, the full team should conduct a joint review of the results of all interviews and village visits, comparing impressions, identifying differences in comprehension that need to be resolved, drawing conclusions and developing strategies for the follow-on visits. For the communities concerned, the team should identify potential representatives that would be invited to participate in the regional workshops. One should seek to identify individuals that represent key groups, that are respected members of their communities and that are not too shy to speak up in a formal meeting in front of government representatives.

Following this review, the second round of field visits should once again start with the organisations represented in the area followed by the communities. The team's preliminary impressions/conclusions from the first visits should be summarized by the team for each party. Each person or group should be asked to validate or to present and justify their own perspectives as they see fit. Then each party should be asked to present what they see as potential solutions/options. After each group has analyzed their own options, they should be asked to comment on options identified by other stakeholders, including those identified by the NBSAP planners themselves.

The purpose and objectives of the regional workshops should be explained, and invitations should be extended. It should be made clear that the representatives selected from each stakeholder group/community may be asked to present and defend the options identified by each group at the workshop.

Questions may come up during the meetings in the regions that can only be answered in the capital city. These may include questions concerning laws policies and institutional mandates. NBSAP planners should seek answers to such questions in preparation for the regional workshops.

### **The Regional Workshops**

The purpose of the regional workshops should be to develop a consensus on objectives and to debate the pros and cons of identified options for achieving objectives. The NBSAP planners must organise the workshops very carefully to ensure that all parties are free to present their options and to ensure that all options are debated on their merits. The ability to facilitate such a participatory workshop is a special skill. If one or two individuals can be identified that are skilled at this, one may want to use the same one or two people to facilitate all the regional workshops.

Representatives from each regional workshop need to be chosen to participate in the second national workshop. The second national workshop will be the principal forum for reaching a consensus on key options to be retained in the national strategy. To the extent practical, representatives of groups who are the authors of the strategy options retained by the regional workshops should be selected to participate in the national workshop. These people should make effective representatives because they will be defending their own initiatives.

### **Strategy Development Activities in the Capital City**

Some of the activities during the strategy development can only be carried on in the capital city. All of the stakeholder groups that are partially or totally represented in the capital should have the opportunity to be involved in the identification and analysis of options. This will include sectoral ministries, and many of the NGOs, economic interest

groups, businesses, research institutes and institutions of higher learning. To the extent possible, separate meetings should be held with representatives of each of the groups.

With the central organisations of the capital city, a special emphasis should be put on strategy components that involve changes to policies, laws and institutional mandates. The development of strategies for the capacity to assure biosafety will principally involve organisations in the capital. Also, as most threats to agro-biodiversity generally come from changes in markets, technology, agri-business, laws and policies, much (but not all) of the strategy development for conservation of agro-biodiversity will need to take place in the capital city and involve representatives from these sectors.

### **Preparation for the Second National Workshop**

Following the regional workshops, the NBSAP planners need to conduct a full review of the results. Options identified in the regions and those identified in the capital need to be reviewed and summarized. Policy, legal and institutional aspects of all options need to be reviewed and clarified.

A shortlist of the principal options should be written up. Each option should be accompanied by a summary of its perceived advantages and disadvantages of each option. This should include estimates of costs because cost is clearly a factor to be considered in choosing between options. These should all be put together as a pre-workshop options paper and distributed so that all workshop participants receive the document at least a week before the workshop.

The participants for the second national workshop should generally be all of those that participated in the first workshop, but representative of different stakeholder groups than those selected from the regional exercises.

### **The Second National Workshop**

The purpose of the second national workshop should be to have a full and open debate on the pros and cons of the strategy options. A consensus on options to be retained should be sought where possible. However, one should not have any illusions that such a workshop will always result in a full consensus. What is critical is that all parties have the opportunity to present and defend their options in a national forum with all stakeholders present. It is especially important that authorities and decision makers can hear proposals voiced directly by representatives of stakeholder groups in an open forum.

To the extent possible, each option should be presented by one of its proponents and followed by a neutral presentation of the advantages and disadvantages by one of the planning team members.

