

DIVERSITY MAKES THE DIFFERENCE

Actions to guarantee gender
equity in the application of the
Convention on Biological
Diversity

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FOREWORD

The subject of gender in the conservation and sustainable use of biodiversity has not necessarily been a relevant topic for either the groups promoting a more equitable world for women and men or the environmentalist groups. Fully aware of such reality, a group of specialists in the World Conservation Union (IUCN) took on the challenge of making visible the importance of the equity topic for the environmental sector.

This challenge was not assumed as a theoretical exercise only; its roots were, and still are, hooked on the realities experienced by the thousands of women and men we work with. It was, precisely, the needs and demands of these people what drove us to embark on this project. The path travelled during this decade has not always been simple or upward. There were times when, to make headway, we had to look back at our past actions in order to give a new direction to our actions and procedures.

The challenge gradually turned into commitment. A commitment that is part of our daily lives; a commitment to fulfil promises made. A commitment towards human rights and a more equitable distribution of the benefits of biodiversity.

In this way, IUCN has assumed for more than ten years a leading position at an international level towards linking both, theoretically and practically, gender equity, conservation and the sustainable use of biodiversity. Part of this legacy is represented in a series of documents that emphasize the importance of gender equity and its relationship with the integrated management of watersheds, biodiversity, protected areas, drylands and marine-coastal zones. This book is yet another effort to demonstrate our commitment towards the promotion of more equitable societies.

Lorena Aguilar Revelo
Senior Gender Advisor
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February 2004

INTRODUCTION

The search towards the creation of gender equity conditions throughout sustainable development processes entails many challenges. One such challenge involves knowing, analyzing, understanding and building from the women's perspective, topics that have long been addressed in ecology and the sustainable development in general. These challenges have allowed us to humanize the topics linked to conservation, by recognizing within the so-called «local groups», the characteristics of the women, girls, men, elderly people, indigenous and migrant populations, whose lives and day-to-day survival depend on the use and conservation of the natural resources.

Both, women and men, establish very diverse relations with the biodiversity, for which reason the efforts made to address the subject of gender equity relations and the biological diversity entail the exploration and synthesis of extremely complex and changing realities. The scope of analysis is quite broad.

Based on such reality, this book intends to highlight the importance of biodiversity in the broadest sense of the term, by making visible and illustrating the differentiated relations that women and men establish with nature and the consequences thereof in regard to development promotion. This document is basically focused on the recognition of the Convention on Biological Diversity (CBD) and the National Biodiversity Strategies (NBS), as participation and awareness-raising mechanisms of our societies to build a new form of relation between human beings and their environment. These worldwide-recognized options, should also turn into opportunities to empower women and promote an equitable and fair distribution of the benefits derived from the use of the resources of biodiversity.

The book is divided into three chapters. The first chapter presents a reflection about the biological and cultural dimensions of diversity, how the CBD recovers them, and the need to clearly set forth the fact that equity also entails a gender dimension. The second chapter illustrates from the gender equity perspective, the uses, knowledge, protection actions and distribution mechanisms related to biodiversity resources. This section is conformed by examples that may be used as material for group reflection. Finally, the NBS are addressed as opportunities to strengthen the equitable participation of women and men.

We should hereby like to express our gratitude to the following specialists who revised and made very valuable contributions to improve the document.

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We hope this document will provide a useful option to address a subject that, although long postponed, can no longer be denied: the conservation and sustainable use of the biodiversity constitute the ultimate option towards a dignified life for the women and men of the world. This book is yet another effort made towards passing on to the boys and girls of the future societies built upon greater freedom, tolerance, equity and sustainability.

CHAPTER I

Starting points: gender equity and biodiversity

3

This first section will lay down the groundwork for a reflection process that will keep up throughout this book. We expect to find the answer to the following questions: How much do we know about the environment and the people around us? How much do we know about each of their components, their organization and the relations established with each other? What are the goals to improve life on the planet, and what international and national mechanisms exist to use, know and distribute the benefits provided by the biological diversity to the nations and peoples of the world?

To immerse ourselves in this reflection, we should first make a conceptual revision about a few terms like diversity, biological diversity, cultural diversity and the role the gender equity approach plays in this analysis. Emphasis is placed on the relationship established between the socio-cultural organization adopted by a human group and the diverse forms of utilization of biodiversity resources.

This analysis is carried out within the paradigm of sustainable development and the Millennium Development Goals, as the driving force of the strategic proposal upon which all the actions and measures suggested in this document are based. The relation poverty, society, use and benefit of the natural resources is essential to design actions to improve the quality of life of the people. Thus, the Convention on Biological Diversity (CBD) should be understood as a global mechanism to clear the way towards the utilization and conservation of the biological diversity resources.

Based on the recognition that we live in a diverse world, affected by poverty and a systematic process leading to the destruction of the ecological base, it is essential to consider the participation of the people, women and men of all social groups. To this end, it is basic to understand and integrate the gender equity approach into any actions undertaken in connection with sustainable environmental management.

It is not enough to slow down. The time has come to set off on a different track (Tidiane, 2002).

The challenge herein proposed calls for a constructive dialogue process seeking to make a systematic and objective approach towards the equitable management of the biological diversity, particularly the possibility of allowing women and men to know, use and protect the natural resources.

1. The diversity concept

Diversity leads to the idea of abundance and variety. It entails acknowledging differences; the overall weight these differences bear as a whole; the multiple possibilities involved in understanding, living and working within a given reality.

*Diversity
means
wealth*

Diversity alludes to the recognition of differences, dissimilarities, individualities, specificity and uniqueness. When referring to diversity, the objective does not only entail recognition about the difference of the "other", but also understanding the entire setting, the universe as the integration of diversity. When making reference to the world, the planet or the creation, all conforming elements look alike as a whole, acquire a common characteristic. Yet, by recognizing each of the elements involved in the diversity concept, it is possible to explain why such elements are far from alike.

When relating these ideas to the subject about rights, what immediately stands out is the Conventions stipulating the universal nature of human rights; that is, that the rights are equal for all human beings. Nevertheless, when people were analyzed separately, it became necessary to recognize the specific rights of some of them; for example, the rights of children, of women's equality, the respect for indigenous people, among others. Such recognition stems from the assessment of specific elements, the differences that exist between people, and the elements that become a prerequisite in order to achieve the rights through which we may become alike as individuals.

Diversity is, therefore, part of everything we know and, often times it even explains the operation of processes involving life, culture and history. The term has recently gained wider dissemination and recognition at political, social and environmental levels.

For the purpose of this document, the diversity of life on the planet should be reconsidered both, from an ecological perspective, as well as from the perspective of the individuals and groups that conform mankind.

a. Biological diversity

Addressing the subject of biological diversity implies considering life itself from all its different concepts. It refers us to the use of the natural resources, the efforts made to learn about their condition, and the mechanisms to protect them. To initiate this process a revision should first be made about the most important concepts linked to biodiversity, its definition, components, characteristics and changes.

When talking about **biological** diversity or **biodiversity**, reference is made to a wide range of **life** forms. The word derives from the Greek root **bios**, which means life, and the Latin **divers**, that means **division**. Thus, biodiversity includes the process involving the creation of life itself, its division, and the diversity of species, genes and ecosystems. Emphasis is placed on the inter-relating nature of the living world and its processes, the relations between each other and their differences (Monge-Nájera, et. al., 1995). It entails knowing about the resources of the biological diversity and the processes they are involved in, which help understand their place in the life chain.

"Biological diversity" is understood as the variability of living organisms, regardless of the source, and including land, marine and other aquatic ecosystems, the ecological complexes they belong to, as well as the diversity within each species, and among species and ecosystems (Convention on Biological Diversity - CBD).

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Although worldwide recognition about the importance of biodiversity has increased over the past decades, this alone is not enough. The most important international instrument is the Convention on Biological Diversity (CBD), which was adopted in Nairobi, on May 22, 1992, and ratified by more than 150 countries, a few days later, at the Rio de Janeiro World Summit. It took effect on December 29th of the following year.

Biodiversity is a global concept; it has a biological, social, cultural and political connotation. At a biological level, it defines how life is built and may be sustained. Its cultural scope recognizes that human groups exist thanks to the broadness and wealth of biodiversity, which fact accounts for the large number of social practices involved in the utilization of natural resources. Biodiversity has a political basis since its protection and care depend on the legal regulations enforced by governments (alluding to an ethical sense).

This diversity of nature is perceived, analyzed and utilized by human beings who, in turn, are equally complex, diverse and changing. Each society has established its own link with the natural resources through physical as well as spiritual uses.

The different plants, animals and microorganisms, including the genes and ecosystems they are part of, are part of the biodiversity. The abundance of life in our world is the result of millions of years of evolutionary history (Monge-Nájera, et. al., 1995). The ecosystems we currently know have not always been so; they have experienced changes and have been modified over time. Life has evolved; it is a dynamic combination, of which mankind is a part.

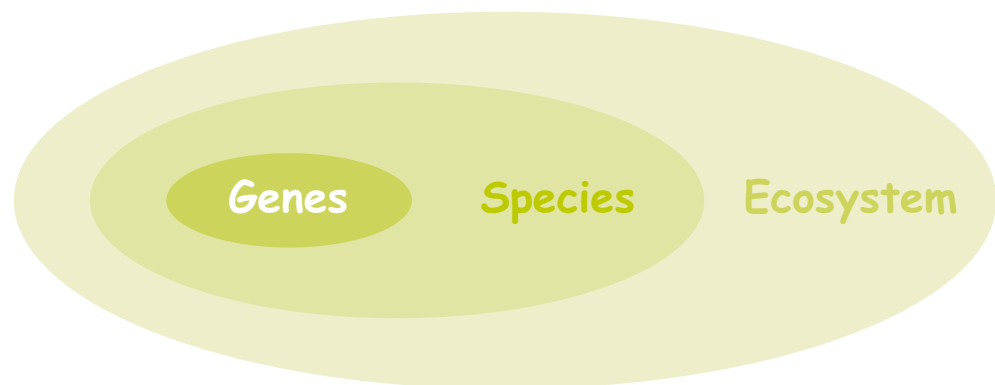
*Change
is the basis
of evolution*

In accordance with several studies, the planet is conformed by at least 1.750.000 species of living beings (Santandreu, et. al., u.d.), out of which only a small number is used by mankind. The evident lack of understanding about biodiversity has a real effect on how it is used. The economic model and the production systems had been based on an utilitarian vision about the resources, and it was not until recent years that emphasis has started to be made about how these life styles destroy the resources and threaten the ecosystems' vitality. The waste or disappearance of biodiversity resources which value is not yet fully recognized, constitutes a race against life itself.

Unknown neighbors

Science knows very little about the biosphere: it is estimated that the number of species on the planet ranges from nearly 2 millions to 100 millions, a difference of 50 times! Only 1,7 millions of species have been scientifically described. If the total number of species amounted to 30 or 40 millions, we would then only know about 5 percent or less of the existing species (Gomez, 1999).

The biological diversity or abundance of genes, species and ecosystems is related, in general terms, to external factors like the **climate**, the **temperature**, the topography of the site, altitude, its distance from the Equator (**latitude**), the diverse **habitats** present, the existence or non existence of **adverse conditions** (Colinvaux: 1986). In ecosystems where greater **humidity** levels exist, there is a higher density of species by area as well as a larger number of subjects carrying out similar tasks within a given ecosystem.

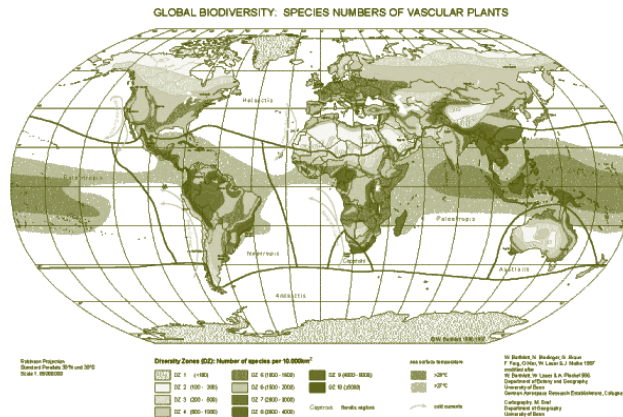


Regardless of the number of species present by unit of area, it may be stated that the plants and animals of each ecosystem exist based on a dynamic balance within the ecosystem, having adapted to such particular conditions over the course of millions of years. Consequently, all biological systems are valuable, unique and deserve to be preserved.

Megadiverse countries ¹

The areas encompassing the highest number of species per unit of land, usually correspond to developing countries, upon which falls the responsibility of preserving the natural resources. However, these countries lack the economic resources needed to undertake conservation programs as well as the mechanisms required to guarantee an equitable distribution of the exploitation and utilization of the resources.

The following map shows the distribution of vascular plants on the planet, to illustrate the diversity of species found in tropical zones.



Such distribution of the world's biological diversity makes it imperative to approach-biodiversity conservation strategies as the essential element of development policies. This entails the recognition of the community's and country's ownership of the genetic resources generated, as well as consideration to the sustainable use thereof in national programs and plans, as an alternative to cope with the poverty problems experienced by these regions.

This challenge is among the major concerns of megadiverse countries and the nations of the so-called "third world" in general. Biological diversity conservation is a major issue of concern in the nations' economic, political and social development plans.

Genetic diversity of species and ecosystems

Biological diversity comprises not only the number of species in a given zone, but rather the total variety of genetic stocks, species and ecosystems that exist in nature. For practical reasons, biodiversity is usually sub-divided into three major hierarchical categories: the variation of the genetic level within the same species; the diversity of species or the number and proportion of the different species in a given zone; and the diversity of ecosystems, describing the existing variation of species and their habitats (Blockhus, 1995).

¹ The glossary lists the Megadiverse countries identified up to 2003.

a. Genetic diversity

It refers to the variety of information contained within each individual plant, animal or microorganism. Genetic diversity occurs within and among populations of species, as well as between species. For example, the large number of colors and shapes of the hens seen in the backyards of many rural households have greater genetic diversity than in poultry or laying hen farms, where they all have the same color and are more homogeneous

- *Genetic diversity (of genes or sub-specific genetic varieties)*
- *Taxonomic diversity (of species or other taxonomic categories)*
- *Ecological diversity (of ecosystems at any geographic level).*

genetic-wise. This is also the case regarding the potatoes grown and preserved mostly by women in the Andean zone of Latin America; or with the different types and varieties of corn with different corn ear shapes, plant sizes and kernel colors, used by indigenous men and women in Mexico.

Genetic diversity does also contribute to the ecosystems' resilience, by increasing the adaptation capacity of the ecosystems to changes in the physical composition of the biosphere, such as climatic changes. This diversity is essential to the planet's evolutionary base and life support (Glowka and others, 1996). Habitat loss and fragmentation constitutes the main threat against the world's biological diversity (IUCN, OIMT, 1995).

A broad genetic base allows crops and animals to become adapted to different adverse conditions, which is an essential requirement for poorer human populations given their inability to have access to agrochemicals to protect their crops from pests and diseases.

b. Diversity of species

It refers to the variety of living species. It is the number of different species found in a specific place or area. It determines the biodiversity of a region, a protected area, or a country.

The state of species diversity may be verified by comparing a coniferous forest or a commercial tree plantation (reforestation of *gmelina arborea*, for example) with a perennial leaf forest in the tropic, where up to 10.000 flora species might be found.

The number of species found is indicative of the biodiversity present in the zone. It may also be defined by comparing a peasant's farm or an Indian's plot of land with a single-crop plantation, be it bananas, rice, soybeans or wheat, including fodder for livestock.

c. Diversity of ecosystems

It refers to the variety of habitats, biotic communities and ecological processes.

An ecosystem is understood as a dynamic complex of plant and animal communities and microorganisms and their non-living environment interacting as a functional unit (Convention on Biological Diversity - CBD).

Small and large, or short-lived and permanent ecosystems may be found within each other. The scale used will depend on the problem to be addressed, as it may refer to "a grain of soil, a lagoon, a forest, a bioma, or the entire biosphere" (UNESCO, 2000). The state of an ecosystem is fundamental to the conservation of

biodiversity at all levels, since there is a close correlation between the diversity of species and the stability and flexibility of an ecosystem (Glowka, et. al., 1996).

The ecosystem approach

The Conference of the Parties (COP)² adopted the ecosystem approach (EA) as the main work frame for the Convention on Biological Diversity (CBD). This approach is increasingly used to plan and implement biodiversity-related environmental and conservation actions, whereby it may be possible to overcome the isolated protection of one single species. In this sense, this perspective recognizes both, the link with other ecological dynamics where a given species may be integrated, as well as the socio-cultural context of which it is part.

The ecosystem approach (EA) is a strategy designed for the integrated management of land, water and living resources, which promotes conservation and sustainable use on an equitable basis. The approach does, furthermore, recognize people as an integral component of every ecosystem, while recognizing the necessity to manage the interaction that takes place among these and the other components of the ecosystem (IUCN, 2000).

In the context of the COP meetings, held in Nairobi, in May, 2000, it is recognized that "the ecosystem approach is based on the application of adequate scientific methodologies, where priority attention is given to the levels of biological organization comprising the essential processes, functions and interactions between organisms and their environment. The approach also recognizes that human beings, together with their cultural diversity, constitute an integral component of many ecosystems" (UNESCO, 2000).

The approach encompasses twelve complementary principles related to each other to help fulfill the three objectives of the CBD, namely, conservation, sustainable utilization, and fair and equitable distribution of genetic resources.

² The Conference of the Parties is the highest authority created by the CBD, conformed by the governments that have ratified the conference and other related organizations. Refer to the glossary for additional information.

Twelve principles of the Ecosystem Approach (EA)

1. *The selection of the management objectives involving land, water and living resources should be made by female and male members of the society.*
2. *Management should be decentralized to the lowest appropriate level.*
3. *Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.*
4. *The potential profits resulting from management activities should be recognized; that is, the ecosystem should be understood and managed within the economic context.*
5. *The priority objective is to preserve the structure and function of the ecosystems in order to maintain the services they provide.*
6. *Ecosystems should be managed within the limits of their operation.*
7. *The approach should be implemented based on appropriate temporary and spatial scales.*
8. *It is essential to establish long-term objectives within ecosystem management.*
9. *Management actions should recognize that change is inevitable.*
10. *Efforts should be made to achieve an adequate balance between integration, conservation and the use of the biological diversity.*
11. *Consideration should be given to all pertinent forms of information, including knowledge, innovations and practices applied by scientific, indigenous and local communities.*
12. *All pertinent sectors of society and scientific disciplines should be involved (Adapted from: UNEP/CDB/COP/5/23, 2000).*

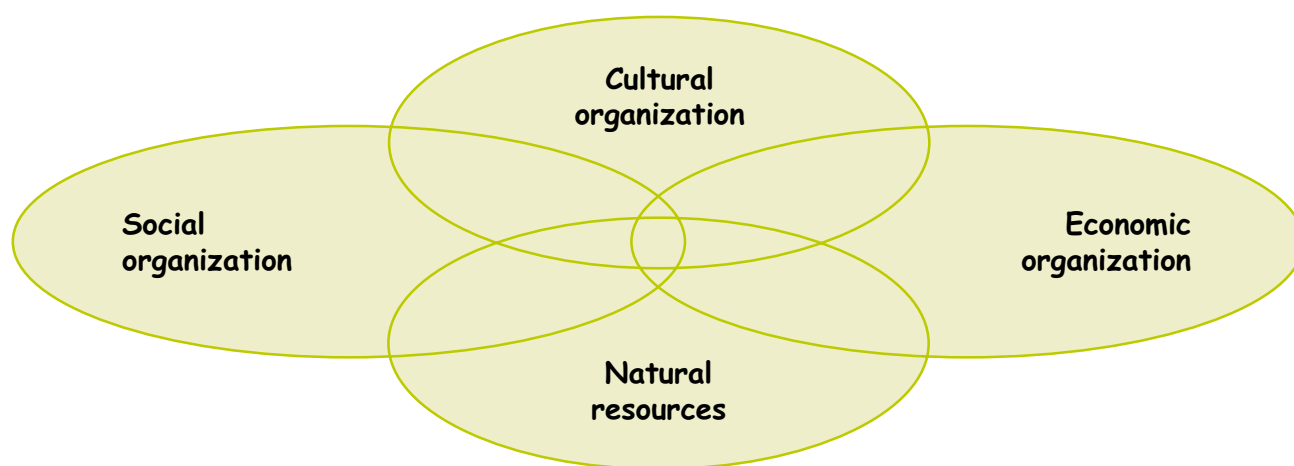
d. Cultural diversity

Throughout the centuries, each human society has undergone an adaptation process to assure their survival as a group. In this process they have used the natural resources available in their environment. This situation has resulted in a wide range of cultural relations and expressions, social organizations and standards that regulate the utilization of the natural resources found throughout the planet.

It is quite likely that the deforestation carried out as a deliberate means to either change the landscape or meet fuel needs, was one of the first forms of environmental degradation (Dixon, et. al., quoted by Bifani, 2003).

From ancient times to the present, each one of the human societies has established a relation between the environment and its culture. "By relating to each other and to their environment, all human groups develop particular forms of acting and thinking that differentiate them and define their cultural identity. The way how time, space and natural resource availability is conceived, is part of the characteristics that differentiate the various cultures, including the attitudes shown towards nature" (Garcia, 2002).

Social organization, understood as the set of practices involving natural resource use and appropriation, and the justifying regulatory framework, is directly related to their current environmental adaptation process. It may then be stated that the culture of a society is an expression of the relation it establishes with the biological diversity of its environment.



Therefore, a wealth of social and cultural expressions is found across the planet. Communities maintain a two-way relation with the environment, by modifying it while modifying themselves. In this process, the social, economic and cultural organization of a community is closely linked to its environment and the manner in which communities use the natural resources.

Cultural diversity

Cultural diversity refers to "the plural nature and interaction of the cultural expressions that coexist in the world, which—therefore—contribute to enrich the common legacy of mankind" (RIPC, 2003).

For a large part of the rural population of Africa, wildlife represents more than a vital source of food; it is also a symbol of their cultural and religious identity. Consequently, wildlife has been traditionally considered as a valuable community asset, to be used and protected as determined by cultural beliefs and taboos (Ntiama-Baidu, 2003).

Cultural practices such as the sacred forests, nomadism, bartering, crop rotation and the designation of protective animals, are but some of the ways people use to express their relation with the environment through a social norm. Cultural expressions are all the forms of "creation, production, distribution and exhibition of cultural contents, regardless of the means or form, existing or future" (RIPC, 2003).

Therefore, it is essential to understand the cultural, social and economic process to be able to work with and understand biodiversity. Within this social analysis process, the gender perspective allows us to acquire a broader vision about the reality, for which reason it is a vital tool to build equitable relations between populations and nature, since it allows recognition about the different conditions of women and men regarding the utilization of surrounding resources. The gender equity approach allows recognition about inequalities and power relations established between women and men as part of their social mandate.

The interaction between social and natural systems is characterized by the environmental management specificity that corresponds to each sex and the forms used to manage common goods (Bifani, 2003).

This vision will allow an integral approach as well as a more complete response. In the Guide to the Convention on Biological Diversity, Glowka makes an urgent call for "a comprehensive rather than sectoral approach to address actions involving the conservation of the biological diversity and the sustainable utilization of the earth's biological resources" (1996).

A development proposal is needed to recognize and promote this link, while focusing on recovering diverse and integral aspects thereof.

2. Sustainable human development

At recent global meetings and Conventions great concern was voiced regarding the need to promote a development paradigm that allows and promotes actions whereby women and men of all ages may be encouraged to break away from the oppressive schemes of poverty and exclusion. This is a vital element to preserve the integrity of land and maritime ecosystems. Definite actions should be undertaken towards a better future for the environment and the living conditions of the populations, as well.

Poverty

Though it has been proposed that within a sustainable development context, the conservation of both, nature and the natural resources, should be primarily focused on the human being, in the practice this is easier said than done. The structural problems affecting a large portion of the population require now, more than ever, the undivided attention of development policies and plans.

Over the centuries poor people have developed their own strategies for biodiversity management, including agricultural biodiversity. Local poor communities play a very important role in the preservation and management of agro-biodiversity as the rich diversity of genetic resources contributes to their survival when facing harsh climatic conditions and poor soils.

Poverty and biodiversity

- *In agriculture 15 products provide 90 percent of the food intake needed at a worldwide level; three cereal products (rice, wheat and corn) constitute the basic food of four billion people.*
- *About half of the world's population, which includes the population of most of the developing countries, and almost the entire African Sub-Saharan region, live in countries where income is low and food deficit exists. At the present time, two billion people experience food insecurity (constant access to the amounts of nourishing and safe foods required to lead a healthy and active life).*
- *It is estimated that by the year 2020, cereal production will have to increase by 40 percent over the amounts produced in 1999; most of this increase will come from lands presently under cultivation rather than from new croplands. However, the number of families engaged in agriculture is decreasing in most of the developing countries, and the extension of more than half of the croplands in the countries is less than one hectare.*
- *The rural population living under poverty conditions depends on the biological resources to meet 90 percent of their needs.*
- *As far as the poor farmers is concerned, almost 90 percent of their cultivation materials derive from the seeds and germicides they produce, select and preserve.*
- *Around 66 percent of the world's population depends on food produced based on the indigenous population's knowledge about plants, animals and crop systems.*
- *About 80 percent of the world's population depends upon traditional medicine to meet their basic health needs* (Sources: UNFPA 2001, WEDO 2001, Howard 2001, FAO 1999, WHO 1993, Farnsworth *et. al.*, 1985).

As stated by the Johannesburg Conventions (UNO, 2002), it is necessary to build a humanitarian, equitable and generous world society, fully aware about the need to respect the dignity of all human beings, women and men alike.

Sustainable human development makes reference to the eradication of poverty, the modification of unsustainable production and consumption practices, and the protection and regulation of the natural resource base. Consideration is also given to peace, safety, stability and respect for human rights and fundamental freedoms, including the right to development and respect for cultural diversity. Sustainable development should be based on this ethical framework, for the benefit of the entire population, especially women, youngsters and vulnerable groups (Plan for the application of the decisions made during the World Summit on Sustainable Development, UNO, 2002).

The Declaration of the Millennium, ratified by the 197 country representatives in the year 2000, takes up the most important specific goals leading to a sustainable human development.

Millennium Development Goals

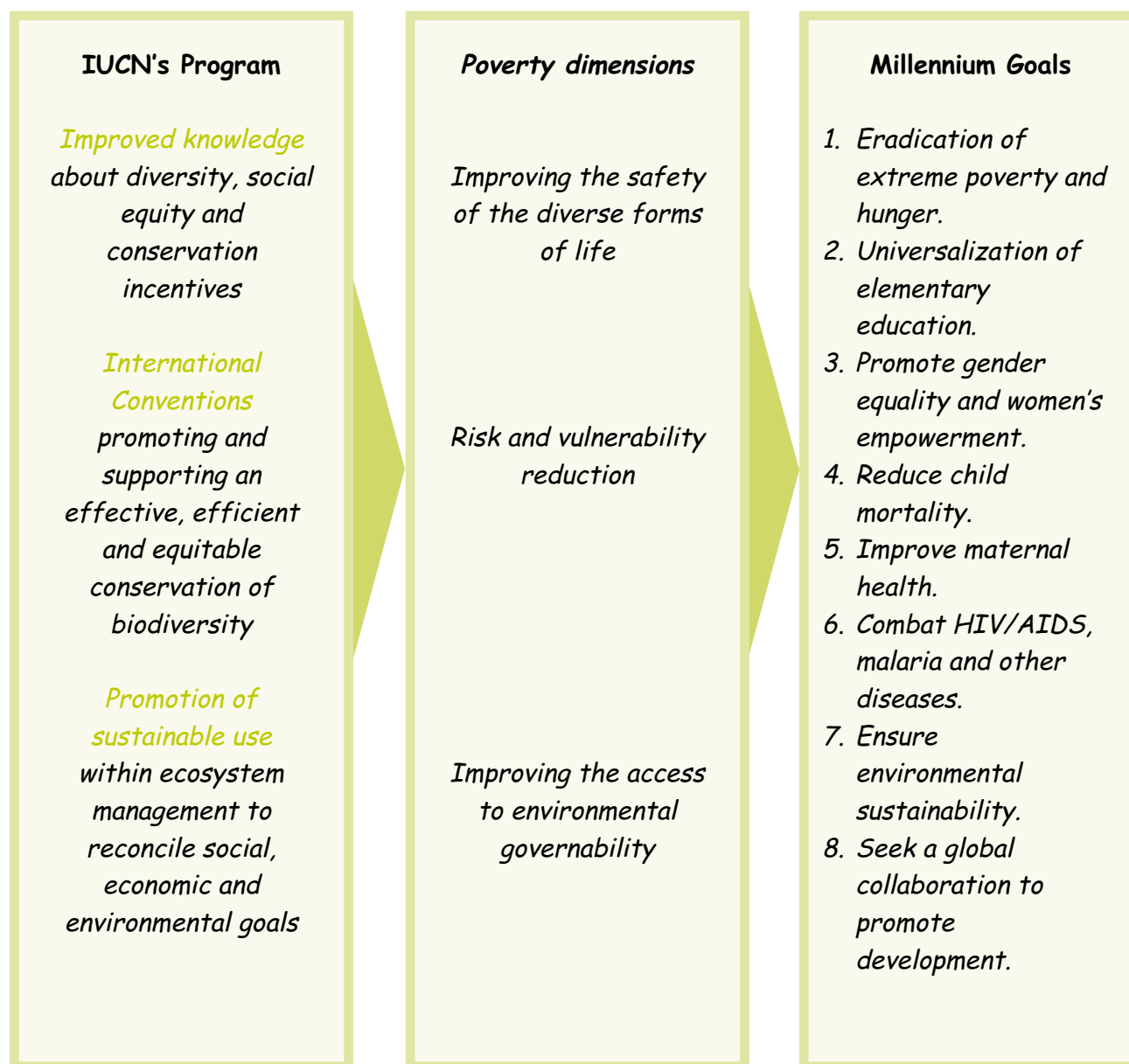
- *Reduction by 50% of the number of people experiencing extreme poverty and hunger.*
- *Universalization of education.*
- *Promotion of women's empowerment and gender equality.*
- *Reduction by two-thirds of the mortality rate of children under five years of age.*
- *Reduction by three-fourths of maternal mortality rates.*
- *Stopping and start reducing lethal disease spreading, especially HIV/AIDS and malaria.*
- *Ensuring environmental sustainability.*
- *Setting up of a worldwide development alliance, including goals regarding assistance, trade and health care (UNDP, 2000).*

Moving forward towards the achievement of these development objectives implies considering the work from a gender perspective. Out of the eight objectives, three explicitly require working from a gender perspective.

Sustainable human development demands recognition of gender differences as an essential element to achieve the development goals. As stated by clause d) of the Conventions of the World Summit 2002: "To promote equality regarding women's access to all levels of the decision-making processes, including full participation in such processes on a level footing with men, mainstreaming the gender perspective throughout the

policies and strategies, and eliminating all forms of violence and discrimination against women, and improving the condition, health and economic welfare of women and girls, through unrestricted access and on an equal footing to economic opportunities, land, credit, education and health care services" (Plan for the application of the decisions made at the World Summit on Sustainable Development, UNO, 2002).

IUCN has also considered this approach. The Union's 2005-2008 Inter-sessional Program encourages international cooperation agencies to focus their actions "on the eradication of extreme poverty, stressing the importance of recognizing that such efforts should take into consideration the multidimensional character of human welfare, including environmental quality. This new approach is reflected on IUCN's environmental management framework seeking poverty reduction", as shown on the following table.



Throughout the complex development process involving the sustainable resource utilization of the biological diversity and improvements on the quality of life, actions are carried out at many different levels, from favoring an attitude change towards the environment and gender relations, at a personal and local level, to the creation and support of environmental organizations, the promotion of public policies at a national level, to international Conventions between countries. One of the mechanisms available for the conservation of the biological diversity is the Convention on Biological Diversity.

3. Convention on Biological Diversity (CBD)

Ten years after the Convention on Biological Diversity (CBD) took effect and was ratified by most of the countries in the world, the Convention has become one of the most important instruments guiding the sustainable utilization and conservation of biodiversity. The Convention is conformed by a 23-paragraph introduction outlining the major motivations of the Convention, and 42 articles and several annexes addressing vital issues, such as protection measures, conservation, investigation, incentives, access to genetic resources, technology transfer and biosecurity.

This world effort is the result of a long process of discussion and proposals that led to an Convention that allows understanding biological diversity from an integral perspective, and holding mankind accountable for and participant in decisions that affect our vital space.

The purpose of the Convention is to provide a global perspective to guide the activities required to preserve the biological diversity at gene, species and ecosystem levels, based on the in-situ and ex-situ conservation initiatives proposed in the countries. It seeks the conservation, knowledge and use of biodiversity.

Objectives of the CBD

CBD objectives

- *Biodiversity conservation*
- *Sustainable use of its components*
- *Fair and equitable distribution of benefits derived from the utilization of genetic resources*

The CBD does not only identify conservation-related actions, but also recognizes and highlights the major causes of biological diversity loss. Therefore, it makes a positive contribution towards understanding the difficulties inherent to the present development plan and its contradictions. The Convention's preamble points out the importance of preventing and tackling the root sources of biological diversity reduction or loss. It is necessary to address from the very beginning not only the causes of the problems but the symptoms, as well.

The causes involving the loss of biological diversity include the generalized poverty in some countries, the excessive consumerism in others, the unequal patterns of commercial trade, climatic changes, pollution, and competition between human beings and other species (Glowka et. al., 1996).

The CBD's Preamble does, furthermore, point out that "economic and social development as well as poverty eradication, are basic and fundamental priorities of the developing countries" (CBD, Preamble, paragraph 19). Therefore, programs involving the conservation and sustainable use of resources should be considered as part of the economic and social development of each country.

Based on the fact that a significant portion of biodiversity is located in the poorest countries, their social relations and dynamics are, obviously, part of the problem of biodiversity conservation. Thus, the CBD should be an instrument whereby we may link conservation to the biological diversity and sustainable utilization of its components from a socio-economic perspective and as an essential requirement for sustainable development.

Sustainable use

The Convention defines sustainable utilization as the use of the components of the biological diversity that "do not contribute to the long-term reduction of the biological diversity, thus allowing it to maintain the ability to meet the needs and expectations of present and future generations" (CBD, article 2).

In short, the planet's populations, very diverse cultural-wise and with different levels of access to development opportunities, build and participate in development options that allow them to use the resources of their biodiversity to improve their living conditions and those of their environment. The Convention constitutes this framework, a work platform that contributes to the knowledge, sustainable use and conservation of this possibility.

Such processes should be implemented in an equitable manner to ensure that men and women benefit from the development actions and the sustainable use of resources. Thus, we should know the meaning of the gender approach and how its instruments allow reconsideration of the CBD and identification of practical implementation mechanisms.

4. Gender equity

To achieve this objective, certain basic concepts of the gender equity approach should be taken up again to understand that it does not exclusively imply promoting the participation of women only.

Gender

The gender category is utilized to designate social relations between sexes. It is a way of making reference to social constructions, the social origin of masculine and feminine identities. The gender concept explains how social ideas turn into behaviors.

The gender concept

- *A **relationship** category: it involves women and men and the relations established with each other*
- *It is **hierarchic**: it defines and assigns different values to feminine and masculine concepts*
- *It is **historic**: it is modified throughout time*
- *It carries **regulatory-legal** support: it is incorporated into cultural patterns and laws*

Gender refers to the attributes and opportunities associated to being a woman or man and the relations with each other. These attributes, opportunities and relations are socially built and learned through the socialization process; they are dynamic, changing, and may, therefore, be modified. Differences and inequalities exist in most societies regarding the activities carried out by men and women in connection with the access and control of the resources, as well as the decision-making venues. Gender is part of a more complex social interweaving, and interacts with factors such as socio-economic condition, race and age.

Sex-gender

Gender should not be mistaken for sex

Sex refers exclusively to the set of biological characteristics that differentiate human beings as women and men.

Bifani (2003) states that "when referring to gender we question the fixed and immutable character about what men and women are, including what they should do within the household and society in general; it claims that such characteristics and roles are social constructions, and as such may, thus, be changed". Consequently, the adoption of the gender equity approach implies focusing on women and men, including their relations with each other and the natural resources. This approach seeks to avoid the prevalence of limitations or restrictions based on sexual differences in connection with the access to resources and opportunities.

Gender equity and equality

Gender equality does not only mean equal number of men and women, boys and girls, in every activity. Neither does it mean that the needs of both should be met in the same manner, or that men and women are identical. It means that their rights, responsibilities and opportunities cannot depend on having been born man or woman. It does, furthermore, recognize that often times men and women have different needs, are confronted with

different limitations, have their own aspirations, and contribute in a differentiated manner to the conservation and sustainable use of the resources. Gender equality should not be considered as something that only “concerns women”; it should involve all human beings.

Gender equity promotes the elimination of economic, political and educational barriers, as well as regarding the access to basic services, so that men and women may enjoy equal opportunities and equitable benefits.

Gender equity and equality are conditions that should be promoted on an ongoing basis, as the progress achieved may easily be eroded, for which reason the actions promoting more equitable power relations should be steadily and sustainably pursued.

Social valuations

The differences between women and men alone are not the cause of inequality. Inequality occurs when there is a social group where a higher value is assigned to one of the genders. It is precisely this social valuation that keeps both genders from having equal opportunities for their personal and collective development. Following are some forms of expression of such inequalities:

Inequalities

- Women are considered less capable of making decisions and holding power positions.
- There are some countries where education is not equally available to girls and boys, as it is assumed that girls need not be educated because they will remain home after they grow up.
- The masculine sex has far more freedom than the feminine sex. For example, there are lots of women who have to ask for their spouses' and partners' permission to go out of the house to participate in community activities.
- Little or no access exists for women to own resources such as the land, the forest, or the water. In general terms, these assets are in men's names.

Thus, mechanisms are needed to identify such inequalities and promote the actions needed to contribute to equity between genders. These tools are provided by the gender equity analysis.

Gender analysis

By recognizing that women and men have been socialized to carry out different functions, among which are the utilization and appropriation of the natural resources, and that such condition determines their possibilities to make decisions and participate in the sustainable utilization and conservation of biodiversity, the need then becomes evident for an integrated application of the gender equity approach throughout all social development activities.

When using the term "gender analysis", reference is made to the theoretical-practical process whereby it is possible to analyze the roles between men and women within a given context, thus allowing the proposal of actions in order to tackle existing inequalities.

The gender analysis identifies the responsibilities, access, use, control and benefits deriving from the biological resources, the problems or needs, the possibilities and opportunities, the access to ownership and the legal rights of each individual. Through this approach it is possible to highlight gender differences in order to plan the development activities of a specific zone based on efficiency and equity and aiming at overcoming prevailing discriminations.

This analysis should not be limited to the role of women in society, but should also involve a thorough revision about the forms or organization and operation of societies (communities, families, institutions, organizations), based on the power relations between women and men, in order to identify existing limitations and opportunities in connection with equity promotion (IUCN, Arias Foundation, 1999). At the time community problems are adequately identified and prioritized, especially the issues involving natural resource management, it is necessary to consider the role played by women and men, including the established gender relations.

In order to achieve the sustainable development and adequate management of biodiversity resources, consideration should be given to gender inequalities, which are among the factors that stand in the way of equity achievement and improved welfare for women and men.

Gender analysis comprises a set of gender mainstreaming tools that are particularly helpful for appraisals, planning, monitoring and evaluation of social, productive and economic programs, from the infrastructure up to molecular biology, astronomy, taxonomy, craftsmanship, and any other human activity.

It is not uncommon to find that either intentionally or because of ignorance, gender analysis is included in appraisals. It is, for example, included as a merely decorative and even anecdotic information that, nevertheless, fails to identify and propose actions to transform the unequal power relations within our societies.

*Gender
analysis
tools*

The most important gender analysis tools are the work division and the recognition of the levels of access, control, benefits and affirmative actions.

Work division

Work division entails a process through which the tasks of men and women are assigned and distributed in a differentiated manner, including the spaces where such activities take place, the responsibilities established to fulfill these, the resources to carry them out, and the benefits deriving from such activities. Work division is dynamic and may vary from one culture to another, in accordance with the economic, social or geographic situation of the family or community.

There are three types of work involved: reproductive, productive and community. Women and men play different roles and have different responsibilities regarding the various types of work.

Reproductive work

This entails the activities related to the biological reproduction, in addition to those involving family sustenance, the socialization and education of girls and boys, health care, food, and all related tasks. At the household level, women and men have their own work areas, responsibilities and authority. This work is neither considered nor valued by society.

There are many rural regions around the world where household or reproductive work is entirely carried out by women, who are sporadically "helped" by the men in connection with firewood cutting or other tasks.

Productive work

It includes the production of goods and services, as well as the income-generating activities for household consumption or market commercialization, such as extraction or agriculture. This work is usually accounted for and reflected on national statistics.