One way to organise the workshop is to review the strategy objectives one at a time making it clear which options are alternative routes to the achievement of the objective



and which are complementary. Presentation of options for a given objective could be followed immediately by analysis in working groups, followed by plenary sessions.

Proposed changes to the mandates and roles of government institutions are often delicate issues to deal with if they involve a diminished role or loss of authority. Few institutions will accept such a change without a fight. Special attention must be paid to how such proposals are presented at the national workshop. Such proposals may be presented much more effectively by representatives of communities or user groups rather than by someone from another government institution.

Although the definition of responsibilities for the implementation of specific actions is usually part of the action plan to implement a strategy, this is probably the most controversial aspect of action plans and should be dealt with in the second national workshop, especially when the choice is between implementation by government versus non-governmental institutions. One of the key responsibilities to debate is the institutional mandate for coordinating the implementation of the strategy.

### **Finalization of the Strategy**

After the workshop, the NBSAP planners must finalize the national biodiversity strategy document. The full planning team should meet for a joint review of the workshop results. The steering committee may need to be consulted for guidance on outstanding issues not fully resolved in the national workshop.

A logical presentation may include a summary of the findings of the stocktaking phase including key findings on biodiversity resources, trends, problems and causes. This should be followed by a clear statement of each objective and the strategy for achieving each objective. The strategy document should clearly emphasize the relative priority of each strategy element.

Finally the strategy should not be considered to be completed until it has been adopted as formal government policy. It is important that the Steering Committee provide the NBSAP planners with the guidance they need to prepare a document that can be readily approved. Once the document is completed, it is also critical that both the Steering Committee and the government agency responsible for developing the strategy, play a strong lobbying role to push for early adoption.

While the strategy document is being completed, work can begin on the action plan.

## CHAPTER V ACTION PLAN DEVELOPMENT

### Key Elements of Action Plans

A strategy by itself is of little use unless it is put into action. An action plan translates the strategy into a set of specific actions to be carried out by specific institutions over a set period of time. The period of time covered by an action plan is typically about five years. The biodiversity action plan defines the specific actions to be carried out over that time period that will result in enhanced biodiversity conservation, more sustainable use of biological resources, more equitable sharing of benefits, better conservation of agro-biodiversity and improved safeguards for enhanced biosafety.

An action plan should include the following elements:

- A set of activities, each of them clearly linked to strategy objectives and the strategy components for achieving the objective;
- A clear indication of the relative priority of each action (such as high, medium and low or essential, very important and desirable if resources permit);
- A distinction between those activities that the country is capable of carrying out on their own versus those activities for which donor assistance is required;
- A plan for coordinating the implementation of the action plans and for monitoring and periodically evaluating its implementation;
- A calendar for the implementation of the action plan;
- An overall budget for the action plan.

The action plan can be logically organised by the same overall objectives as the strategy, i.e.,:

- biodiversity conservation;
- sustainable use of biological resources;
- equitable sharing of benefits;
- conservation of agro-biodiversity;
- biosafety;
- other country-specific objectives.

Responsibilities for drafting the action plan may be assigned accordingly. A NBSAP planner/consultant should be given lead responsibility for each section of the action plan, but he or she should work closely with the proposed implementing institution for each activity in developing each section.

One of the common dangers when developing an action plan is that the potential implementing agencies may seek to use the action plan as a means of seeking funding for pre-existing proposals for which they have not been able to find funding in the past. It is critical that the action plan not become an extensive wish list of old and new proposals

for any activity remotely related to biodiversity. This is especially true for activities for which a country is seeking donor funding. The last thing that a donor wants to see is a wish list with no indication of national priorities and with no clear linkage to the strategy.

If the strategy has been well done, it should be relatively easy to translate the strategy into a set of discrete but coordinated activities to turn the strategy into reality. In developing the action plan, a distinction should be made between activities that can be implemented with the country's own resources versus those that require donor support. Nearly all donors will want to be involved in the detailed design of projects or activities that they will fund. Going into too much detail on activities that will be funded by donors may be a waste of effort. Activities that will be implemented using locally available resources may be developed in more detail.