*Regarding **productive** work, it is usually headed by men, although women's contribution to sowing, harvesting and post harvesting tasks is as high as 30-40%, in addition to being responsible for vegetable gardens and small livestock around the home; there are some regions where women are also involved in surplus product commercialization.*

Community work

This comprises the collective organization of social and service-related events, including biodiversity conservation. This type of work is not taken into consideration for economic analysis purposes, even when it requires many hours of voluntary work.

*Women are the ones who, for the most part, contribute on a voluntary basis to **community** work: religious, community celebrations, school meetings and committees related to water supply, housing and health care. Men, on the other hand, are involved in political and productive associations, including road improvement initiatives.*

Work division has repercussions on the differentiated use of time by women and men. Given the type of work assigned to women, their work schedule is indefinite and flexible, for example, childcare that demands constant attention. In general terms, the men's schedule is closely linked to agricultural tasks or their place of work. This fact should be taken into consideration in processes involving meeting calling and organization of group activities.

Examples

Reproductive

Fruit and seed gathering for food preparation.
Knowledge about and use of medicinal plants.
Upkeep of vegetable gardens.

Productive

Plant nursery and agricultural plantation employee.
Reproduction of wildlife such as butterfly and zoo farms.

Community

Local environmental associations.
School plant nursery programs.
Seed commercialization.
Protection of spring sources.

If analyzed in percentage terms, the time devoted to sustaining a family unit involves important elements that should be considered in a development project. Patricia Bifani (2003) presents an example of this work division:

Work division by sex		
Activity	Women (%)	Men (%)
Tree cutting	15	85
Tilling	30	70
Sowing	50	50
Soil weeding and ploughing	70	30
Crop hauling	80	20
Food processing	90	10
Food commercialization	60	40
Water and firewood hauling	90	10
Tame animal tending	50	50
Hunting	10	90
Feeding and tending to the family	95	5
(Source : UNECA, Women in Africa, 1975)		

Gender building proposes that the activities carried out by women are "complementary" to men's labor. It is taken for granted that the man is the household member who works and sustains the family, and women, boys and girls only help. Yet, women contribute to the household upkeep. There even are many instances where they engage in informal activities, generating the so-called "triple work shift"³.

Access, control and benefits of the natural resources differentiated by gender

A differentiation should be made about these terms in order to adjust the actions proposed in development processes. The term "access" is defined as the possibility for participation, utilization and benefit of the resources, in this particular case, the biodiversity resources.

"Control" refers to dominion, property and power to decide how the resource will be utilized. Under certain circumstances, women may have access to a resource (that is, the possibility to use it), for example, the land, and have limited control over it (cannot decide whether to sell or rent). "Benefits" are the economic, social, political and psychological retributions derived from the utilization of the resources.

3 It refers to the simultaneous participation of women in productive, reproductive and community activities. This term has traditionally been applied to visualize the women's workload.

Benefit distribution

*There are several communities in Southeast Asia and Sub-Saharan Africa where women are responsible for gathering non-timber forest products, such as eucalyptus leaves or fodder and the fruit of the bao-baj tree (**access**). Men make the decisions about the same trees and lands (**control**). Men are also responsible for selling the crops and managing the income generated (**benefit**).*

The same applies to farming families who own a few cows, where the women tend to the cattle, milk them and make cheese, but cannot make decisions about the animals or how the income generated may be used.

Differentiated access

Given their gender social condition, men and women have differentiated access, control and benefit of resources, goods and services. This is primarily due to:

- Women and men operate within different spheres of activity (according to the gender division of work), and therefore, their experience, interests and uses of the resources, goods and services are also different.
- The laws, traditions and social uses designate the people who have access and control over a given resource.
- The ownership and benefit of the resources is usually assigned to men, who are recognized as responsible productive-wise.
- In general terms, men benefit the most from activities involving training, access to knowledge, technologies and education; that is, the opportunity to become empowered through such new experiences, not only on account of the new knowledge acquired, but also for the social recognition involved.

Participation in decision making

Social inequality and inequitable distribution of resources, goods and services generates a situation of female subordination that excludes them from decision-making venues. This situation keeps them from voicing particular needs and interests associated to their gender condition, as well as from contributing their knowledge and experience to the development of their communities.

Such invisibilization of women within decision-making venues, makes it necessary to incorporate into participatory processes a series of elements to ensure a more effective and democratic representation.

Participation is a social process through which people, based on their own interests (class, group and gender, among others), are involved either directly or through their representatives, in the decisions made about the various aspects of community life. Participation is a necessary condition of citizenship, since individuals view themselves as citizens when they have the power to exert influence over processes that have a direct or indirect impact on their own destiny.

There are some projects where women's participation and access to biodiversity resource management activities is sought, disregarding existing social and cultural limitations. The design of development actions should take into consideration historically accumulated differences.

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From a gender perspective, the importance of an equitable participation in the benefits derived from the utilization of biodiversity, lies not only on the possibility of overcoming inequalities that may exist concerning the access by women and men, but also on ensuring that the design and identification of expected benefits may respond to the interests of women, and thus provide them with the opportunity to improve their social condition and standing.

Difficulties for women's participation

Throughout several rural development projects located within protected areas in Central America, such as the Los Guatuzos Wildlife Refuge, in Nicaragua, and the Laguna Lachua National Park, in Guatemala, it has been noted that under similar conditions of poverty, the women who have partners experience greater difficulty regarding participation in activities or meetings, than female widows or single women. In these cases, the women who have inherited land are able to dispose of it while they are independent, but when they have a new partner, women usually lose control of their own lands, and are forced to give up participation in community groups and training processes.

The same stands for credit or financial assistance programs, where women must be organized for group work that, for the most part, is under the supervision of men's groups.

*Despite the fact that the family may enjoy a certain social and economic **standing**, women experience a social **position** of subordination and disadvantage with respect to men (Azofeifa, 2003).*

One of the basic elements to understand the gender social category, is the recognition of the fact that the differences established in the socialization processes of women and men have repercussions on their own conditions and opportunities. It is for this reason that a gap exists in participation, access to goods, development resources, organizational orientation, and the possibility of holding public representation positions, land tenure, and other biodiversity resources. Such gaps correspond to the women's situation of inequality. Therefore, even though the gender approach makes reference to the relations between women and men, specific actions are required to overcome the above-mentioned gaps.

Affirmative actions

Affirmative actions consist on a strategy or set of activities seeking the equality of opportunities through measures implemented to offset or correct situations of discrimination resulting from social practices or systems. The purpose is to implement specific programs to provide concrete advantages to women. The affirmative action is a valid and worldwide-accepted instrument to overcome the obstacles that stand in the way of achieving equality between men and women (IUCN, Arias Foundation, 1999).

Although affirmative actions are often identified through measures focused on increasing the political participation of women, they may be designed to eliminate or decrease situations involving discrimination, and may be adjusted to the reality of rural development organizations and projects (Blanco and Rodriguez, 1999).

Each particular situation requires an individual analysis to determine the most appropriate actions to be implemented in order to promote equity in biological diversity conservation programs and projects, to which effect great creativity is required. One single response may not be valid for all cases.

Some affirmative actions

The Italian Association for Rural Cooperation in Africa and Latin America (ACRAA) has implemented the following affirmative actions throughout some of its environmental projects to achieve the equitable participation of women and men:

- *Making men aware of the importance of the work and participation of women.*
- *Prioritizing technical assistance visits to female producers.*
- *Encouraging and supporting the participation of women in boards of directors as well as promoters.*
- *Establishing minimum female participation quotas in boards of directors, training events and credit portfolios.*

- *Establishing requirements differentiated by sex in connection with credit access and credit recovery mechanisms to make up for the lack of legal identification documents and collateral securities.*
- *Inclusion in environmental projects of commercial activities for women.*
- *Sensitization and consideration of actions seeking to reduce the household's workload (Azofeifa, 2003).*

Many gender equity-promoting affirmative actions implemented by organizations and projects engaged in biodiversity conservation, have experienced a fundamental change regarding environmental management. They have proven that the implementation of such actions does make a difference towards the achievement of conservation and development objectives.

5. Why are gender equality and equity essential for the sustainable use and management of the biological diversity?

Gender equity and equality are both, an essential element of human rights and social justice, as well as a precondition for sustainable development.

In order to understand gender relations with the environment, a comprehensive analysis about the patterns of use, knowledge and skills related to the management and conservation of biodiversity resources, is required. It will only be through the application of a gender approach that a clearer and integral view may be obtained with respect to the relations that human beings have built with the ecosystems.

The use of the gender equity approach means to analyze and understand the different roles and responsibilities, the levels and quality of participation in decision-making, the needs and visions of women and men. Using the gender perspective does, furthermore, mean going beyond the mere recognition of the differences, and implies working towards building more equitable relations between women and men.

Through the utilization of the gender approach within biological diversity management activities it becomes possible to:

- Make visible the links among the various social players involved in an ecosystem. For example, it allows identification of the role played by women and men in connection with the use of certain natural resources.
- Recognize that both have particular needs and interests, as well as different aspirations, and that they contribute in a different manner to the conservation and sustainable management of biodiversity.

- Identify the diversity of players, their interests and needs, by promoting a more equitable participation in decision-making venues dealing with natural resource management and conservation. Natural resource development and management initiatives that exclude women as players or focus groups that ignore half of the population, affect the efficiency and effectiveness of the actions promoted.
- Make sure that the benefits and services generated by the sustainable use of biodiversity, are more equitably distributed among the various focus groups and social players. By addressing the needs of the different groups in an equitable manner it will be possible to promote the actions undertaken by the biodiversity management projects towards the improvement of the economic and social development of the communities, while reducing competition and conflicts related to the natural resources.
- Avoid reproduction of inequity and subordination relations that undermine human rights and social justice principles.

The search for the conservation and sustainable management of biological diversity resources entails compliance with individual responsibilities and duties, so that the proposed changes may altogether take place. If the participants are experiencing a relation of disadvantage, subordination and oppression (due to gender, age, ethnicity, class or socio-economic condition, religion, politics, among others), it will be extremely difficult to reach minimum Conventions towards recognizing each other on an equal basis.

The Convention on Biological Diversity (CBD)

The CBD incorporates and proposes an integral approach by recognizing the important role played by societies in conservation and the link between life systems and biodiversity. However, the equity concept in the CBD is essentially linked to **equity** regarding the access and distribution of **genetic resources**. It does not explicitly associate the equity concept with the social scope, and therefore, neither does it associate it with the gender relations established between women and men.

This document seeks to undertake a deep analysis in this direction, by contributing elements that recover gender social equity throughout the processes promoted by the CBD, including actions promoted throughout the countries to ensure gender equity in the use, access and decisions concerning natural resources.

Echoing on other international mechanisms, such as the Dublin Convention, Agenda XXI, the Convention to Combat Desertification, the CBD also highlights equity between women and men by emphasizing in paragraph thirteen of the Preamble the important role played by women in biodiversity conservation.

Recognizing also the important role that women play in the conservation and sustainable use of biological diversity, and affirming the need for the full participation of women at all levels of policy making and implementation for biological diversity conservation (CBD, Preamble, paragraph 13, 1996).

The above principle points out two essential elements regarding which reference has been made in previous pages. A work division by sex clearly exists, and so does it exist regarding the use and benefit of resources. This situation provides women with a wealth of knowledge and experience vital to conservation that has been repeatedly ignored. In addition, due to the gender condition, these women's experiences have been excluded from decision making and most representation venues (gender gaps), for which reason affirmative actions are required to correct this situation.

The statement made in the CBD's introduction, highlights public concern regarding the integration of gender equity between women and men into development proposals. Thus, the CBD urges giving due consideration to such experiences in the elaboration of strategies and work plans at sub-national, national and international levels. If the social and economic equity concept related to the utilization of biological diversity resources, is developed without consideration to existing gender gaps, its achievement will be precluded by relegating to a second place the gender relations present in the access, control and distribution of benefits.

Recognition about the importance of the knowledge possessed by women, including their use, rights and needs regarding local plant biodiversity, would allow achieving the two most important objectives of the Convention on Biodiversity: the sustainable use of its components and the fair and equitable distribution of the benefits derived from the utilization thereof (Howard, 2003).

RELATION BETWEEN SOCIAL STRUCTURE AND ENVIRONMENT

Purpose:

Learning about the relations between environment and population

Materials:

Case study

Procedure: *Making up subgroups to read and comment on the case study. Certain motivational questions may be asked: Which socio-cultural patterns are you familiar with regarding the indigenous groups or farmers in your country? How are the gender tasks distinguished in this group and other nearby communities? Which are the main reasons to consider the social dynamics when an environmental study is undertaken?*

Case study:

To illustrate the relation between social structures and the environment we may refer to the turkanas, north of Kenya, in the semi-desert region located east of Lake Turkana. The climate is characterized by the alternation between the rainy and dry seasons. Rains are variable and fluctuating, which fact turns this zone into an extremely vulnerable ecosystem. There are no permanently flowing rivers, and water is obtained from wells sunk in river beds.

As stated by Gulliver "to be able to understand any aspect about the social organization of the turkanas, one must first understand the environmental limitations that are harshly imposed on all their social activities. To a certain extent, the study about the turkanas is an ecological study".

For these nomadic-shepherd populations, their vital strategies are adapted to natural cycles. Their only source of subsistence is the cattle, which they keep up through migratory moves from the plains during the rainy season, to the high lands during periods of drought.

Social bonds are consolidated through cattle trading: marriage requires the contribution of camels and cows, as the bride's dowry; animal slaughtering takes place during ritual ceremonies (births, initiations, marriages, funerals) and the meat is shared with other families, as a result of which meat is periodically provided to the entire social group. In general terms, social behavior tends to the conservation of the populations' subsistence means.

Therefore, efforts are made to limit animal slaughtering as much as possible on account of the belief that if too many are killed, the remaining animals will die as well. The legal problems are settled through cattle contributions made by the parties involved in the dispute.

Social organization is ruled by cattle needs and pasture replacement; children see to cattle feeding by migrating within the boundaries of their territory or ekitela. Small children tend to the goats and sheep, and women, by working inside the deep wells sunk in river beds, provide the water needed by the animals. In addition, they milk, process the by-products (hide, yogurt, fat) and slaughter the small animals. The elderly distribute the meat and take care of the ceremonies.

Finally, the warriors are responsible for the protection of the cattle and pasture areas. Among the survival mechanisms used by these people is the so-called "cattle complex" that refers to the close relationship that exists between men and cattle, which fact contributes to the conservation of cattle within maximum security margins.

For security reasons, nomad shepherds keep large herds, despite the difficulties encountered to find feed and fodder. The underlying notion regarding such cattle management form is that if there are many cows and some die during periods of crisis, there will still be others left to ensure the survival of the human group that depends on them as their sole resource (Bifani, 2003).

SOCIAL STRUCTURE, ACCESS TO RESOURCES AND GENDER RELATIONS

Purpose:

Impact analysis regarding the access to biodiversity resources differentiated by sex

Materials:

Case study

Procedure:

Making up groups of five or six people to read and comment on the following case study. Certain questions may be suggested to encourage discussion: How are decisions made in the study? How much is known about the work carried out by the women? How are women affected when a project makes a resource-related decision without consulting them? Are they aware about similar experiences in their region or work area?

Case study:

*Among the shepherds in Kaokoland, Namibia, women make baskets to store and carry milk and water. As a result of increased tourism, women have increased basket production for commercialization purposes, using the proceeds to buy cornmeal. Concerned about the unusual consumption of the *Hyphaene ventricose* palm tree, the conservationist groups have asked the women to reduce basket production. After several discussions with the community, it was agreed that the villagers would go back to the procedure used in the past: that is, removing one or two leaves from the younger palm trees. They would, furthermore, count up the palm trees, which use would be monitored by one of the community's male lineage chiefs.*

A few months later, the palm trees were dying at a fast pace. The lineage chief blamed it on the women, claiming they were too stupid and lazy and unable to manage the palm trees in a sustainable way, since they were removing all the leaves from the closest palm tree.

A meeting held with the women provided the following explanation: In the morning I milk my husband's cows, placing the milk in the wood pails he makes. I then empty the milk into the baskets I have woven. That milk is then mine to share with anyone I wish. If my husband asked me for milk to give to his guests, I would not deny it to him. But he would not take it without my permission. Now, you ask us to give the palm trees to the men. Would anyone then be surprised if they started acting as if they also owned the cows' milk?

By promoting palm tree monitoring by men, the project had altered the gender relations regarding the use of this resource. Women felt it was their right to control and use cow milk, symbolized by emptying the milk from the "masculine" pail into the "feminine" basket. This right was threatened by the fact that a man had been made responsible for palm tree monitoring.

Women showed resistance towards the conservationists' intent to change the social balance, by intentionally ignoring the sustainable management of the palm trees. When the women took over the responsibility involving monitoring of palm tree use, they began to thrive.

CHAPTER II

Use, knowledge, protection and distribution from a gender equity perspective

35

The value attached to the biological diversity resources is based on the relations human beings establish with the resources and is expressed through the use they make of such resources, what they know about them, how they care for them or not, and how they distribute the benefits thereof.

Little is still known about the practical uses that the components of the biological diversity have or may have, thereby the absence of a reference framework to make an accurate valuation about these components. As a result thereof, society fails to understand the far-reaching impacts that the extinction of some of its components would have both, on biodiversity itself, and on the quality of life of the people.

Survival in perpetuity of these zones (protected areas) will be determined by the populations' perception about their value and usefulness (Gamez, 1999).

The foods, fibers, ornamental plants and raw materials of biological origin constitute half of the world's economy (PNUMA statistics quoted by Glowka, et. al., 1996). However, the intensive utilization of resources by the people has a direct bearing on the degradation and loss of productivity

of the environment, the extinction of species, as well as on the possibility of the ecosystems and biodiversity resources to fulfill their function.

Yet, ignorance about the functions of the ecosystems has created a huge void concerning the value of the biological diversity. How could watershed protection be valued, not only on the basis of the water to meet the production and personal needs of the people, but also on the basis of the nutrient cycle, the control of contamination and soil formation?

The only way to save the habitats is by making sure that the efforts undertaken will favor the immediate economic advantage of the poor people dwelling in or around these (Wilson, quoted by Masundire, IUCN, 2003).

It is imperative to promote biological diversity conservation processes that also address the poverty and exclusion experienced by most rural communities, including the recognition and appreciation concerning their sustainable use practices.

In order to sustainably preserve and utilize the biological diversity for present and future generations, as stipulated by the Convention on Biological Diversity (CBD, Preamble, paragraph 23), consideration should be given to the integral and decisive role that biophysical, socio-political, economic and cultural aspects play in the interaction between human beings and the environment (Wiens, 2002).

In order to address this situation and propose viable actions towards sustainable relations with the resources, one must first understand how social inequalities contribute to foster diversity degradation. To this effect, it is necessary to understand that in societies as diverse as those populating the planet, people relate to the natural resources in many different manners. The way in which they use, preserve, know and participate in the distribution of the benefits offered by biodiversity, will be largely dependent upon socio-economic, gender, ethnic, and age conditions. It is particularly important to understand how feminine and masculine identities affect the access, use and control of the natural resources (Wiens, 2002).

The essential concepts of the gender equity approach, analyzed in the first chapter of this book, will be taken up again in order to analyze the use, knowledge, and protection of the biological resources, as well as the equitable distribution of their benefits, which subjects constitute the essence of the political agreement reached through the CBD, and should be taken into consideration at the time the National Strategies for Biodiversity (NSB) are designed, revised and assessed.

1. Using biodiversity: equitable access and control by women and men

Regarding the sustainable utilization of the biological diversity, article 10 of the CBD clearly stipulates the obligations of signatory countries with respect to the regulation and management of the sustainable use of biological resources and the methods that should be promoted to this effect.

For reasons beyond my understanding, there are certain environmental sectors that perceive wild biodiversity as something that should not be touched by the human being, as if its management had not been historically linked to human development itself (Gamez, 1999).

*Sustainable
use implies a
form of
conservation*

Out of the three objectives of the CBD, the utilization of biological resources is a crucial issue for development and constitutes a mandatory topic within conservation projects. The use of biodiversity is inherent to mankind, and at this very moment it represents the option to confront the poverty affecting millions of people on the planet. Therefore, all actions undertaken should be centered on the utilization of natural resources in order to fully understand and address the problems involving the loss of biodiversity.

If, as currently acknowledged, economic welfare, social development and environmental stability constitute the cornerstones of sustainable development, weakening of any of these would have a direct effect on the other two (MacNeely, 2002). In other words, this recognition remains insufficient to understand the many ways in which the survival of poor people depends on the sustainable management of natural resources. Quite frequently, short-term solutions to address poverty are dependent upon the exploitation of the resources and the ecosystems, which, ultimately, weakens the possibilities for success. The people under conditions of

There are millions of people for whom sustainable development is a matter of life or death (Kakabadse, 2002).

poverty, particularly in rural areas, depend to a large extent on the natural ecosystems, and any actions implemented to improve their livelihoods without consideration to this fact, is doomed to failure in the long-term (Castaño, 2002).

Biological diversity plays an essential role in meeting human needs, especially the needs of those living under conditions of poverty in rural areas. Biodiversity offers products that are used by them, such as food and fuel. There is increasing recognition concerning the role played in human security. In accordance with the World Bank, approximately 75%

Women account for 70% of the poor people in the world (UNDP, quoted by the World Conservation, 2002).

of the poor people in the world live in rural areas, and the protection of their biological resources is a key element to achieve sustainable development: the conservation of the environment and the development of people (Juma, 2003).

*Feminization
of poverty*

The process involving the feminization of poverty is a phenomenon that has been verified at a worldwide level, although it is not fully recognized in the design of development policies. As stated in the previous chapter, due to their gender condition, women are at a social disadvantage with respect to men, to the extent that in many instances, they bear sole responsibility for the survival of their families, have less resources, and are "the poorest among the poor". In Mesoamerica alone, it is estimated that between 30% and 40% of the households are headed by women.

Women produce 80% of the food in Africa, 60% in Asia, and 40% in Latin America (WRI, 1992).

The poverty conditions experienced by millions of women across the continents are closely linked to the huge limitations they confront to gain access to the resources, among which are the components of biodiversity. In spite

of the fact that there is an increasing number of experiences highlighting the sustainable manner in which women use the biological diversity, it is obvious that they do it without an equitable participation in the access and control of such resources. An inclination exists towards ignoring the natural spaces predominantly used by women in favor of those used by men, and devaluing non-commercial production spaces in favor of commercial production spaces (Rodríguez and Paulson, quoted by Wiens, 2002).

The role of women

In connection with the role of women, as previously pointed out in paragraph 13 of the CBD's Preamble, it is recognized that in rural areas the women are usually responsible for crop sowing and harvesting, including the preservation of valuable seeds. Women are usually more active than men in local economies, where a larger variety of species is used than those traded at regional or international markets. And there are even some societies where "women determine the utilization of wild species in order to guarantee a sustainable use" (Glowka, et. al., 1996). Women carry out tasks involving the sustainable use of biodiversity resources, but given their gender condition, such activities are not recognized.

Decision making

There are many communities where cultural control mechanisms are found based on the vast amount of traditional knowledge resulting from the interaction of people with the biological resources, which has helped them to prevent overexploitation and establish life patterns within limits determined by their availability. Some examples of cultural controls include extraction and selective-hunting patterns, community use lands, grazing rights, wood-cutting restrictions, protection of forest areas for religious reasons and plants for ritualistic purposes, protection of water springs, etc. Women are involved in many of these activities, and there are cases where women may even have exclusive responsibility over such tasks.

Differentiated knowledge

In order to recognize and promote traditional practices involving the utilization of the biological resources, it is essential to consider the link between local populations and the components of biodiversity, value such relations, and know about the knowledge differentiated by sex. Otherwise, their knowledge and experiences will continue being ignored and will be quickly lost. It is fundamental to identify the capabilities of men and women in order to cope with ecosystem degradation.

Following are some aspects that should be taken into consideration in the development of activities aimed at maximizing local capabilities and valuing ancestral knowledge, while promoting gender equity:

*Taking into
consideration
that*

- The educational materials designed from a gender perspective will most likely be accessible to women, and may—therefore—promote capability development and encourage more equitable relations between men and women.
- Training venues involving the sustainable utilization of biodiversity have been traditionally considered as “masculine”. Specific measures are necessary to promote the effective participation of women.
- Projects involving the sustainable use of biodiversity should be designed based on promoting the equitable participation of men and women in the access, use and control of resources, services and benefits.
- Men have been the major recipients of technology transfer and other inputs. Affirmative actions should be developed along with training processes seeking a more equitable and sustainable access to the biological resources.
- To promote the participation of both, women and men, in decision-making venues involving productive, reproductive and community activities. This would allow the integration of distinctive needs into planning and working agreements.
- Local organizations are mostly integrated by men. Women’s participation should be promoted at decision-making levels, and support should also be provided in terms of the constitution of women’s organizations.
- Women face greater difficulties to gain access to financial resources allocated to the sustainable utilization of biodiversity. Therefore, the equitable distribution of such resources, taking into consideration the specific needs of the women, may contribute to overcome this inequity situation.
- Development of opportunities where women and men may interact under equitable conditions. In addition, efforts should be made to promote the participation of women and men in non-traditional spaces involving the use of resources.
- Design of project components related to the use of resources taking into consideration spatial and temporary characteristics accessible to women, such as schedules, short work shifts, projects located close to home, non-literate material, development of trust and interest.
- Presentation to the communities of examples and models of men and women who have moved on to more equitable relations; through exchanges with other communities and women’s groups; maintaining a mixed team of facilitators and community promoters.

A very important topic within programs and projects involving the sustainable use of resources is the creation of incentives, as these are measures that stimulate and promote a different attitude towards the ecosystems. Likewise, affirmative actions are support mechanisms to achieve equitable relations between men and women. Following are a few equity-driven incentives related to the use of the biodiversity:

Direct cash incentives

Among direct cash incentives to promote gender equity are:

- Credit mechanisms aimed at the development of sustainable productive activities for women.
- Land tenure policies that facilitate and recognize the women's right to land ownership or joint land tenure.
- Subsidies for women who develop positive practices related to the sustainable utilization and conservation of biodiversity (subsistence agriculture, backyard economies).
- Subsidies for women or groups of women involved in the restoration of threatened or damaged habitats, water spring protection, etc.

Direct in kind incentives

Among examples of direct incentives in kind to promote gender equity are:

- Women's access to protected areas in order to make use of resources that are essential to the quality of life of their families in a manner compatible with the conservation objectives.
- Making available to women's or mixed groups conformed by an equitable participation of men and women, of seedlings to develop local forest restoration projects.
- Development of technology transfer processes involving women.
- Access to knowledge and possibilities offered by the biodiversity for social and personal development.

Indirect incentives

Following are a few examples of indirect incentives to promote gender equity:

- Tax exemptions or deductions for groups of women involved in the conservation of particular types of habitats, or mixed groups involved in the promotion of more equitable relations between women and men and the resources of the biological diversity.
- Technical assistance for women engaged in agricultural extension, forestry and fishing programs.
- Development of services at a local level (health, education, water).

Summarizing

The recognition about the different uses that women make of biodiversity is a necessary step in the definition of projects and initiatives involving the sustainable use of biodiversity resources. Equally important is the implementation of actions to value their knowledge and improve their use and access; for instance, with respect to land tenure, the possibility of making decisions, their inclusion in initiatives and the equitable distribution of benefits. In this way, it will be possible to design processes that, together with the objectives seeking the sustainable utilization and conservation of the biodiversity, may contribute to social and gender equity.

In the same manner that current societies do not recognize or value the contribution made by gene biodiversity, species and ecosystems that allow the survival of human beings and their economic activities, the contribution made by women has not been made visible or recognized socially and economically.

Examples for analysis

Following are a few examples about the possible uses of biodiversity components and their relation with the gender condition. An individual analysis is made regarding how such utilization may either contribute to more equitable relations between men and women, or become a drawback.

- Some investigations have documented the differentiated impact between social groups, particularly between women and men, caused by the degradation and loss of ecosystems. For illustration purposes, a reflection is made about forest loss (Example 1) and the role women play in the promotion of agro-biodiversity (Example 2).
- The various uses of the biological diversity resources are largely dependent upon the knowledge and practices developed, both, at a genetic as well as species level, like the use of medicinal plants (Example 3), or food selection (Example 4).
- Cases involving the use of non-timber forest resources (Example 5), craftsmanship (Example 6), and payment for environmental services (Example 7), illustrate the importance about making visible certain cultural practices and attach value to the natural resources.

The above materials may be used as a reflection element to help identify on a case-by-case basis, how the biological diversity resources are utilized from a gender perspective.

USES OF THE BIOLOGICAL DIVERSITY

FOREST ECOSYSTEM

There is an important correlation between biodiversity and forest ecosystems. The tropical forests are particularly noted for the abundance and diversity of species. For this reason, the implementation of initiatives seeking the sustainable use and conservation of forests requires a detailed appraisal about the relations between men and women with each of the resources and services provided by these ecosystems.

The forest is soil, trees and non-timber products; it is medicinal plants, herbs, fruits and nuts; it is animals and materials for house building and craft and furniture making.

Women have traditionally played a fundamental role in biodiversity conservation and decisions made regarding family welfare. Such responsibilities were due, among other things, to the freedom they enjoyed in gathering forest products used for food purposes.

As a result of forest deforestation and degradation, women have gradually lost the possibility of having access to valuable resources like food and medicinal plants to care for their families and communities. This new situation has increased their dependence on men to meet these needs, thereby diminishing their traditional social position, and reducing their opportunities to make decisions at household and community levels. On the other hand, it has increased their workload and work schedule.

As a result of these phenomena, the women's knowledge about the use of forest resources is also being lost. While the traditional production systems change, they lose power and access to foods of nutritional value. Many women have to adapt themselves to new products and a smaller diversification. Single crops have limited the variety of foods available, as a result of which, the women's ability to prepare a large variety of highly nutritional meals has also been lost (Filippini, 2002).

Example 2

USES OF THE BIOLOGICAL DIVERSITY

AGRO-BIODIVERSITY

Agro-biodiversity issues are gaining importance as there is an increasing understanding about the effects of the use of transgenic and genetically modified organisms in agriculture.

To illustrate the role played by women in agricultural biodiversity management in the Andean region of South America, an analysis from a gender perspective should be made about the efforts to preserve the plots of land and the immediate natural environment, recovery of native crops and the agricultural practices associated thereto. These tasks are carried out by the entire family, although due to different socio-economic reasons, these are increasingly falling upon the responsibility of women.

Various experiences have been recorded to date where farming women carry out important tasks directly related to agro-biodiversity, such as firewood gathering, food preparation, participation in production tasks ranging from sowing to harvesting, seed classification, storage of edible species, commercialization in local markets, product transformation, and picking herbs that are used in food preparation or have medicinal properties.

As a result thereof, women keep and record vast experiences and knowledge that often times are not taken into consideration by development initiatives, despite the fact that experience has shown that women have better assimilated and implemented biological pest control techniques, as well as the introduction and adaptation of new species planted in the vegetable gardens they tend (Tapia, 2002).

USES OF THE BIOLOGICAL DIVERSITY

MEDICINAL PLANTS

While only between 15% and 20% of the people have access to traditional medicine, around 80% of the world's population resorts to medicinal plants (Ara, 1997). In accordance with the World Health Organization (WHO), only about 2% of the existing 270,000 species of higher plants have been investigated in connection with potential medicinal value, most of which are from temperate climates. Across all continents plants have been used for medicinal purposes since ancient times. Both, ethnobotany and more recently, the biodiversity prospecting techniques, are techniques of more modern origin used in the exploitation of the medicinal properties of plants.

In connection with the use that men and women make of biodiversity for medicinal purposes, it is possible to recognize important differences concerning their gender condition. Interviews were conducted with farming families of the Los Guatuzos community, in Nicaragua, in order to identify the biodiversity resources of the zone. When asked about the type of medicinal plants found on their plots of land and in the forests, the men called upon their spouses to answer the question. It was easier for the men to identify the properties of timber trees.

In most of the countries' rural areas women have been assigned the responsibility of taking care of the sick, whether boys, girls or elderly people. This task has allowed women to learn about and develop important skills regarding the identification of species and the medicinal properties of plants for disease treatment. When such a task transcends the household level and becomes socially and economically recognized, men will often assume the role of "doctors" or "shamans".

The knowledge and skills women have developed about the plants' medicinal properties, could become an important factor towards a more equitable and sustainable use of biodiversity resources. However, this will largely depend on whether or not the initiatives implemented for the sustainable use and conservation of biodiversity make visible their knowledge and experience and promote their social and economic recognition. In other words, assuming the responsibility of building a society that encourages the equitable use of biodiversity (Azofeifa, 2003).

Example 4

USES OF THE BIOLOGICAL DIVERSITY

FOOD

Given the fact that quite often women are practically or fully responsible for their family's livelihood, throughout the centuries women have been accumulating fundamental knowledge and experiences regarding food production and preparation. Even today, a large portion of the population, especially women, in Africa, Latin America and Asia, are engaged in subsistence agriculture. These women are faced on a daily basis with the challenge of securing food, water and fuel, which resources are becoming increasingly depleted, to guarantee the survival of their sons and daughters.

In Colombia, CIAT investigations involving the promotion and adoption of select bean varieties, originally aimed at increasing production and promoting food security in the zone, discovered by sheer chance the critical importance of incorporating the participation of women and their knowledge about food production and consumption.

Although at the beginning no interest was shown about collecting the opinions and preferences of women, initial data evaluation led to the "discovery" that women played a fundamental role in the determination of the bean varieties that would be adopted. Women were responsible for the preparation of the food for the farmhands working on their husbands' land. In places where labor force shortage exists, the quality of the food is a determinant factor to secure and maintain it.

Since women are responsible for food preparation, they have definite criteria about preferred bean varieties, which—as a matter of fact—is quite different from that of the men. While women considered characteristics such as color, taste and swelling at the time of cooking the beans, men preferred the beans that guaranteed the most productivity and profitability and were the easiest to sell.

The women's collaboration was requested in order to determine which varieties would be tested and subject to field tests. The varieties preferred by women were those planted in larger quantities. The low-yield bean variety with no commercial value, identified by the women and least preferred by the farmers, proved to be highly popular (Wiens, 2002).

USES OF THE BIOLOGICAL DIVERSITY

NON-TIMBER FOREST PRODUCTS

One of the facts limiting the understanding about the relations between the people and the resources of the forest, is that societies usually value these ecosystems only as sources of timber and wood pulp for paper production. In the worst case, as spaces that are not being exploited in an efficient manner and that should be devoted to large-scale agriculture and livestock. "In many sectors of our society the idea still prevails that wood and land are the only valuable items found in forests" (Gamez, 1999).

Within the conservationist movement it is not uncommon for the forests to be considered as potential protected areas from which should be expelled the people who dwell there because their survival practices pose a "threat" to biodiversity. These positions usually ignore the characteristics of the women and men who dwell in these forests, including the particular relations they have with the natural resources found there.

The woods and their biodiversity provide goods and services to mankind, such as timber and non-timber resources. Among the timber resources are wood to build houses and make furniture, posts, coal, paper pulp, etc. Among non-timber resources are: construction materials, medicines, food, fuel, fibers and textiles, oils and waxes, ornamental plants, dyes and coloring materials, cosmetics, seasonings and spices, resins, etc. Also included are the environmental services derived from the forest's ecological functions, which contribute to prevent soil erosion and sedimentation, the nutrient cycle, carbon fixation and storage, oxygen production, the quality of air and water, and climate regulation. All of these environmental services generate forest uses through activities like, for instance, the sustainable use of biological resources, biodiversity conservation, ecotourism, water for human consumption and industrial uses, including power generation, etc. In most of the countries in Africa, Asia and Latin America, non-timber forest products play an important role in local as well as export economies. However, they are seldom included in forestry management plans. This is a regrettable situation considering the recognition the various uses of NTFPs enjoy among local populations, particularly women, in addition to the fact that the sustainable use of these resources constitutes an essential strategy in biological biodiversity conservation actions (Azofeifa, 2003).

Example 6

USES OF THE BIOLOGICAL DIVERSITY

CRAFTMANSHIP

Most nations may be identified by their particular handicrafts. These respond to their culture and traditions, and are closely related to the availability of resources throughout the ecosystems they live in. Handicrafts did originally result from the need to make utensils or items for daily and ceremonial use, for example, clothing, adornments, working tools, and musical instruments.

*In the islands of the Solentiname archipelago, in Nicaragua, men as well as women are engaged in figure carving activities using the driftwood tree (*Ochroma* sp) that has very little commercial value as a timber tree. These figures are representative of much of the local marshy fauna (birds, fish, mammals, amphibians and reptiles), are hand carved and painted in a colorful manner, quite often, by the couple (men and women), in their own homes. This activity encouraged the population to undertake reforestation and establish a museum to add to tourism-related attractions, as well as for self-education purposes. Through this process, the communities have learned that based on the extent of the ecosystem's health, tourists will be moved to buy handicrafts representing the biodiversity species they may have seen in the natural environment.*

*In the Santa Barbara Department, in Honduras, only women work with the "hat palm" (*Carludovica palmata*) to make handicrafts. Women have conformed associations and small enterprises to make and market their products at local, national and international levels, through catalogues distributed among potential buyers. In addition to becoming an income-generating activity for community women, this resource has gained wide social recognition throughout the community (Azofeifa, 2003).*

USES OF THE BIOLOGICAL DIVERSITY

PAYMENT FOR ENVIRONMENTAL SERVICES

According to a report issued by the Fondo Nacional de Financiamiento Forestal de Costa Rica (FONAFIFO) (National Fund for Forestry Financing), the funds available for the Environmental Services Payment program (PES), are concentrated on larger size properties. While 25,9% of the projects comprising more than 100 hectares received 72% of the resources between 1996 and 1999, 35,2% of small projects (2 to 19 hectares) obtained only 3,9% of the funds (UNDP-CONARE-Defensoría de los Habitantes, 2001).

An analysis about the women's access to this program concludes that:

- *Women's participation in PES does not even reach 20%, although it increased from 15,57% in 1998 to 19% in 1999.*
- *The limited participation of women in PES is due to several factors, among which should be noted: an unfair distribution of land tenure and ownership, a poor information system, and the lack of policies and strategies to incorporate women into the program.*
- *The constitution and strengthening of mixed and women's groups is an adequate form to gradually incorporate women into the PES.*

Land tenure is the major drawback preventing women from having access to the PES. 69% of intermediate organizations consider this as the major problem, and 55% of potential groups further state that this is the greatest obstacle (Morales and Dávila, 2000).

2. Learning about biodiversity: All people know, all people may learn!

To address the topic involving knowledge about the biodiversity, it is necessary to make reference to two different reasons. One is the ethical and spiritual sense through which it is possible to recognize the fundamental role of biodiversity to sustain life. It entails understanding about the relations between things and the value such dependencies have on the life of people and the quality of their existence. As wisely stated by Chief Seattle, we are bound together in a huge cobweb, what we do at a certain point does not go unnoticed at another.

The knowledge about biodiversity does also involve more technical and practical aspects. Reference is made here to the studies carried out to identify the scientific value of biodiversity, through which it is possible to understand how natural ecosystems work. The loss of fauna and flora species does seriously diminish this possibility, without which, it would be extremely difficult to make a sustainable use of the natural resources and manage artificial ecosystems like agriculture, livestock and forestry plantations (UNAM, 1999).

This process does still have several limitations. Van Dan (2001) states that "the value of biological resources is more dependent upon their genetic information than on physical availability". The information is very valuable, but it should be linked to development processes based on an integral vision.

Upon understanding the need to preserve to the extent that resources are used, the need to know what is being preserved became obvious (Adapted from Gamez, 1999).

We know that the planet's ecosystems have a vast wealth of animal and plant species, but most of these species have not yet been scientifically described and little is known about their ecology. This ignorance bears consequences regarding the understanding about the

wealth of biodiversity, the causes for its degradation, and the ecosystems' most appropriate use and recovery.

It is in this sense that the CBD encourages the signatory countries' commitment to undertake national processes involving the identification of the components of biodiversity, to learn about its state and establish follow-up and monitoring mechanisms.

Loss of
biodiversity

The analysis about the actions that affect biodiversity and their effects on the population, should take into consideration direct threats like deforestation, unsustainable agriculture, wetland drainage or fill up, dissemination of exotic species, urbanization and contamination. These constitute the prevailing social and productive conditions under which biodiversity should be analyzed.

It is also possible to identify the indirect causes of the loss of biodiversity, such as national and international policies, ownership rights, and market influences (PNUMA quoted by Glowka, et. al., 1996). All of the above conditions point to the importance of analyzing the relations of human beings with biodiversity resources within a development model.

It is imperative to consider CBD's emphasis on the need to identify the major components involved in the sustainable utilization of the biological diversity. That is, those components related to the survival of people instead of only those requiring conservation. Thus, the role played by rural communities and indigenous people is critical to the conservation process, given their knowledge about the ecosystem, the accumulated learning about uses and benefits, and the proximity and direct relation established with biodiversity resources. Aware of this reality, the CBD states in articles 8 and 10 its concern about the integration of local communities and indigenous people, as well as the recognition and inclusion of their knowledge and practices.