Strategies and action plans should define an appropriate balance between the different stakeholder target groups. Plans need to include support for enhanced institutional capacity building for the key stakeholder institutions on the one side. However, one should never lose sight of the challenge that strategies and action plans must ultimately result in the development of sustainable land and resource use systems that conserve a country's biodiversity and its productive potential. Therefore, support for institutional capacity building must be balanced by support for activities and programs that are targeted towards reducing the negative impacts, and improving the sustainability of the land/resource use systems of the country's farmers, herders, woodcutters, hunters and fishermen and of the business interests that exploit a country's biodiversity resources.

### **Activity Descriptions**

Each activity description in the action plan should include the following:

- Title of the activity;
- Objective;
- Context -- the linkage between the activity and the national biodiversity strategy and other plans/policies;
- Description of the activity;
- Description of the geographic area covered (if appropriate);
- Implementing institutions: the roles and responsibilities of each and the type of partnerships that need to be developed;
- Target starting date and length of the activity;
- Budget.

### **Planning Cycles for Strategies and Action Plans**

Conditions in every country change over time. Some biodiversity resources may be lost or may suffer further degradation while others may undergo significant recovery. Land uses change over time. Some pressures on biodiversity resources may decrease. Completely new threats may develop. Socio-economic and political values and systems evolve. Biodiversity strategies and action plans need to be periodically renewed to reflect the new realities.

Action plans are normally done for a fixed period of time, usually of around five years, and need to be redone when this period draws to a close. There should first be a major evaluation of the implementation of the present plan to analyze what has worked well and what has not worked well with a view towards identifying lessons learned. The results of this evaluation should be used in the development of the new action plan.

The national biodiversity strategy itself should be periodically reviewed to determine if it is still valid in light of new information that has been developed and in light of different changes that may have taken place. For countries that have a very poor database on their biodiversity resources at the time of the preparation of their first national biodiversity strategy, it may be advisable that they redo their national strategy at a relatively early date, perhaps towards the end of the period covered by their first action plan. This may be especially appropriate if the action plan involved significant activities to improve the database on the country's biodiversity resources. In other situations, one may go for 10 or 15 years without the need to renew the strategy.

## **ANNEX A: MODEL TOR FOR STOCKTAKING PHASE STUDIES**

This Annex presents TORs for NBSAP stocktaking phase studies that will normally be conducted by national consultants.

### **Components of TORs for Consultant Studies**

The following is an illustrated list of the typical components of the terms of reference for a stocktaking phase study:

- **Title of the document** Example: "Terms of Reference for a Biodiversity Assessment for (Name of Country)'s National Biodiversity Strategy and Action Plan (NBSAP) and Country Report to the Conference of the Parties";
- **Title of the study** Example: "Biodiversity Assessment and Identification of Priorities for Biodiversity Conservation in (Country A)";
- **Duration** Example: 3 months;
- **Targeted starting date** Example: 3 months;
- **Background** Example: The Global Environment Facility has allocated a grant of (\$xxx,xxx) to the Government of (Country A) to enable them to prepare their Biodiversity Country Study, and National Biodiversity Strategy and Action Plan (NBSAP) and Country Report to the Conference of the Parties. All of these are required under the Convention on Biodiversity which (Country A) has signed and ratified. The implementing agency for this activity is (UNDP-GEF, UNEP or World Bank – select relevant agency). The project is implemented by the Government of (Country A) through its (name of agency or institution in charge). The project began in (month and year).
- **Work Description** Example: This study will consist of: ... (this should consist of a detailed description of the work to be done).
- **Outputs** Example:
  - Compilation of available maps showing the locations and the natural ecosystems of the country;
  - Full report on the assessment of (Country A)'s biodiversity as per this TOR
- **Qualifications** Example: The consultant should have ....(details the education, experience and skills required/desired of the consultant who will conduct this study).

The following model TORs are shortened versions that include the title of the study, the work description, the outputs and the qualifications.