Biodiversity inventory

In order to identify the activities and processes that could have an effect on the biodiversity, it is necessary to recognize the differentiated relations that people establish with biodiversity. That is, how they use, know about and preserve the natural resources. It is necessary to consider not only carrying out an inventory about the components of the biodiversity of each country, but also to include information about the economic, social and cultural relations upon which are based the links of human beings with the environment.

The lack of information is worsened by the lack of data about the socio-economic aspects of the biological diversity, like for example, information about its economic and social value and the costs for society derived from the loss thereof.

Recognizing knowledge

The accelerated loss of the biological diversity does not only represent a loss of genes, species and ecosystems, but also weakening of the basis of the human cultural diversity that has evolved with it and depends on its existence. To the extent that communities, cultural practices and tongues of indigenous and local populations disappear, a great amount of knowledge that has been accumulated, in some cases for over thousands of years, is also lost.

The program will be largely dependent upon the knowledge and traditional methods of local farmers. No one knows better than them the output of traditional varieties under different soil and rain conditions, nor has more knowledge about the techniques needed for seed selection and safe storage, or greater experience regarding seasonal variations and the corresponding cultivation methods.

This association of farmers and scientists may help preserve such irreplaceable knowledge, or mitigate the pernicious effects of current agricultural practices on the natural ecosystems, and to guarantee the rights of farmers to the access and distribution of benefits (Lusigi, 2002).

Paragraph j of article 8 of the CBD takes up the respect towards indigenous practices and the recuperation of local knowledge, particularly those traditional life styles that promote the biological diversity's conservation and sustainable utilization. It does also promote the application of such experiences through the approval and participation of the bearers of such knowledge, and encourages the equitable distribution of benefits derived from the utilization thereof.

Among the measures required to achieve these objectives are investigation programs that identify and analyze such knowledge and experiences. These programs should further recognize that the knowledge of local groups is influenced by the culturally established gender relations.

Therefore, the knowledge possessed by the women will be linked to the activities they are socially allowed to carry out. They will be developed within spaces recognized as feminine, linked to the reproduction-production scope. However, taking into consideration the fact that these spaces are invisible for most of the development projects and policies, the women's knowledge will also become unknown.

The incorporation of native knowledge is critical to the design of socially healthy projects built upon existing social arrangements, knowledge and skills (Brown and Wyckoff-Baird, 1992).

On the previous paragraph the key uses that women make of the components of biodiversity have been identified. These practices are the result of centuries of knowledge and experience transmission. Such information is essential to make progress in connection with the understanding about the structure and operation of genes, species and ecosystems, as well as to understand the differentiated manner in which men and women relate to the biodiversity.

In the Andes, South America, women play an important role in the conservation and transfer of knowledge about the medicinal properties of local plants. They also play a leading role on the promotion of genetic diversity through their role in the conservation of seeds for local food production.

By excluding the needs, interests and knowledge of women from the processes involving resource improvement and uses, the projects ignore information as well as practices that bear considerable impact on the sustainability of the relation established between human beings and the environment (Wiens, 2002).

Quite possibly, the challenge posed by understanding the relations of gender conditions with the complex nature of biodiversity conservation, may be initially too ambitious. Therefore, it is advisable to begin with analysis processes about the differentiated relations of women and men with specific species and ecosystems. To this effect, information should be generated about these relations, their practical implications and political consequences (Poats, Cuví and Arroyo, 2002).

In order to recover feminine knowledge, it is necessary to develop new data collection practices, sensitize personnel and create opportunities for the integration of results into the proposals or projects to be implemented. Some of these suggestions have been taken up in the examples found at the end of this section, and represent new forms for the integration of women's knowledge from a common practice, such as through cooking recipes, identification of family food diet, market styles, tending of baby animals, etc. Women could also participate in tasks involving bioprospecting and genetic resources identification.

Participatory appraisals from a gender equity perspective

An appraisal is a systematic process undertaken to recognize a given situation and the reason for its existence, where knowledge is built through the differentiated intervention and opinion of the people involved in such situation, although they are not seen as an homogeneous group, but as part of the recognition that both, women and men, have different needs, perceptions and realities according to their gender, age and social condition. That is, the power relations prevailing within the community are disclosed (IUCN-Arias Foundation, 1999).

Yet, the importance of biological diversity is not the same for everyone. It is necessary to recognize the differentiated needs and interests derived from the roles that women and men play in the communities on a daily basis. Thus, it is not possible to transform the relations between men and women, as well as their relations with the biodiversity resources, if we do not first transform the existing perception and recognition about them.

Decision making

The information resulting from biodiversity investigations should be useful for the development of strategies, plans and programs, sectoral and inter sectoral policies, as well as for environmental impact evaluations and negotiation of contracts involving the access to resources, including the distribution of the benefits derived from the resources. Therefore, it is extremely important to have information regarding the people's relations with the components of biodiversity. Otherwise, the national and environmental planning instruments will not take into consideration social and gender equity issues, as a result of which, the possibilities to achieve a positive impact and result on conservation and utilization will be diminished.

The results of biodiversity investigations should be effectively communicated, in order to make sure that the information is readily accessible and usable; that is, to ensure that it constitutes a tool for action rather than as an end. To this effect, the investigations should be conceived as investigation-action processes, designed through the participation of the communities involved as simultaneous training and decision-making processes for action. The process does not end with information availability, as data alone is unable to solve the problem. The development of capabilities to analyze, evaluate and disseminate the information in a useful manner is a basic need of the process.

This analysis constitutes an opportunity to disclose existing inequities between men and women and their relation with the components of biodiversity. It should facilitate and promote the adoption of decisions that contribute to achieve greater equity. These mechanisms enable the empowerment of social groups. If such mechanisms are developed taking into account the gender perspective, democracy will be favored by making available the resources to promote the social and political development of women within local groups.

The history about the Union (IUCN) is similar to the evolution of the conservationist movement, which in the beginning was a system based on sectors where "the people of the species" and "the people of the parks" and "the people of the people" worked separately, even when they pursued similar objectives. We have presently adopted the "ecosystem approach" which addresses the entire nature, including human beings, as an entwined whole. From particle physics to public policy, the new operating paradigm is the connection, since each action carried out has a far-reaching effect (Castaño, 2002).

*Sharing
investigation
results*

Such processes involve social and ecological disciplines, as well as the possibility of a conceptual framework to enable the observation, analysis and understanding of inter-relations. Furthermore, mixed and inter-disciplinary teams are also required, including the participation of local communities in order to incorporate all existing visions and skills.

It is essential to include men and women in training processes involving traditional as well as non-traditional topics. That is, care should be exerted to avoid the reproduction and legitimization of inequality situations that may consider, for example, the "productive aspects of conservation" (agroecology, forestry, etc.), as an exclusively male subject, and the "reproductive aspects of conservation" (water, waste disposal, environmental health, etc.), as an exclusively female subject.

The understanding about the importance of conservation may be easier through the incorporation of a formal and informal education plan into the National Biodiversity Strategies (NBS). This should take into consideration the different values, knowledge and cultural practices of the communities' men and women.

Basic study programs should include a topic on biodiversity and the contribution made by the biological diversity to community welfare. In this sense, consideration should be given to the fact that, in general terms, formal education tends to reproduce inequalities between men and women. For this reason, the differentiated relations of men and women with the biological resources should be highlighted, including the value of their knowledge and experiences, and the need for a more equitable access to the benefits derived from the sustainable utilization and conservation of such resources. It is also essential for study programs to be adapted to the local conditions, including generation of educational materials that recover the above-mentioned values and purposes.

Informal education is a basic strategy for the organizations seeking a different relation between human beings and the environment. The experience accumulated by these organizations may serve to design informal training processes that promote, on an integral basis, more coordinated relations among people and between people and biodiversity.

*Consideration
should always
be given*

To this effect, advantage may be taken of informal education mechanisms such as: cultural and religious practices, oral traditions, technical assistance on agriculture, health or literacy, public campaigns, conservation programs that promote citizen participation, environmental clubs and organizations, field days, exchanges, among others.

When participatory training processes are developed, the following should be taken into consideration:

- Any activity and workshop may entail a learning process.
- All people possess different knowledge in accordance with their individual experiences.
- There is technical knowledge and empirical and historical knowledge.
- The different knowledge and experiences deserve respect.
- People have different interests and concerns depending on their age, ethnic group, economic situation and gender condition.
- Cultural diversity is a contribution to the development process and enhances the proposal.
- Conflict negotiation and resolution venues should be considered.

Consideration to the above premises will help to guide informal education and training processes, by taking into account the different needs and interests of community members. Thus, specific programs may be created by working, for example, together with governmental agencies or the private sector, adults or children, men and women.

In summary, it should be recalled that genetic diversity increases the survival possibilities of a species. By the same token, the consideration to the diversity of knowledge and practices that men and women possess about genes, species and ecosystems, increases the possibility for human beings to understand their structures and functions.

Following are examples of data collection techniques to analyze the differentiated relations of men and women with the biological diversity. Emphasis is placed on the collection of qualitative data which, added to the quantitative data, allows an integral analysis about the current situation of the biological diversity.

KNOWING THE BIOLOGICAL DIVERSITY

DATA TRIANGULATION

The following table shows the methodological design of a participatory investigation undertaken from a gender perspective on the local knowledge about biodiversity, which was conducted within the Flora Tristán organization, in Perú. This investigation was based on a thematic design based on two guiding elements: basic topics and analysis topics. In connection with the investigation, the basic topics constitute the focal point of the objectives' framework (secondary information). This framework includes:

1. **General aspects:** *location, area, political division, population, population density, temperatures, rainfall, protected natural areas.*
2. **Social and economic aspects:** *population, migrations and native population, poverty rates, language, religion, health and education, access roads, services (water, drainage, electricity), existing organizations, gender relations and roles. Work and employment, major economic activities.*
3. **Environmental aspects:** *climate, soils, watersheds, ecosystems, life zones, ecoregions, main flora and fauna species, major environmental and conservation problems affecting the zone's biodiversity, natural resource and food security management.*

The analysis topics are:

- *Cosmovision and vision of the community. Gender roles and relations*
- *Characteristics and situation of the zone's biodiversity*
- *Knowledge about biodiversity differentiated by gender*
- *Biodiversity management and conservation practices (by gender)*
- *Food security and relation with the use of biodiversity*
- *Situation regarding community development*
- *Alternatives for sustainable development from a gender perspective*

Six techniques were applied in the course of the investigation. The first two were: participant observation (PO) and elaboration of reports and previous appraisals (RE). These were directed towards the search for information about the basic topics. The next four techniques were: in-depth interviews to grass-roots groups and key people (II), semi-structured interviews to focus groups (FG), participatory workshops (PW) and symbolic drawings and dramatizations (DD). All of the above techniques were applied in order to achieve results concerning the analysis topics. Due to the fact that, in addition to mutual relations, the investigation also included different analysis topics, the following table about inter-relations was developed:

Inter-relations between analysis topics and participatory techniques

Analysis topics	Techniques to be used					
	Participant observation	Reports and appraisals	In-depth interviews	Focus groups	Participatory workshops	Drawings and dramatizations
Cosmovision and vision about the community. Gender roles and relations			X	X		X
Characteristics and situation of the zone's biodiversity		X	X	X	X	X
Knowledge about biodiversity differentiated by gender	X		X	X		X
Biodiversity management and conservation practices (by gender)	X	X	X	X		
Food security and relation concerning the use of diversity	X		X			
Situation regarding community development	X	X	X	X	X	X
Alternatives for sustainable development from a gender perspective	X		X	X	X	X

Source: Trélez, 2002.

continues...

The first two techniques (participant observation and reports and previous appraisal) were based on previous work carried out in parallel with the participatory actions of the study. That is, observation-related actions carried out by the people in charge, as well as tasks jointly carried out in Lima, Ayacucho and San Martín, involving previous data collection and the organization of existing data. A break down of the topics addressed was made for substantiation purposes, and a determination was made about which matters should be considered according to the needs of the analysis topics.

The next four techniques were applied in participatory processes involving the community. Each technique had several specific application instruments: the data collection cards for the participants and the places involved in the process, as well as a guide to substantiate the activities of the study.

The fact that more than one investigation technique was used to address each analysis topic provided more credibility to the results obtained, since the data and information obtained was verified through various situations and experiences. By working with various community groups it was also possible to make data differentiation and comparisons. In addition, the application of techniques to men and women as well as to mixed groups conformed by men and women who had individually participated in previous processes, allowed verification about prevailing tendencies and attitude changes experienced in accordance with their particular situation at the time of the interview or workshop participation.

The methodology used in the participatory investigation included not only the application of the above-mentioned six techniques, but also their articulation, as a result of which, differentiated responses as well as related and contrasting elements were obtained. As a result thereof, it was possible to recognize different attitudes and opinions within groups of similar or mixed gender, depending on both, their particular situation and the age ranges considered.

Example 2

KNOWING THE BIOLOGICAL DIVERSITY

THE DECISION TREE

The project "Diversidad y Cultura: estrategias campesinas para la seguridad alimentaria y el mercado" (Diversity and Culture: rural strategies involving food and market security), coordinated by the "Centro de Investigación, Educación y Desarrollo (CIED)" (Center for Investigation, Education and Development), in Puno, Perú, intended to contribute to the conservation and dissemination of biodiversity through a participatory plant breeding project based on the knowledge possessed by rural families.

In order to recognize the attitudes of men and women concerning the agro-ecological proposals promoted by the project as alternatives to overcome conventional technology based on agrochemicals, the families of five villages of Paccha, Cajamarca, were interviewed in 1996. They were asked: Which are the positive and negative aspects of agrochemicals and organic fertilizers to improve productivity and increase production? The answers were grouped and presented by gender on the "decision tree". The decision tree is a method that provides information for decision-making purposes as both, qualitative as well as quantitative data, is taken up again.

"Most farmers (62%) prefer to use organic fertilizers as the first choice; however, women account for 58% of the total. The farmers' predominant criteria about the use of organic fertilizers, are based on the fact that the crops based on organic fertilizers achieve greater production and food security. In addition, agricultural inputs entail added savings, as organic fertilizers come from the farmers' own farmyard (that is, decision making makes evident the value of the local culture linked to the notion about technological and economic autonomy). These remarks are closely related to experiences in other latitudes. For example, the findings of Ineke Van Hooff (1990) highlight that: "women are particularly interested in avoiding risks, as they feel primarily responsible for the family's welfare... men are more anxious about focusing on a profitable activity, whereas women are more concerned about lessening potential risks, flexibility and subsistence" (quoted by Claverias, 2003).

continues...

**IN FAVOR OF
ORGANIC FERTILIZERS:**
36 cases

21 *women*

15 *men*

1

Improves the soil

2

3

Improves soil
color

1

3

Greater soil
humidity

2

5

Greater crop
security as a result
of a freeze

2

4

More floury potato
but low sales

3

5

Have manure in the
backyards and is
cheaper

2

2

Compost is made
and sold

3

**IN FAVOR OF
AGROCHEMICALS:**
22 cases

7 *women*

15 *men*

1

Greater production

2

2

Bigger potatoes

4

1

Less worms

2

2

More products
for sale

3

2

Greater savings for
seed purchasing

4

Example 3

KNOWING THE BIOLOGICAL DIVERSITY

BIOPROSPECTION

Bioprospection consists on the collection, classification and use of plant and animal species or by-products thereof. The role of bioprospection is the identification and tracing of possible biological clues, contributing to the detailed description of the natural history of the organisms collected, and adding key information to databases. "Prospectable" specimen collected by paratonomists—samples that neither cause destruction nor promote genetic erosion—and ensure the possibility of future supply without causing any damages.

Staff hiring and training to carry out parataxonomy work is a great opportunity to promote gender equity. On the one hand, it allows taking advantage of and recognizing the knowledge and experience accumulated by men and women over hundreds of years. And on the other hand, it could become a source of non-traditional work for women.

There are some research centers like the Instituto de Biodiversidad de Costa Rica (INBio) (National Biodiversity Institute of Costa Rica), that carry out processes to identify and select women and men from rural communities located near protected areas, where taxonomic collection and pre-classification takes place.

"A few years ago she was a full-time housewife and her life evolved between household chores and child caring. By mere chance, one day a friend talked to her about the INBio that had just been established and needed to train personnel on taxonomy... One winter morning, wearing huge rubber boots, Gladis went deep into the forest of the Tenorio Volcano: The soil she was walking on between steep hills and gorges, was home to the jaguar, the tapir and the wild boar, but the love for her work was far more powerful than the potential danger and risks involved. And it paid off; little did Gladis know that her name would earn a place in natural science (referring to the nemoria gladysae, geometridad family)" (Dávila, 2001).

KNOWING THE BIOLOGICAL DIVERSITY

ENVIRONMENTAL IMPACT EVALUATION

The environmental impact evaluations that include investigations about social impacts, are a useful instrument to determine the influence of human activities on the environment and the life systems of women and men. The CBD stipulates the use of techniques such as the environmental impact evaluation (article 14). Environmental impact evaluations (EIE) are a procedure utilized to identify the environmental effects of a proposed project as well as to plan appropriate measures to reduce or eliminate adverse effects. The environment is considered in the broadest sense, including the effects on the health of men and women, on the property and local communities, as well as on society as a whole (Glowka, et. al., 1996).

According to Acuña (2002), environmental impact evaluations (EIE) are among the most important instruments to provide data for decision-making purposes. Such evaluations help to accept, modify or reject a project or activity. To this effect, it is extremely important to strengthen the evaluation about the environmental and socio-economic situation. In order to guarantee that the EIE contributes in an effective and adequate manner to the strategies implemented for natural resource conservation, it should be clearly understood that environment refers not only to the natural dimension of the environment. Efforts should be made from this perspective towards the integral understanding about the environment, which, ultimately, is the result of the interaction of all human beings, men and women, with the resources of the biodiversity, within a given cultural and historical context.

As social impacts are considered any alterations that interfere with the health and welfare of the men and women of the communities located within the area of influence, including traditional life systems, social, economic, productive and reproductive activities, and the biodiversity; as well as the aesthetic and sanitary conditions of the environment, socio-cultural practices (identities, customs and ancestral practices), and the local structure and operation of the communities located within the project's area of influence (Acuña, 2002). The CBD highlights the importance of public participation in the procedures established for the EIE. Such participation entails the representative nature of the various sectors, such as the government, the private sector, and non-governmental organizations, as well as the participation of all people involved, like the men and women of a community. In this manner it will be possible "to collect their knowledge, experiences, needs and interests linked to the situation under evaluation.

Example 5

KNOWING THE BIOLOGICAL DIVERSITY

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ETHNOBOTANY INVESTIGATION IN LOCAL MARKETS

Around the world, wild plants provide a "green social security" for hundreds of millions of people. This is revealed, for instance, in the form of low-cost construction materials, fuel, food supplements, medicinal plants, baskets for storage or as a handcraft income-generating source. Usually, wild plant gathering is part of a "hidden economy" that goes unnoticed by outside agents.

In order to define the objectives and methods applied by an investigation on these resources, consideration should first be given to the local population that makes use of and administers such resources. The process should consider the following:

- *Who are the users of the resources, men, women, girls or boys? Are they knowledgeable about plant uses, such as herb specialists, midwives, or basket weavers?*
- *Which is their socio-economic situation and formal education level?*
- *What is the purpose of the crop; is it intended for subsistence, commercialization, or a combination thereof?*
- *Which resource species or categories (wood for fuel, straw for thatched roofs) are used the most or less valued (culturally, nutritionally and economically)?*
- *How, where and when does harvesting take place (for example, the season and types of vegetation, and what type of skills and technology are required for this task)?*
- *Are local communities (rich vs. poor), national or international authorities, concerned about overexploitation and the increasing shortage of resources?*
- *What consequences does harvesting have on plant populations and which species are most vulnerable to overexploitation?*
- *In the case of multiple use species, which effects does harvesting of one species have on the availability of other natural products?*

continues...

Local markets: order within "chaos"

To have an adequate perspective about the markets, these should first be considered from the point of view of either an economist or an anthropologist, and then as a botanic specialist. In order to understand the market networks as systems, one should move away from exotic and noisy environments and work from a regional perspective to the subtlest levels of retail sales, within smaller scales of space and time.