### **Model TOR**

#### **1. Biodiversity Assessment and Identification of Priorities for Biodiversity Conservation**

##### **Work Description:**

This study will consist of a review of existing information and studies that have been done on the indigenous biodiversity and will propose priorities for biodiversity conservation. Priorities will be based on the scientific and ecological criteria and the socio-economic criteria for priority-setting that will be established by the NBSAP planning team. The assessment of biodiversity will be done by ecosystem. The consultant will review the different classification schemes for the ecosystems of the country and will select one that best meets the needs of the NBSAP and that will be used by all other NBSAP consultants.

The information to be gathered for each ecosystem will include the following:

- Location and areal extent (will include a compilation of existing maps);
- Species richness;
- Endemism;
- Presence of endangered and threatened species and of species of special importance;
- Unique aspects of the ecosystem;
- Spatial information of the degree of degradation of each ecosystem;
- Information on the economic, cultural, and historical importance of the ecosystem or certain parts of it.
- Extent, effectiveness and representation of protected area system.

After completing the review of available information on the country's ecosystems, the consultant will apply the criteria for priority setting, and propose a ranking of ecosystems in terms of their priority for biodiversity conservation. The consultant will distinguish between global and national priorities for biodiversity conservation and clearly present his/her logic for the proposed priorities. Gaps in the information base will be identified.

The consultant will work in close collaboration with other NBSAP consultants and will participate in national consultant team "brainstorming sessions" organised by the national coordinator. The consultant will present his/her findings at the first national workshop and will participate in the training workshop shortly following the national workshop. The consultant will complete a full draft report prior to the national workshop and will modify and complete the report based on feedback from the workshop participants and from written comments from technical reviews by national experts, planning/technical team and project manager as appropriate.

##### **Outputs:**

- Compilation of available maps showing location and areal extent of the country's ecosystems;

- Full report on the assessment of the country's biodiversity and identification of biological priorities for its conservation.

**Qualifications:**

The consultant should have an advanced degree in the biological sciences and should preferably be associated with an academic or research institution. This person should have extensive field experience with the natural areas of the country. Good analytic and writing skills will be required. The consultant must be available to work intensively full-time at the beginning of the planning process.

**MODEL TOR**

**2. Analysis of the Threats/Pressures on Biodiversity  
and of the Sustainability of the Use of Biological Resources**

**Work Description:**

The consultant who performs this analysis will work closely with the consultant developing priorities for biodiversity conservation. The maps gathered by this other consultant will be used to geographically focus this study on the uses of the principal types of ecosystems/biological communities. Meetings should be held with local resource users, resource management officials, NGOs, researchers, local authorities, etc. to identify and analyze how biological resources are being used. Bibliographic research will complement this analysis. Particular attention will be paid to identifying trends indicative of unsustainable use, i.e., decreasing populations of plants and animals, of habitats, decreasing harvests of fish, game, etc.

Specific tasks are the following:

- Identify the threats and pressures on the biodiversity of the different ecosystems. Rank in the order of importance;
- Identify the ways that biodiversity is being used (what ecosystems? what species?), how and by whom;
- Assess the sustainability of these uses in terms of loss of biodiversity and in terms of maintenance of the productivity of the ecosystem;
- Assess the trends in the threats, pressures and sustainability of resource use over time and attempt to project future trends;
- Analyze the direct and indirect causes of the identified threats, pressures and unsustainable uses, especially of the most importance threats. This will also include questions on what the impacts of land and resource tenure systems are, both modern and traditional, that determine the rights of access to the resources being used.

The consultant who performs this analysis will participate in national consultant team "brainstorming sessions" organised by the project manager; present his/her findings at the first national workshop; and participate in the training workshop following the national workshop. The consultant will complete a full draft report prior to the national workshop and will modify and complete the report based on feedback from the workshop participants and from written comments from the technical reviewers, planning team and the project manager as appropriate.

**Outputs:** Full report presenting the results of the study as detailed in the work description above.

**Qualifications:** A senior natural resources conservation and management professional with prior experience in assessment of the sustainability natural resource use. Should have extensive field experience in the principal natural areas of the country.