Ethnobotany investigation methods at market levels:

- *The markets are located in predictable places within the landscape of a community. They may be located at the stops found along major river and road transportation routes, villages and predictable places within urban areas (bus stops, taxicab depots).*
- *Within local markets, vendors are distributed according to the type of products sold. Their location within the markets and type of products sold are also indicators of their socio-economic standing.*
- *Market times vary depending on population size, product availability according to the season or daily activity. Therefore, specialists should be aware of the flaws inherent to investigations involving short periods of time.*
- *Careful consideration should be given to the units that will be used in the monitoring process and the products that will be used in more comprehensive investigations. The investigation instruments should consider the levels of literacy of the people who will participate in the monitoring process.*
- *Where do the plant products sold at the market come from? It is possible that certain products as well as vendors may come from distant places.*
- *Is species substitution taking place? Why? Quite often, species substitution is an indicator of shortage. In South Africa, for instance, the Zulu women that collect medicinal plants have a hard time finding the bark of a certain tree, as a result of which, herb vendors have substituted this specific bark with the bark from two trees of the same family that have a similar scent but are sold under the name of the product (*Ocotea Bullata*) that was originally collected by the women.*

Despite the complexity of the Iquitos market in the Peruvian Amazonia, Christine Padoch was able to specialize on species like the aguaje palm (Mauritia Flexusa) and identify the marketplaces for such fruit, where they were sold in 50 Kg. bags. This allowed her to quantify over 700 metric tons of aguaje palm fruit sold each day in Iquitos and estimate that about five thousand people, women mostly, depended on the sale of this fruit as their main income source.

The records about product price variations within a single season kept over long periods of time can also tell a story. In many instances, price increases are a sign of product shortage and crop overexploitation (Cunningham, 2001).

KNOWING THE BIOLOGICAL DIVERSITY

COOKING AND PLANT BIODIVERSITY

In the Andes, the birthplace of potato diversity, investigations have shown that agronomic conditions account for only a small percentage of the variation found in crop diversity (Zimmer, 1991). Maintenance of the different groups of potato and corn species corresponds to different cooking requirements, e.g., production survival to freezes, soup preparation and boiling point.

In Tuscan, Italy, women use more than 50 species of wild plants to make traditional soups (Pieroni, 1999). However, it is quite possible that when young Italian women join the labor force and spend less time in the kitchen, the knowledge that these women possess about wild plant resources may be completely lost.

In Swaziland, South Africa, the pressure on the women's time as they become increasingly dependent on remunerated work, constitutes a major factor accounting for giving up of basic secondary grains and indigenous vegetables in favor of refined wheat products and exotic vegetables (Malaza, 2003).

On the other hand, in the urban areas of Quintana Roo, Mexico, immigrant Mayan women struggle to preserve their culture and biodiversity by transplanting a considerable number of plant varieties from their native Yucatan home to the gardens of their new homes, mainly for the purpose of preserving their Mayan cooking traditions. In this way, while maintaining elements inherent to their ethnic identity, the Mayan women preserve and disseminate the genetic diversity of plants (Greenberg, 2003.)

3. Biodiversity protection: an opportunity for equity

Article 8 of the CBD points out different actions to promote in-situ conservation of biological diversity, such as the constitution of protected area systems, ecosystem protection, keeping populations in natural environments, rehabilitation and restoration of degraded ecosystems.

By in-situ conditions is understood the conditions where genetic resources exist within natural ecosystems and habitats, and in the case of adapted or cultivated species, within the environments where these may have developed their specific characteristics (CBD).

Regardless of the various categories and forms of the protected areas and other forms of ecosystem conservation, these spaces cannot alone guarantee the conservation of biological diversity and its evolutionary process. From an integral perspective, it is necessary to consider conservation actions ex-situ, in order to achieve an adequate balance between the conservation measures conceived inside and outside of the protected areas, on public as well as private lands.

By ex-situ conservation is understood the conservation of biological diversity components outside of their natural habitats (CBD).

The areas under a certain protection category, particularly those intended for conservation purposes, are exceptionally good spaces to undertake the protection of existing ecosystems. Regardless of the area or ecosystem housed, its representation contributes to the conservation of biodiversity. The countries require a combination of protected areas administered based on different objectives. Also needed is a combination of both, large and small areas: a few large areas are easier to protect and have greater biological integrity, although many smaller areas may, frequently, house a large number of species and ecosystems.

Ecological corridors

Consideration should also be given to ecological corridors as inter-connectivity means between the protected areas, since these allow the incorporation of conservation proposals in-situ within the development programs for a certain zone or ecoregion.

The socio-economic problems of a region may be determinant factors for the existence of a protected wildlife area. In other words, the future of a protected area may be more dependent upon what takes place outside than within it (Gamez, 1999).

In adjacent areas, buffer zones, and ecological corridors of the protected areas, it is extremely important to promote and support activities involving the sustainable use of the biological diversity resources, especially in connection with the communities which survival depends on such resources. Such actions should be taken into consideration in planning and decision-making processes; sustainable utilization and conservation are "two sides of the same coin".

Because of the dynamic nature of the ecosystems, the selection about which point in time will be considered as 'natural', is also arbitrary. Furthermore, practically all of the ecosystems of the world have been altered by human beings in either a positive or negative manner (Glowka, et. al., 1996).

Equally important is to recognize other conservation areas in addition to those already determined and administered by the government, the communities or other organizations. There are many cultures whose traditions have allowed them to establish ritual-related spaces, indigenous protection zones, such as, for example, the ownership of black territories in Colombia, and sacred forests in India and Africa.

Maintaining of such traditions may constitute a great contribution towards the conservation of the biological diversity while guaranteeing management actions where most needed: at local levels, as stated in article 10 of the CBD.

Conservation excluding people

It is not possible to conceive conservation based on protection alone. The conservationist movement as well as development planning specialists are increasingly acknowledging the fact that the long-term success of biological diversity conservation is largely dependent upon the extent to which local communities perceive such actions as something beneficial to their economic and cultural interests (Brown and Wyckoff-Baird, 1992).

The African nations have created around two million square kilometers of protected areas, an area four times larger than Spain. While these protected areas are essential to the conservation of the biological diversity of Africa, they have frequently entailed a high social and economic cost (Msimang, 2002).

It is in this context that the gender equity perspective enhances community analysis and work in connection with protected areas, as it provides a number of concepts and techniques that allow visibilization of the wide diversity and complexity of the social link. As proposed by Mary H. Rojas (1999), biodiversity conservation depends on the incorporation of the population, of the entire community, including women and

men, whose interests and perspectives concerning natural resources may be considerably different. Nevertheless, quite often women are misrepresented or not represented at all within local institutions and decision-making venues.

Among the most important instruments involving environmental management actions in protected areas, is the Management Plan or Program, through which it is possible to undertake a planning exercise to identify conservation actions to be taken in the area. The book **"In search of the lost gender. Equity in protected areas"** (Aguilar, et. al., 2002), addresses the integration of the gender equity perspective into the selection of the legal framework, the appraisal of the zone, the management plan, the administration and the monitoring and evaluation system.

Management plan from a gender perspective

In order to ensure the plurality and inclusiveness of the management plan, including the participation of all focus groups, mechanisms and techniques should be designed to allow working with the entire population as well as to ensure meeting the socio-environmental profile of the zone.

Steps involved in the elaboration of a management plan

1. *Meeting notices*
2. *Appraisal analysis*
3. *Elaboration of the objectives*
4. *Zoning*
5. *Conceptual framework and guidelines*
6. *Definition of the programs and subprograms*
7. *Definition of the timetable and resources (Aguilar, et. al., 2002).*

At the time the plan's development process is initiated, due consideration should be given to the fact that the various participation forms will be determined by different factors: size of the protected area, management category, spatial distribution, socio-cultural diversity, etc. There are some communities where socio-cultural factors limit women's participation, in which case, mechanisms based on community traditions should be created to promote greater equity in connection with community participation. Equally important is showing respect towards ethnic and religious diversity as well as the particular participation mechanisms determined by such diversity.

The following aspects should be taken into consideration within the process involving both, notices and meetings related to the preparation and elaboration of the Management Plan:

*Notices
should take
into
consideration*

- The productive schedule (agriculture, fishing, harvesting), the reproductive activities (meal times, children's chores, laundry washing) and community celebrations.
- Family relations, clan relations, among others, that sometimes are constituted into invisible forms of organization.
- The capability of local groups to call to meetings based on adequate representation, by gender and age.

Appraisal of a protected area

Upon completion of the area's appraisal, the facilitating team and the community should make a joint data analysis based on gender relations, especially with regard to the access, use and control of resources, the distribution of costs and benefits and decisions made about existing resources.

The objectives of the Management Plan are determined in accordance with the site's specific conditions, based on the overall result expected for the area (general objective), as well as specific goals to be achieved (specific objectives). A clear and realistic identification of which elements of change are expected to be achieved should be made at this point of the Management Plan elaboration. It is advisable to define objectives that either address gender gaps or mainstream gender equity throughout sustainable development and conservation objectives.

The objectives should consider

- Identification of conditions aiming at women's empowerment in connection with the access and control of resources and the equitable distribution of benefits.
- Working towards decreasing the levels of poverty of women and men, and identifying income-generating and ecologically viable productive alternatives for both.
- Promotion of women's organization and involvement in decision-making venues, thus contributing to power democratization within the conservation actions undertaken in the protected area.

The following step involves zonation, in order to identify the objectives established for each section of the protected area and feasible uses. Zonation may be conformed by a legal document or any other type of document; what really matters is to make sure that the document reaches everyone involved in the area. The following should be taken into account in order to incorporate the gender equity perspective:

Zonation

- At the time when the uses of the forest, lands and other resources, are determined, particular consideration should be given to the uses made by women. The women should be included in the quotas assigned for the use of firewood and medicinal herb collection, as well as material gathering for handcraft manufacturing purposes, among others.
- Women and men should be both, informed about potential sanctions and included in surveillance and supervision tasks.
- In cases where zonation may imply population displacement, indemnification payments, or selection of new productive alternatives, the women's standing and opinions should be taken into consideration within the decision-making processes.
- Gender representation should exist at the level of negotiation or conflict resolution venues.

Conceptual framework

Management plans are based on a development and conservation concept that guides the proposed actions. These guiding principles should incorporate sustainability, social and gender equity, as well as local participation and empowerment. This principle will facilitate process follow up and monitoring, while providing communities with the tools needed to play a more responsible and leading role.

Programs and subprograms

The final step involves the implementation of the ideas, that is, putting into operation the Management Plan through broad courses of action, programs and subprograms based on dates, resources and people responsible. These should include a description about the entire organizational system where technical, methodological, administrative and operating elements are fully incorporated, including the environmental management conditions needed in the protected area. Consideration should be given to:

- Mainstreaming of the gender approach throughout all of the planned actions, including gender sensitization of responsible personnel.
- Allocation of human, technical and financial resources for equity promotion purposes.
- Utilization of gender sensitive participatory methodologies, as well as systems allowing the collection of data disaggregated by sex and including gender indicators in the monitoring system.
- Technologies, schedules, meeting sites and information dissemination means should be convenient and appropriate for women.

The conservation work carried out in a protected area does also entail an opportunity to improve the population's quality of life. Thus, the incorporation of the gender equity approach makes a positive contribution to the impact of the process.

The decision-makers' agenda should be based on the powerful and irrefutable truth that: fragile ecosystems will be threatened to the extent that women remain poor. It will not be possible to achieve a sustainable development unless meaningful improvements are made to the situation of women; that is, unless the development of men and women is designed on the basis of gender equality (Espinosa, 2002).

Examples

Following are several examples involving biodiversity resource protection from a gender equity perspective. The first example may be used to carry out the participatory appraisal of a protected area, and the second and third instruments are specific examples where the knowledge and recognition of people, including women and men, allowed making a zonation distribution that was more appropriate to the needs of the ecosystems and populations.

Example 1

PROTECTING THE BIOLOGICAL DIVERSITY

ANALYSIS ABOUT RESOURCE USES

Upon obtaining data on the use of the biodiversity resources of a specific zone, the following matrix will be useful in connection with the presentation, discussion and understanding about the situation. Dissemination of this information will allow the population to become more actively involved in the decisions made about the protected area. The importance of such matrixes lies on the fact that they allow comparisons between environmental, social and economic data.

RESOURCE: MANGROVES

Resource present?	Condition? ¹	Who are present?	Gender social relations ²		Management implications
			Women	Men	
250 Ha. of mangroves	<p>Average mangrove height ranges between 4,5 m. and 13, 2 m., averaging 8 m.</p> <p>Density ranges between 600 and 3.800 trees per Ha.</p> <p>50% of the area has been lost over the past 10 years.</p> <p>Considerable negative effects associated to water pollution due to agrochemicals used in melon production in the area.</p> <p>It is basically conformed by rihizophora mangrove.</p> <p>Presence of mollusk schools at the mouth of the estuary.</p> <p>Mollusk overexploitation, entailing a considerable loss of genetic material.</p> <p>Mollusk extraction size does not meet minimum commercialization standards.</p>	<p>Coal cooperative</p> <p>Independent woodmen</p> <p>Group of mollusk extracting women</p> <p>Women who extract firewood</p>	<p>Women have limited access to firewood extraction from the mangrove; there are no concessions in women's hands.</p> <p>Women together with boys and girls are responsible for mollusk extraction.</p> <p>Middlemen buy 100% of all mollusk available, paying only US\$0.50 per kilo.</p>	<p>Have the concessions involving firewood extraction.</p> <p>Are involved in estuary fishing.</p> <p>Are responsible for wood and coal sales.</p>	

¹ Biological characteristics, state or condition of the resources, inventories, ecological relations.

² It refers to the access, use and control of resources and the equitable distribution of costs and benefits thereof.

Example 2

PROTECTING THE BIOLOGICAL DIVERSITY

PARTICIPATORY MAPPING

The objective of the Fundação Vitória Amazônica (FVA) was to implement the Management Plan for the Jau National Park, in Brazil, from a participatory and gender equity perspective, based on the co-management agreement signed with the Instituto Brasileiro del Medio Ambiente y de los Recursos Naturales Renovables (IBAMA) (Brazilian Institute of Environment and Renewable Natural Resources).

The Jau National Park is located on the Northeastern zone of the Amazonia and comprises an extension of approximately 2.000.000 hectares, which fact, alone, posed a major challenge in connection with the elaboration of the Management Plan for the Protected Area: "It took us five years to carry out the management plan, which period of time also involved a reciprocal learning process" stated Regina Oliveira, FVA's former socio-environmental coordinator.

"As of the year 1992, all activities were implemented based on a gender equity approach involving all of the populations that dwelled in the park", stated Carlos Durigan, FVA's executive secretary. The work undertaken at that time in Brazil was of a pioneering nature, as this was the first experience involving the implementation of a management plan from a gender equity perspective."

Oliveira further explained that a socio-environmental base survey was conducted when the work first began at Jau. "We were interested in learning about how people lived, who they were, and how were the resources used. We carried out a test survey and found out that it was easier to ask questions differentiated by gender"—she stated. The specialist explained that the same questions could not be asked to men and women alike, due to the fact that each group made use of, gained access to, and controlled the natural resources in a different manner. For instance, during the survey men did not talk about hunting for fear of retaliation, as at the park's entrance there was a sign indicating that "wild game hunting is strictly forbidden".

However, when the women were involved, the team was able to calculate the consumption of animals hunted down. Through lists and drawings about some of the species in the park, they asked questions such as: "when was the last time that you cooked this animal?" Since the women were responsible for food preparation in the household, the information they provided was far more accurate than the information provided by men.

continues...

Through this methodology it was possible to accurately determine the type and number of animals consumed by the families.

The Management Plan

Oliveira concurred with Durigan that from the very beginning the process involving the elaboration of the management plan entailed a clear gender approach, seeking the empowerment of people, promoting equity between women and men, as well as showing respect for their knowledge. "Time was spent finding out how both, women and men, understood conservation issues", stated Oliveira.

According to this investigator, the men in the park understood conservation from an economic point of view, whereas women considered it from a subsistence perspective. "If they were told - we are going to implement conservation practices on this beach but will exclude the access to eggs hatched - men thought that next year they would have more eggs to sell; to the women this meant more food for their children" - she explained.

The Management Plan was implemented in various stages. The first stage involved identification of the area's biotic and anthropic aspects. Several scientific investigations were conducted and presented to and discussed with the communities.

Subsequently, came a phase involving socialization with park dwellers in connection with community organization and participation in the elaboration of the Management Plan. Some investigators lived in the area for two years. During this stage, natural resource uses were mapped. "During the mapping process we realized that women were better informed about the location of the resources and how they were obtained; but the commercialization or financial issues pertained to the realm of men", stated Oliveira.

Finally came the stage involving the elaboration of the Management Plan. This phase contemplated two zoning proposals, one based on a technical and scientific approach, and the other proposed by park dwellers. Both proposals were grouped, and the Management Plan for the Jau National Park was elaborated in collaboration with park dwellers. Park dwellers participated on a steady basis, even at the time of submission and signing of the Management Plan in Brazilia, which event was attended by community representatives. The Plan was submitted to and approved by IBAMA in 1997.

According to biologist Durigan, commercialization of the park's resources has stopped; the communities are working towards the conformation of a consultative board, and are pursuing the search for more sustainable uses of natural resources. They have, furthermore, grown stronger and have been able to get local and federal government attention in order to meet their own needs regarding health care and education.

The experience developed by FVA is yet another example of the fact that natural resource conservation in protected areas can only be achieved through the active involvement of the men and women who dwell there, who are the strongest and most faithful allies in promoting biodiversity conservation from a gender equity perspective (Siles, 2003).

PROTECTING THE BIOLOGICAL DIVERSITY

LAND USES

The case involving the use of flooding zones or varzea, on the lower forest, helps us to analyze the intervention of economic and political dimensions of the access to environmental elements differentiated by gender. In Peru, the Amazonian varzea is inhabited by natives of the lower forest. Their physiographic setting is conformed by three broad zones: barrial (bog), playa (beach) and restinga (sandbar). Given the productivity, public and credit policies have favored the use of natural space, as a result of which, a clear differentiation process about the access and control of these lands has taken place, as seen on the following graphic that represents a transect of a flood zone of the Ucayali river basin-Puinahua Waterway (area of the Pacaya-Samiria National Reserve).

The most productive zones or bogs, near the beaches given to flooding during several months (flood periods), are used for agricultural purposes during running off periods. Access is subject to compliance with several pre-requirements, such as: a special permit granted by the Ministry of Agriculture to the "household head"; the power and alliance systems within the community, mostly managed by "household heads"; and agricultural credit (state managed before, informal now) oriented towards crops enjoying high market demand, like rice. Such conditions restrict, and even cancel out, the possibilities whereby women would have access to and control of the most productive and usable areas within the Amazonian varzea.

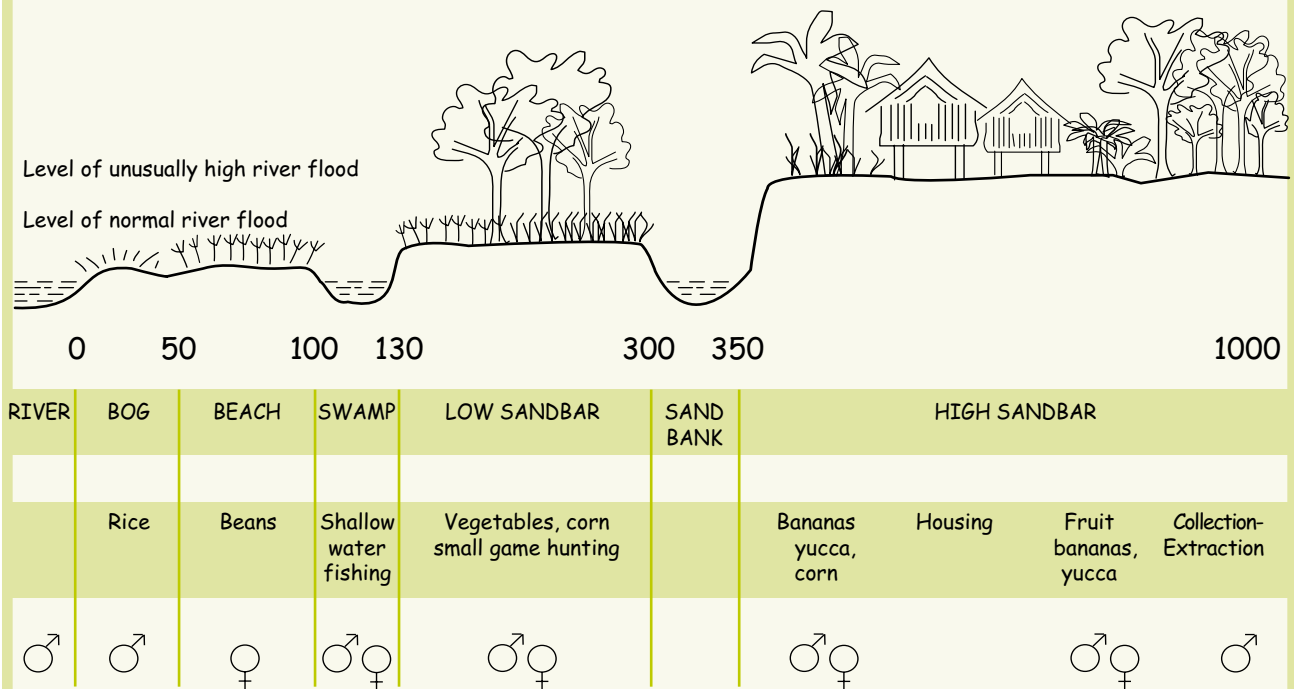
The beaches are sand deposits far less productive than the bogs, and are devoted to bean ("caupí") and watermelon crops, under the responsibility of women and children. This production is for household consumption. Women sell a rather small percentage at the marketplace when it is located nearby, as beans have very little monetary value. In both biotopes or areas, production is seasonal, determined by the dynamics of the rivers.

Sandbar lands (lands elevated in the form of "ridges") are subject to annual floods if they are low or a few meters above river level. If they are high, sandbar lands get part of the nutrients carried by the rivers during exceptionally high rise periods. They are more productive than the highlands, but far less than bog lands. These lands are located within zones geologists call "complex riverbank systems", that are extremely vulnerable given their flooding possibilities, and very unstable due to the continuous course changes experienced by the rivers.

This is the space assigned to the village or place of residence of riverbank populations; a space for every day activities and family and social reproduction. It is the space under female control devoted to agricultural activities (vegetable gardens, yucca, bananas), and breeding of small species for household consumption.

Therefore, as far as the differentiated access and control of ecosystems subject to floods is concerned, a high correlation exists between the quality of the soil, the orientation of the crop portfolio based on commercial value and market demand, and credit orientation, emphasizing the existing gap between public and private, and the worthiness of the female space vs. the male controlled space, which control strengthens male power at both, public and private levels (Rodriguez, u.d.).

Control of space and differentiated use by gender in flood ecosystems (Complex riverbank system)



Prepared by: Martha Rodriguez
Workshop: "Natural Resource Management from a Gender Perspective"

4. Distribution of biodiversity benefits from a gender equity perspective

Equity is a fundamental issue in biological diversity conservation. The CBD calls for building new relations between nations, communities, enterprises and different human groups as well as with the natural resources. It does, therefore, refer to the need of building new relations based on co-responsibility, justice and equity. However, not all people and specialists involved in biological diversity conservation and management processes consider the inclusion of equity as a major component of the actions implemented.

The CBD as well as the corresponding global follow-up process through the Conferences of the Parties, known as COP, stresses the importance of gender equity in connection with the use and distribution of genetic resources. Thus, most of the gender-related documents related to the Convention or the Conferences of the Parties (COP), make reference to the possibility that local groups, especially indigenous communities and people, should make use of the benefits derived from genetic resources.

This book aims at considering the equity concept not only as a social relation between the groups, but within the groups as well, that is, in the relations developed between women and men. It does additionally imply that the search for equity also entails gender inequalities.

Gender equity mainstreaming should be promoted throughout the arguments and proposals of the CBD, including the follow-up mechanisms, actions and processes. Equity should be considered in the access and distribution of benefits, beyond the subject of genetic resources, through the incorporation of the gender perspective throughout any biodiversity conservation management actions undertaken. Thereby, the inclusion throughout the sections of this book of an analysis involving the use, knowledge and protection of biological diversity resources from a gender equity perspective.

Gender in the CBD

Although gender is not explicitly mentioned in the CBD, the inclusive nature of the Millennium Development Goals, is imminent (Balakrishna, 2003).

Several core ideas stem from the CBD proposals (Preamble, paragraph 12):

- The close and traditional dependence of many local communities and indigenous people on traditional life systems based on biological resources.

Gender
equity
mainstreaming

Indigenous
communities

- The advisability of the equitable distribution of benefits derived from the utilization of traditional knowledge.
- Pertinent innovations and practices linked to the conservation of the biological diversity and the sustainable utilization of its components.

The above-mentioned paragraph constitutes the basis for articles 8(j) and 10(c) of the Convention that recognize the role that indigenous people and local communities play on the conservation of biological diversity, as well as the importance of safeguarding their knowledge and practices in connection with the conservation and the sustainable utilization of biodiversity components. It does, furthermore, establish the need to promote the equitable distribution of the benefits derived from the use of their knowledge and innovations.

Although modern society has greatly benefited from traditional knowledge, the benefits returned to the communities have been very scarce. Examples include plants for medicinal use, selection of seed varieties for fiber uses, food, construction, management techniques, including resource management practices involving agroforestry and fishing.

Weaknesses

Without failing to recognize the worthiness of the knowledge possessed by local communities and indigenous people, in addition to the importance of an equitable distribution of benefits, the article lacks firmness. It uses the term 'to the extent possible', which releases nations from what should be an unquestionable duty; that is, it leaves open the possibility concerning compliance or non compliance with this commitment, without making it mandatory for the parties involved. On the other hand, it relegates to national legislation the responsibility of respecting, preserving, and keeping this knowledge and promoting the equitable distribution of benefits. Therefore, in the absence of national legislation mandating the implementation of this article, it merely becomes a handful of well-intended words, without any possible application (Aguilar, 2001).

Nevertheless, several challenges still remain in connection with the principles involving access, recognition and appreciation of the knowledge possessed by local communities and indigenous populations regarding biodiversity conservation as a whole, and the equitable distribution of benefits in particular. Many legal and procedural gaps exist. This subject has been widely addressed by the Conferences of the Parties, especially the COP V, held in Kenya in the year 2000, and the COP VI, held in the Netherlands in 2002.

Bonn guidelines on access to genetic resources and fair and equitable distribution of the benefits derived from their utilization

The purpose of these guidelines is to assist in the implementation of political and legislative actions involving the access and distribution of benefits and/or when contractual obligations are negotiated regarding the access and benefits of resources. A training program has also been implemented to make sure that the developing countries are able to effectively implement these guidelines and the corresponding provisions of the CBD.

The guidelines identify the stages involved in the process concerning the access and distribution of benefits, stressing the users' obligation to seek the consent of adequately informed suppliers. The guidelines likewise identify the basic requirements for the terms and conditions of the agreements, and define the responsibilities of both, users and suppliers, and highlight the importance of the participation of focus groups. The guidelines address other elements such as incentives, responsibility, verification methods and land rights.

In spite of the non-binding nature of the guidelines, these were adopted by 180 countries and strengthened by the World Conference on Sustainable Development, held in Johannesburg, in the year 2002 (Zedan, 2002).

The VI Conference of the Parties (COP VI) held within the World Conference on Sustainable Development, held in Johannesburg, made significant progress in many areas, among which it is worth mentioning:

- the access and distribution of benefits;
- forestry diversity; and
- invasive species.

Through the adoption of the Bonn guidelines on the equitable and fair access and distribution of benefits derived from the utilization of genetic resources, it will be possible to assist governments to develop strategies and implement procedures and measures at the level of both, the country that supplies as well as the country that benefits from such resources. Consideration was also given to related topics such as technology transfer and traditional knowledge protection (CBD News, 2002).

These guidelines should be voluntary, easy to use, practical, easily acceptable, and complementary, in addition to having an evolutionary, flexible and clear approach (Zedan, 2002).

**Women's
participation
in indigenous
communities**

It is important to include gender equity in these construction and definition processes as part of the integral equity concept, in order to assure a democratic and equitable access to biodiversity resources. If the CBD recognizes and promotes the protection of the economic and cultural uses that indigenous and local communities make of the biological

resources, we must necessarily integrate women as well as men into the process.

The participation of women in representative venues and organizations of the social sectors does also entail challenges in connection with the gender equity promotion process. Indigenous groups and populations are not an exception. There are many instances where mixed groups exclude women from their boards of directors or decision-making venues.

Local organizations should undertake an internal democratization process, by sex and age, in order to offset unequal gender conditions.

By reducing the participation of women in the decision-making venues, the local groups ignore the potential contribution women could actually make regarding the utilization of resources, the development of conservation practices, and the accumulation of important knowledge and experience about genetic diversity.

Through the equitable participation of women in local organizations, the following would be achieved:

- A more democratic and representative organization.
- Recuperation of the global knowledge about resources.
- Greater impact on the proposed objectives.
- Moving forward towards individual as well as collective development and empowerment.

Within the process to develop strategies seeking the access and sustainable and equitable distribution of benefits, it is necessary to support the creation of a global framework to provide global guidelines in order to assist ongoing negotiations between countries and exert influence over other ongoing negotiations.

*Strategies
involving the
equitable
distribution of
benefits*

Following are a few gender equity ideas that might be considered in the above-mentioned strategies:

- Creation of legislation that recognizes traditional communities and the equitable distribution of benefits by gender.
- Approval of special legislation allowing traditional communities to protect their knowledge.
- Strengthening of social communication mechanisms within communities and societies.
- Public awareness about the significant value of the ancestral knowledge possessed by women and men about biological diversity resources.
- Joint creation together with professional associations of ethical codes applicable to the collection and dissemination of such knowledge.
- Development of skills among the women and men of traditional communities to negotiate agreements involving the equitable distribution of benefits.
- Joining efforts with NGOs and local organizations, including the organizations involved in gender equity activities, in order to identify potential and direct community benefits.
- Supporting processes whereby communities will be able to verify governmental actions involving environmental and social issues.
- Supporting social, political and environmental advocacy processes.
- Facilitation of a process undertaken by women to recover, make visible and appropriate the women's own knowledge.
- Promotion of participatory processes encouraging the discussion and analysis of negotiation processes from a gender equity perspective.
- Ensuring that any of these or other mechanisms conceived or implemented, guarantee the visibilization of women-related knowledge, practices and innovations, including their equitable participation in decisions made about their use and the benefits derived thereof.
- Promote the distribution of responsibilities to guarantee family survival.
- Undertaking actions and programs that translate into concrete income generation, like, for instance, addressing the food security problem and diminishing of risks (social and environmental vulnerability).

- Identification of mechanisms to promote the concrete application of the guidelines approved at the 2002 VI Conference of the Parties.
- Search for legally binding instruments towards the distribution of benefits in accordance with the CBD agreements reached in Johannesburg.

There are some countries that could take advantage of the compliance with CBD provisions in order to promote the creation of policies and legislation to safeguard the human rights of men and women as well as indigenous and local communities. This is a great opportunity to promote equity between the men and women of the communities, given the fact that, while recognizing their knowledge about biological resources, efforts could be made to promote a more equitable access to their utilization and benefits, including the decisions made about them.

We can no longer continue considering the promotion and protection of human rights, as well as environmental protection and security as separate objectives. There are countless examples around the world where environmental degradation has directly or indirectly led to the infringement of the rights involving life and health (Robinson, 2002).

Although the recognition of the role that women play in the use and conservation of the resources constitutes a significant progress towards raising awareness about the contribution to the survival of their families and the ecosystems, a long way still remains for the equitable distribution between men and women of the use and conservation of the resources constitutes a significant progress towards raising awareness about the contribution to the survival of their families and the ecosystems, a long way still remains for the equitable distribution between men and women of the benefits derived thereof. And even wider is the gap that exists regarding the equitable distribution of responsibilities related to the sustainable utilization and conservation between the people, men and women, conforming the families and communities.

The lack of equity at the time that the costs and benefits of environmental resources are distributed, will lead to conflicts between individuals, communities, as well as between men and women (Santon, 2002).

Following are two examples of benefit distribution in activities considered as socially sustainable, where women have different levels of participation.

EQUITABLE DISTRIBUTION OF THE BIOLOGICAL DIVERSITY

ECOTOURISM

At a worldwide scale, "nature tourism" generates around 12 billion dollars per year. However, the number of tourists does not guarantee financial revenues for the promoting zone, let alone its equitable distribution among the population.

Dawid De Villiers, Secretary General of the World Tourism Organization, points out that the ecotourism activity has great potential though with a relatively small market. Biodiversity constitutes a very important factor that could very well turn into ecological tourism in a leading country. Nevertheless, the number of visitors is not the only important factor; consideration should also be given to other variables such as the services demand entailed and the income generated. In addition, one of the most important challenges is to focus on the growth of ecotourism while upholding ethical principles like the conservation of the natural resources, respect for cultural diversity, and keeping tourism from becoming a sexual exploitation mechanism (La Nacion, 2002).

Several authors agree on the fact that one of the most important elements promoted by ecotourism, is the opportunity to promote local participation and directly benefit participating communities. Although this type of initiatives constitutes an important strategy to promote the equitable participation of women and men alike, most of these projects are not concerned about the impact caused on the quality of life of the people and place greater emphasis on the achievement of financial, and at best, environmental objectives.

The implementation of participatory ecotourist projects based on gender equity, entails developing managerial and decision-making skills at a local level. It is an opportunity to strengthen local capacity where organizational processes entail strategic importance. It is necessary to define the limitations and strengths of each community before undertaking this type of initiatives, by recognizing the diversity of interests and needs of the communities, men and women alike, as well as their ways of life, cultural diversity, work schedules, paces and dynamics, among others. (International Workshop: Case studies on sustainable tourism and biological diversity, u.d.).

Example 2

EQUITABLE DISTRIBUTION BY GENDER OF THE BIOLOGICAL DIVERSITY

COSMETICS

The production and consumption of cosmetic products, such as body creams, soaps, shampoos, perfumes, and make up, among others, are becoming increasingly common. As is the case with food products, an increasing number of consumers prefers products manufactured with natural ingredients, that contribute to the conservation of nature or, as in the case of "solidary" markets, that such products are manufactured by and benefit communities excluded from development, like the rural sector, indigenous populations, and women's groups.

*The Body Shop is a cosmetic manufacturer handling an annual market of natural ingredients in the amount of 5 million pounds sterling. It acquires raw materials in 24 countries, under environmental and social ethical standards. It does, for example, purchase sesame oil (*Sesamum indicum*) from farmers' cooperatives in Nicaragua, and babassu oil (*Orbignya martiana*) from a rural women's association in Brazil, under an extraction form in natural forests (www.thebodyshop.com).*

Efforts should be made to ensure that the processes promoted guarantee an equitable distribution of benefits, in addition to making sure that the initiatives implemented in poor rural communities, often times manufactured by women, with organic raw materials and using environmentally safe technologies, guarantee the conservation of the biodiversity, and the equitable distribution of the benefits derived from product sales, thus contributing to improve the living conditions of women and men.

Although in many African, Latin American and Asian countries there are organizations that certify product origin as well as adherence to environmentally safe production standards, hardly any organization promotes, let alone guarantees, that the financial benefits generated by these operations will contribute to improve the quality of life of rural women.

CHAPTER III

National Biodiversity Strategies: strategies for equity

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A special section in this book has been devoted to the elaboration of the biodiversity strategies at national level, given the fact that this is one of the most important mechanisms proposed by the CBD. At the present time, it constitutes the resource to know, use and preserve the planet's biological diversity. Out of the 187 countries that ratified the Convention, there are 77 presently registered on the CBD's website, which National Biodiversity Strategies have been duly approved¹.

The National Biodiversity Strategies should be articulated with the national planning processes, and should allow recognition of all the people, women and men, as stakeholders in the process involving decision making and equity participation.

We have then recovered the national scope of the work related to the biological diversity and have reached the operating level of the goals discussed in the previous two chapters. It is necessary to re-examine how these venues and mechanisms are linked to both, the national development strategies and the participation of civil society.

1. National venues within the Convention

Although the Convention provides a global ethical, political and legal framework by recognizing biological diversity as an issue of common concern to humanity (CBD, Preamble, paragraph 3), the means should be sought to make it tangible through local actions, whether state or community promoted, expressing in this manner the supreme right over their natural resources. This is one of the characteristics of the CBD that grant it greater validity and incidence.

Paragraphs four and five of the Convention's Preamble establish not only the supreme rights of the nations over their biological resources, but the responsibilities inherent to the sustainable utilization of such resources, as well.

1 As of June, 2003.

The Convention entails advantages concerning the protection of the biological diversity

- The first advantage lies in understanding the resources right in their place of origin (in-situ). Each country is able to determine its own priorities and adapt the programs and actions to its specific conditions and needs.
- Plan definition on the spot is more likely to become rooted in and adopted by the population, than global conventions.
- The complex nature of the subject requires very diverse answers, and different approaches and work levels (local, regional, national).

Therefore, at a national level, the CBD focuses on the mechanisms available in each country for the organization, planning and definition of institutional policies.

2. Environmental strategies as part of development policies

Given human life's dependence on the use of the natural resources, any convention about natural resource protection has a direct bearing on the survival of the population. Should it be further considered that the possibility of maintaining the life cycles of all species is related to the vitality of the ecosystems, and that these are threatened by the prevailing development style, it is recognized that the biological diversity is not only a matter of ecological concern. Therefore, the Convention places the subject of biodiversity conservation at the core of development.

In order to make sure that the development strategies, programs and plans implemented by the nations are articulated with the policies on the use of the natural resources, it is necessary to:

- The existence of environmental policies.
- The incorporation of environmental issues into the national processes involving decisions about development.
- To set up coordination mechanisms throughout government sectors.
- To set up feedback and consultation mechanisms with civil society.

Through the above actions it will be possible to consolidate a place for both, conservation and the sustainable use of biodiversity, at the political agenda level and the development planning processes undertaken in the countries. This would be the first condition of the work conducted at a national level.

Take into consideration

A fundamental difficulty with respect to the enforcement of precautionary environmental policies is the organization of government itself. Although natural systems operate in an integrated manner, governments tend to be organized in a sectoral manner (McNeely quoted by Glowka et. al, 1996).

Such sectoral organization, which—to a large extent—responds to the division made about knowledge, and which is used in the training of professionals and the creation of development institutions and programs, contributes to keep a fragmented vision about the reality and prevents development actions from achieving real impact.

Thereby the need for a more integral perspective to integrate into development policies the conservation and utilization of biological diversity resources. This means joining efforts with—for instance—the institutions responsible for the development of poverty reduction and social and gender equity strategies.

The Convention on Biological Diversity has recognized that its implementation should be based on the ecosystem as a whole, in order to meet human needs through the sustainable use of resources and without wasting the planet's genetic bank (Holdgate, 2002).

Why should social and gender equity be considered in the design of national biodiversity strategies?

Several elements should be taken into consideration:

- The possibility of implementing development policies that include the entire population, by recognizing that the people have different places and positions within society.
- The Convention is established along with the “supreme right” of the nations concerning the sustainable use of their natural resources.
- The obligations stated in the Letter of the United Nations, among which are included all conventions related to the development of the human beings, promote a better quality of life, respect towards the rights, and the search for solutions to tackle the economic, social and health problems.

3. The role of civil society

The emphasis that the CBD places on actions at a national level recognizes the role played by non-governmental organizations in the implementation of the Convention (CBD, Preamble, paragraph 14).

The participation of civil society should be understood both, at the local level, by referring to the organizations of natural resource users, as well as at sub regional, regional and national levels, where environmental and awareness raising organizations are located.

The people defined as "stakeholders" are those who have an individual or collective interest in the use and management of the natural resource base. This includes users and owners of local resources (for instance, engaged in hunting, agriculture, timber, gathering and harvesting activities), personnel from government offices and programs, extensionists, industry representatives, collaborators, international or national NGO, and other groups (Brown and Wyckoff-Baird, 1992).

"Local participants are not homogeneous groups within the communities; but differ in terms of the access to and use of resources, and their position in the community. It is essential for project planners to identify and take into account such diversity in order to ensure that those people or groups, who are expected to adopt new behaviors, may constitute the ultimate end of the project, and are actually involved in it. In addition, the community's consideration about diversity may allow a better understanding about the non-intended impacts of the project" (Brown and Wyckoff-Baird, 1992).

Several Mesoamerican countries concur with the fact that the most extended dissemination of the CBD has taken place as of the participatory processes undertaken for the elaboration of the National Biodiversity Strategies, as a result of which it has attained considerable priority throughout the region (CCAD, 2002).

*The
integration of
all sectors is
necessary*

The participation of the various social sectors, people and groups concerned about biological diversity conservation, is particularly important in the elaboration of the National Biodiversity Strategies (NBS). This process requires mechanisms to allow the involvement of many governmental and non-governmental sectors.