### **Model TOR**

#### **3. Analysis of the Equitability of the Sharing of Benefits from the Use of Genetic/Biological Resources;**

**Work Description:** The consultant should work in coordination with the consultant on threats, pressures and sustainability of use of biological resources. The consultant will perform the following tasks:

- Analysis of how indigenous knowledge on biodiversity is being used by national and international commercial interests and of how the holders of this knowledge are benefiting, if at all;
- Analysis of who benefits and who is negatively impacted by the development of biotechnology in the country. The analysis should include the effects within the country, of biotechnology development both within the country and in other countries;
- Analysis of the legal basis for protecting the intellectual property rights for biodiversity at the level of the country and of indigenous people, communities, national businesses and institutions;
- Identify the beneficiaries of present use of biological resources. Categorize them into groups. Special attention will be made to indigenous groups who hold or held traditional tenure to natural areas. Identify and analyze cases of apparently inequitable sharing of benefits. Analyze to what extent benefits from resource use are reinvested in sustainable management.
- Analysis of the equitability of the exploitation of biological resources by foreign, commercial business interests.

The consultant who performs this analysis will participate in national consultant team "brainstorming sessions" organised by the project manager, will present his/her findings at the first national workshop and will participate in any training workshops provided for NBSAP planners. The consultant will complete a full draft report prior to the national workshop and will modify and complete the report based on feedback from the workshop participants and from written comments from technical reviewers, the planning team, and the project manager, as appropriate.

**Outputs:** A full report of the study addressing all the points of the above description of work.

**Qualifications:** The consultant should be an experienced social scientist with experience in natural resources use.



## **MODEL TOR**

### **4. Assessment of Agro-Biodiversity Genetic Resources and of the Causes of its Loss**

#### **Work Description:**

The consultant will review and summarize information on the varieties and races of domesticated crops and animals in the country; analyze their relative importance for the sustainability and productivity of agriculture and livestock production; and identify, analyze and prioritize the threats to the genetic variability of these crops and animals. The consultant will identify/propose priorities for conservation of this genetic base. Specific tasks will be the following:

- Identification of crop varieties and livestock races whose existence, or whose genetic base, is presently or potentially threatened;
- Assessment of the national and global importance of these varieties and races;
- Identification and analysis of the direct and indirect causes of loss of agro-biodiversity for each threatened variety and race.

The consultant who performs this analysis will participate in national consultant team "brainstorming sessions" organised by the project manager, will present his/her findings at the first national workshop and will participate in any training workshop provided for NBSAP planners. The consultant will complete a full draft report prior to the national workshop and will modify and complete the report based on feedback from the workshop participants and from written comments from the technical reviewers, planning team and the project manager as appropriate.

**Outputs:** Full report on analysis as detailed in the work description above.

**Qualifications:** A senior level professional in the agronomic/livestock sciences with an academic or research background.

## **MODEL TOR**

### **5. Assessment of the Institutional Capacity Needs for Bio-Technology Risk Assessment and Management**

**Work Description:** The consultant will conduct an assessment of the institutional capacity needs for bio-safety. The consultant will perform this assessment in line with the UNEP International Technical Guidelines for Safety in Biotechnology. In particular, the consultant will do the following:

- An assessment of the present and planned levels of bio-technology use and development in the country. This should include the identification of what institutions/groups/individuals are using which types of genetically modified organisms for what purposes;
- A summary assessment of the risks involved with the present and planned uses of bio-technology;
- An assessment of the present legal/policy/institutional framework for assessing, managing and monitoring the risks of bio-technology development. This should include

the assessment of the adequacy of the human resource base including a needs assessment for improving this framework.

The consultant who performs this analysis will participate in national consultant team "brainstorming sessions" organised by the project manager; present his/her findings at the first national workshop; and participate in any training workshop provided for NBSAP planners. The consultant will complete a full draft report prior to the national workshop and will modify and complete the report based on feedback from the workshop participants and from written comments from technical reviewers, planning team and the project manager as appropriate.

**Outputs:** Full report on analysis as detailed in the work description above.

**Qualifications:** A senior professional in the biological sciences with an appropriate research or academic background, preferably someone with experience working with biotechnology applications and/or knowledge of the biotechnology literature.

## **MODEL TOR**

### **6. An Analysis of the Adequacy of the Institutional Framework and Human Resource Base for Biodiversity Conservation, Sustainable Use and Equitable Sharing of Benefits**

#### **Work Description:**

Analyze the present institutional responsibilities for biodiversity conservation, for sustainable use of biological resources, for equitable sharing of benefits and for agro-biodiversity conservation. Analyze the strengths and weaknesses of these institutions and the adequacy of their human resources. Analyze the clarity of mandate of institutions with responsibility in these fields. Identify any gaps there may be where no one institution has clear responsibility. Identify conflicting mandates and poorly defined mandates, etc. Analyze the adequacy and reliability of funding for the institutions involved.

Analyze the adequacy of human resources. Working in collaboration with other NBSAP consultants, compare actual human resources against needs. Identify key gaps. Analyze the adequacy of training/educational institutions to fill future needs.

The consultant who performs this analysis will participate in national consultant team "brainstorming sessions" organised by the project manager; present his/her findings at the first national workshop; and participate in any training workshops provided for NBSAP trainers. The consultant will complete a full draft report prior to the national workshop and will modify and complete the report based on feedback from the workshop participants and from written comments from technical reviewers, planning team and the project manager as appropriate.

**Outputs:** A full report on the analysis as defined in the above description of work.

**Qualifications:** The consultant should be a senior level professional, preferably with training in political science or a related field. The consultant should come from outside of the key institutions with present mandates for biodiversity conservation and sustainable use. He/she

will need good diplomatic skills to conduct and present this analysis.

## **MODEL TOR**

### **7. An Analysis of the Adequacy of the Legal and Policy Framework for the Conservation of Biodiversity, for Sustainable Use of Biological Resources, for the Equitable Sharing of Benefits and for Agro-Biodiversity Conservation**

#### **Work Description:**

Working in close collaboration with other NBSAP planners, the consultant will analyze the strengths and weaknesses of the present legislative and policy frameworks as they affect biodiversity conservation, sustainable use of biological resources, equitable sharing of benefits and agro-biodiversity conservation. Identify gaps, conflicts and areas of confusion. Particular attention will be given to laws and policies governing land tenure and access to biological resources. Analyze the legal basis for institutional mandates.

The consultant who performs this analysis will participate in national consultant team "brainstorming sessions" organised by the project manager; present his/her findings at the first national workshop; and participate in the training workshop shortly following the national workshop. The consultant will complete a full draft report prior to the national workshop and will modify and complete the report based on feedback from the workshop participants and from written comments from the technical reviewers, the planning team and the project manager as appropriate.

**Outputs:** Full report presenting results of the study described in the work description above.

**Qualifications:** A legal specialist with experience in the natural resources and environmental areas.

## **MODEL TOR**

### **8. Review of Existing Programs and Projects for Biodiversity Conservation, Sustainable Use, Equitable Sharing of Benefits and Conservation of Agro-Biodiversity**

#### **Work Description:**

Identify and describe the present programs and projects operating in the area of biodiversity conservation, sustainable use of biological resources, equitable sharing of benefits and conservation of agro-biodiversity. Summarize the status of each project/programme including the following points:

- Goals and objectives;
- Donor(s);
- Implementing agencies;
- Starting date and duration;
- Budget;
- Summary of strategy(ies) employed;
- Summary of results to date;
- Evaluation by consultant of the soundness of the project or programme.

The consultant who performs this analysis will participate in national consultant team "brainstorming sessions" organised by the project manager; present his/her findings at the first national workshop; and participate in any training workshops provided for NBSAP planners. The consultant will complete a full draft report prior to the national workshop and will modify and complete the report based on feedback from the workshop participants and from written comments from the technical reviewers, planning team and the project manager as appropriate.

**Outputs:** Full report presenting results of the review as defined in the above TOR

**Qualifications:** An experienced natural resources/environmental specialist with project programming experience.