The elaboration of strategies, plans and programs "should reflect a consensus position about the actions undertaken by the various sectors that make use of or affect the biological diversity". This remark concurs with an important opinion based on IUCN's experience with national conservation strategies, and stressed by a panel of PNUMA specialists: "the preparation and implementation of effective national biological diversity strategies, plans and programs, requires a highly participatory process involving the most affected people and economic sectors. The community leaders, representatives of environmental and development NGO, representatives of industry and commerce groups, actually make significant contributions to the process and the quality level of the outcome. Therefore, the elaboration of a strategy, plan or program does also constitute a way to build the social and political consensus needed to undertake the changes required at society and national levels" (Glowka, et. al, 1996).

Notwithstanding the above, reality shows otherwise. Most of the laws, legal frameworks and strategies on conservation, have been elaborated outside of and without consultation with the sectors involved. This is particularly true with regard to the sectors bearing less political weight, such as the indigenous populations, migrants, and women. As a result of the centralized nature of their forms of government and based on the principle of nation, the states have made invisible much of the traditional knowledge compatible with conservation and equity goals.

Inclusive projects

There are very few instances where modern laws, institutions and management practices involving biological resources recognize traditional uses, thus ignoring indigenous community and local standards, such as community ownership and conflict resolution. There are many times where an environmental conservation measure, such as the creation of conservation areas, close seasons, or other restriction mechanisms, have ignored the rights of native populations over the resources.

The traditional hunting of a protected species turns into illegal hunting. Traditional migratory agriculture in a protected area turns into the illegal invasion of a national park (Glowka, et. al, 1996).

There are scores of documented cases where the population turns against environmental actions. In most cases, this is due to information mishandling, ignorance about ancestral rights, and the lack of incentives or compensation. As a result of the loss of access to resources, the controls about traditional management systems

are weakened, which fact has a negative effect on the actual protection of biodiversity. If the communities do not recognize the benefits derived from conservation practices, they will not become fully identified with protection actions.

A given situation may vary from one where local communities act as a source of information to enable outside "specialists" to plan how the resources will be managed, to a situation where the local population, acting as a partner, is directly involved in planning and decision-making actions, or even a project involving the administration and ownership of the community's resource base (Brown and Wyckoff-Baird, 1992).

In order to overcome the above situations, it is necessary to develop communication and cooperation policies, strategies and mechanisms between the local organizations and the governments. It is necessary to recognize that each sector has its own interests in connection with the individual or family situation, the social group, the municipality, public institutions and central government. They all have interests that depend on their social condition and standing. By considering the relation that women have with respect to men, regarding the participation and access to information and decisions made about environmental issues, the need becomes clearly apparent to create special conditions to promote and guarantee their incorporation.

Necessary actions

Participation is NOT:

- *An easy process and depends on the participants' commitment.*
- *An occasional meeting coordinated by external agents of change.*
- *An occasional investigation about the perceptions, needs and interests of the people or stakeholders (Adapted from Brown and Wyckoff-Baird, 1992).*

In general terms, women are more invisible socially, face greater difficulties to gain access to the resources that are essential to care for and feed their families, such as water, firewood, non-timber products from the forest used in food preparation, medicines, clothing and raw materials for handicraft making. If the gender perspective is not included in the participatory consultation processes, the activities may, again, be exclusive.

Among the steps that could be taken in this direction it is worth mentioning: the modification of the legal framework and the policies and programs; recovery and validation of traditional uses and knowledge compatible with conservation and sustainable utilization; establishing effective and inclusive community participation mechanisms by gender; and strengthening of local decision-making venues based on democratic and representative principles. Needless to say, consideration to the gender equity approach is required in all instances. For example:

- Laws, institutions and policies should be changed or created in order to promote gender equity in the sustainable utilization and conservation of resources.
- The institutions responsible for development strategies, especially the conservation of the biological diversity, should have gender policies.
- It is necessary to identify the traditional uses and knowledge differentiated by women and men.
- Participation strategies should take into account mechanisms to guarantee the participation of women. Yet, beyond their mere presence, the women's effective participation through decision-making must be guaranteed.
- Institutional strengthening at a local level should consider promoting the active participation of women in these venues, as well as setting incentives for mixed or women's organizations that include gender equity among their objectives.

4. Strategies as a planning matter

The Convention recognizes that the national strategies constitute the most viable and efficient way to carry out its objectives, by making explicit the need to make operative its principles, seeking their incorporation into national regulations consistently with its development proposals, while infusing a horizontal and more participatory basis to the decisions made about biodiversity resources.

This proposal constitutes a process to initiate the design and elaboration of laws to protect the biological diversity, including national strategies and sub national and national action plans.

Based on its own particular conditions and capabilities, each contracting party will either elaborate national strategies, plans or programs for the conservation and sustainable utilization of the biological diversity, or adapt to that effect existing strategies, plans or programs, in order to reflect, among other things, the measures established in this Convention that are pertinent to the contracting party concerned, integrating—to the extent possible and as appropriate—the conservation and sustainable utilization of biological diversity into the sectoral or inter-sectoral plans, programs and policies (CBD, article 6).

Articles 6 and 10 of the CBD recognize the importance of establishing procedures in the countries for the protection and sustainable utilization of biological diversity resources. Reference is made to integral development planning processes whereby it will be possible to recognize the purpose of the actions, the different levels or sectors involved, including facilitating the knowledge and monitoring process thereof.

Strategic planning recognizes the different future settings and articulates the activities proposed with existing conditions and the role played by each of the stakeholders and the power relations among them.

The Convention provides the direction, values and principles of conservation, but the strategies generate the process at a national level. "... the obligation to plan at a national level is created, in addition to the preparation of a plan outlining, at the very least, how the obligations of the Convention are expected to be fulfilled and how will the objectives be achieved" (Glowka, *et. al*, 1996).



The recommendation about the elaboration of "strategies, plans or programs", follows a chronological sequence needed to elaborate a full strategy cycle: "a process that is repeated, through which a biological diversity strategy is developed along with plans and programs, and then, after a program implementation period, the biological diversity strategy is reevaluated" (Glowka, *et. al*, 1996).

The conservation and sustainable management of biodiversity will be incorporated into national, regional and local planning, and included in national accounts and statistics, as well as in the country's economic policy (National Biodiversity Policy and Strategy of Ecuador 2001-2010).

**Strategies
emphasize the
process**

Strategies are, then, the roads or means through which objectives may be achieved, that is, they are processes rather than results. They should not be considered as the end of the process, but as the beginning. Such an approach allows making adjustments to the strategies along the way, in order to bring them closer to the proposed goal: the conservation of biodiversity, the sustainable use of the components, and the equitable and fair distribution of the benefits thereof.

Thus, the NBS are documents that are always in process, and require ongoing revision and updating, in order to verify compliance with the commitments established, including goal revision and reconsideration. The NBS will be of no avail if it is kept as a beautifully illustrated document that contains valuable information, rather than working with it. In most countries, the NBS building process required vast resources, time and consultations that should be exploited.

Integral vision

Mexico's National Biodiversity Strategy proposes that:

Clearly, biodiversity conservation in México cannot solely depend on a proposal such as this; consideration must be given to the complex nature of the social, political, cultural and economic stakeholders involved. However, the Strategy proposes undertaking the search for solutions from different levels, proposes options and suggests courses of action. Since only a few matters can be integrally addressed, the Strategy should be considered as one of the key pieces in a broad set of gears, for the purpose of moving forward towards a change in culture and structures (National Biodiversity Strategy of México, 2000).

NBS should be based on an integral and inclusive work-related perspective, considering the fact that NBS constitute a great opportunity for the incorporation of socio-environmental and socio-cultural information, including the conditions of female and male users of biodiversity resources, while allowing the construction of legal frameworks and influencing other sectoral and inter-sectoral policies.

In order to build a NBS, it is necessary to identify the country's priority areas of action, obstacles and possibilities, participating and affected sectors, short-, medium- and long-term goals, including the identification of broad focal work areas and assignment of national and international responsibilities.

A NBS goes beyond an environmental profile; it becomes the way collectively selected towards the conservation and sustainable utilization of the biological diversity of a nation. The NBS establish goals, define the courses of action and outline the political commitment of a country, especially the role played by governmental institutions in the conservation of their biodiversity.

It may take up ongoing actions or create new proposals

The CBD recognizes that the national conditions are the determinant factors for the design and formulation of NBS. Therefore, although there are no pre-established formulas to confront very diverse realities, certain general guidelines do exist. This allows proper consideration to the dynamics of each nation as well as the collective appropriation of the process. Following are a few general recommendations (Glowka, et. al, 1996):

*Take into
consideration*

- Establishing a focal point as a national unit of biological diversity.
- Establishing a technical secretariat.
- Making sure that a balance exists between the descriptive information, the analysis of options and the proposed actions of the NBS.

*Biodiversity
laws*

The progress of this process depends on the countries' ability to establish legal frameworks to back up the actions seeking biological diversity conservation. The biodiversity laws allow the consolidation and institutionalization of the conservation strategies selected.

5. Gender equity within National Biodiversity Strategies

In order to ensure that the National Biodiversity Strategies promote the equitable participation of women and men, not only in the formulation, but most of all throughout the processes involving the application, revision and elaboration of specific work plans, the following three basic dimensions should be taken into consideration: the institutional structure responsible for the strategy, the design and revision of the NBS, and the activities included in their operating work plans.

The National Biodiversity Strategies should be operational and transcend political will.

In general terms and according to several authors, a National Biodiversity Strategy based on the promotion of gender equity between women and men, should take into consideration:

- The equitable participation of women and men in all actions generated by the NBS.
- Promoting the equitable distribution of responsibilities regarding the conservation and sustainable utilization of biodiversity.
- The equitable access to and control of the resources (land, water biodiversity components, tools, credit, information, work, training).
- The equitable access to the benefits derived from the activities involving the sustainable use and conservation of the components of the biological diversity, and the control thereof (products, income, status).
- Strengthening of the role played by women in decision making at all levels of society.
- Establishing monitoring and community participation mechanisms from a gender equity perspective for NBS evaluation purposes.

- Integration of the gender equity perspective into the publications, materials and training activities proposed.
- Having personnel adequately trained on gender equity issues (Adapted from IUCN, Arias Foundation, 1999).

The above suggestions may well be the starting point towards allowing also the NBS to be focused on the people, thus contributing to the equitable distribution of development benefits.

Institutional level

The Guide of the Convention on Biological Diversity proposes a few recommendations to be considered during the NBS elaboration process (Glowka, et. al, 1996). Such suggestions seek to promote a participatory and multi-sectoral process in strategy elaboration. In order to recognize the opportunities where actions may be articulated to ensure the integration of the gender equity perspective, following is a list of actions suggested for the scope of action of the NBS.

Most countries have a unit or board trained on biological diversity, acting as the national coordination body that gathers specialists from different areas to undertake the elaboration process and supervision and implementation of the strategy.

The proposed multi-sectoral and multi-disciplinary team should include specialists in social sciences and the gender equity perspective, in order to ensure a mainstreamed process. Among the tasks suggested are:

- Providing an overall political orientation about the commitments acquired as a State; resorting to national policies and international conventions on environmental and gender equity issues ratified by the country. For example: the Platform of Action of the World Conference on Women, held in Beijing, in 1995; Agenda 21, in 1992; and the Convention to Combat Desertification, among others.
- The efforts involving coordination and partnering with ecological academic and research institutions should also include institutions linked to social development and specialists with sociological, anthropological or similar backgrounds. The investigation centers involved in the analysis of national realities from a gender equity perspective should also be identified.
- In addition to the collaboration of other national institutions and social sectors, it is important to include the national mechanisms for women established in accordance with the conventions of the 1995 World Conference on Women and the entities responsible for the nationwide implementation of poverty reduction strategies.

- Among the links established with local community and non-governmental organizations, should be included the women's or mixed organizations that promote access to the natural resources from a gender equity perspective.
- Among the work groups conformed for the purpose of integrating the information required for the various sections of the NBS, could be included people knowledgeable in gender and biological diversity topics, who may be able to provide information about the differentiated relations of men and women in regard to the use, conservation, knowledge and distribution of the benefits derived from the biodiversity.

The creation of a **technical secretariat** is proposed, as a more executive and administrative body, located in the countries' environmental entities, for the purpose of following up the proposals made by the National Unit or Board (Glowka, et. al, 1996).

- The qualifications of secretariat members should be similar to those required for the national unit: it should be conformed by professionals from various fields, including social sciences and, especially, experience on the application of the gender equity perspective in environmental management.
- The reference materials elaborated and disseminated should likewise be directed towards the national mechanisms for women, the entities in charge of poverty reduction strategies, mixed or women's community-base organizations dealing with gender equity promotion, as well as governmental and international agencies skilled in the equality of opportunities for women and men.
- Nationwide workshops could be organized in order to present the proposals of the NBS, and request the contribution of local communities and other community-base organizations, while ensuring a representative participation in these activities, including the visibilization of the interests and needs of all community sectors: men and women of all ages and socio-economic conditions, ethnic groups, among others. The information gathered during the workshops would then be considered in the NBS's final proposal, making the necessary efforts to include the interests of the majority of the population, especially the groups excluded from the benefits of development.
- Upon completing the NBS both, the national unit and the technical secretariat, would disseminate the strategy through public communication means. The contents and means used in this campaign should consider the gender perspective.

- The planning processes needed for the elaboration of plans and programs for key sectors or regions, should consider the needs and interests of the women. Plans and programs may also be specifically designed to promote gender equity in the conservation and sustainable utilization of biodiversity.
- Actions should be taken to follow up the impact of the NBS on the improvements made to the population's quality of life and the promotion of more equitable relations between men and women as well as with the biodiversity.
- "The results of the process should be evaluated, and the process itself should be continued, checked and revised on a regular basis, as appropriate, as part of a biological diversity strategy cycle" (Glowka, et. al, 1996). This is the time to verify the progress made in connection with the proposals linked to equitable relations between men and women, and with the biological resources.
- In the event the NBS does not consider gender equity elements, the evaluation would constitute a good opportunity to incorporate them.

Design and revision of the NBS

Although the Strategies have different presentation formats, they generally include the following three basic headings:

- a. **Guiding framework:** refers to the principles, values, mission and objectives upon which the Strategy is based. These are the guiding action elements. There are some instances where conceptual definitions and clarifications are included.
- b. **Context:** refers to the appraisal about the present situation, including the problems to be addressed, the physical environment, the situation regarding biological diversity components, the institutional conditions, the legal framework, and the international commitments adopted by each country.
- c. **Action plan:** refers to the essential work elements involved, the strategy, sectoral plans, guidelines, and measures to be implemented.

We will now go through these three strategy levels, taking as a reference NBS from several countries, including Nicaragua, where there is a Gender Equity Policy implemented by the Ministry of Environment and Natural Resources (MARENA), according to the Ministerial Decree dated February 5, 1999, which was articulated at the time of elaboration of the country's NBS.

a. Guiding framework

The values, principles and vision expected to be achieved by the NBS are developed hereunder. Based on the stages followed in the strategic planning process, the first task entails recognizing in which direction the country expects to make headway, thereby building the vision or target image that gathers the aspirations and wishes expressed through an expected situation.

This vision should be integral, and should include the environmental and human objectives, in order to have a complete view about the ultimate purpose of the process.

Gender equity mainstreaming

The equity principles and the manner in which the Strategy contributes to the achievement, are elements that should be present in a coherent, integral and mainstreamed way throughout the process as well as in the final document. Mainstreaming entails paying constant attention to equality between women and men in development policies, strategies and interventions (IUCN, Arias Foundation, 1999).

In the case of Argentina's NBS, the first element of the vision about the future proposes "that the biological diversity of Argentina may contribute to the welfare of society, by protecting both, the biotic wealth of the country and the multiple services it provides to human activities", adding subsequently "the integration of biodiversity issues into the sectoral plans and programs to further develop the country and improve the quality of life" (National Biodiversity Strategy of Argentina, 2003). In the case of the vision of Nicaragua's NBS, we find an explicit integration of the gender equity perspective. By identifying each of the people involved it defines:

Vision

The Nicaraguan society has been able to know, value, preserve and use its biological and cultural diversity in a sustainable and equitable manner, thereby improving its quality of life and ensuring the welfare of the men and women of future generations (National Biodiversity Strategy of Nicaragua, 2001).

The gender equity perspective should be clearly implied from the very same conception addressing the purpose, rather than considering it as an addition that may be attached to a previously elaborated proposal or document. If the process has been undertaken without including gender equity in its core approaches, it will be more difficult to mainstream a gender perspective throughout the following stages: implementation and evaluation.

There are many instances where it is argued that gender equity is included when referring to equity, or when it is stated that the entire population will benefit from a proposal. Experience has shown that unless both, gender equity and care for the women and men of the communities are explicitly addressed, the life conditions of the women will again be made invisible, as a result of which, their participation in and access to decision making opportunities will be more difficult. It is essential to articulate it in the guiding principles of the NBS in order to carry out integral actions and achieve greater impact.

In the case of the values of Nicaragua's NBS, it is stated that

Values

All Nicaraguans, men and women alike, hope to achieve a sustainable human development, as a result of which, the National Biodiversity Strategy sets the following values:

- **Commitment:** *towards the sustainable use of biodiversity, to guarantee the distribution of its benefits to future generations.*
- **Respect:** *for all forms of life, including the knowledge and traditions of the communities, indigenous populations, and cultural and ethnic diversity.*
- **Responsibility:** *we depend on the diversity of the biological resources, for which reason its sustainable use is our responsibility.*
- **Participation:** *every Nicaraguan female and male citizen has the right to an equitable participation in the decisions made about the sustainable use of biodiversity and the benefits thereof.*
- **Justice and equity:** *to recognize the equality of opportunities regarding the sustainable use of biodiversity, recognizing the interests and needs of the men and women of the different social, ethnic and age groups (National Biodiversity Strategy of Nicaragua, 2001).*

Ecuador's NBS does also incorporate the gender perspective into the six basic principles outlined in its vision; namely: ecological sustainability, economic sustainability, precaution and prevention, equity, co-responsibility, and participation and cultural value of the biodiversity. It states that "the rights that all stakeholders, men and women, of all sectors of the Ecuadorian population have to the use of and access to biodiversity resources and the fair and equitable distribution of the benefits derived from such use and conservation, based on an ecological sustainability framework, constitutes a basic condition for the achievement of greater ethnic, gender and inter-generational justice and equity (Ministry of Environment, 2001).

b. Context

This section includes different headings according to the particular conditions of each country. We could mention some of the topics addressed, such as, for example, the situation about the resources of the biological diversity, the major obstacles or problems confronted, the situation regarding the available instruments or mechanisms, be it institutions, investigation, biodiversity valuation, the legal framework and applicable legislation, the most sensitive or critical regions, and the conservation areas.

Data
disaggregated
by sex

In most cases there is no availability of data disaggregated by sex about the situation upon which the intervention strategies are designed. However, this information flaw should be taken into account and made known in order to overcome such gap during the implementation process.

In Nicaragua's NBS it is stated that "The human element is special in biodiversity conservation; yet, very little is known about the intervention levels of men and women in the ecosystems, including the distribution of environmental goods and services, for which reason the economic and social effects of the destruction or conservation of the biodiversity are unknown" (National Biodiversity Strategy of Nicaragua, 2001).

At the institutional, inter-sectoral coordination, and national legal framework levels, it is essential to recognize existing legislation about human rights, the rights of women, and the commitments adopted at an international level.

Institutional management and inter-institutional coordination

It is currently recognized that the topic of biodiversity, like all matters related to environmental management and the gender perspective, is mainstreamed across the various fields of activity and sectors of the country, ranking top in the political, economic and social agenda of Nicaragua (National Biodiversity Strategy of Nicaragua, 2001).

It is only through the adequate consideration of the quantitative and qualitative points of reference of a system based on social inter-relations, that we may be able to identify existing gender relations. Reference is made to the links of economic, demographic, historical, ecological, political, legal and cultural dimensions, in which participate the men and women of every society.

In these processes it is also necessary to recover the experiences or initiatives undertaken by society, particularly community groups, indigenous populations and ethnic groups, in connection with the conservation and sustainable utilization of the biological diversity. Such contribution is often times underestimated in national appraisals. The CBD has emphasized the importance of recovering this experience and patrimonial knowledge.

An accurate appraisal about the situation surrounding biodiversity resources, will allow developing sounder strategies and actions towards the recuperation and sustainable use.

Education, promotion and social participation

Actions are required to build an ecological and gender equity culture that raises the importance about the conservation of our cultural heritage.

Environmental education

Environmental education constitutes another central aspect of the NBS context. Generally speaking, many of the social and participatory actions undertaken by the populations in connection with the conservation and sustainable use of biodiversity, are concentrated on environmental education. Environmental education promotes the development of an environmentalist conscience in order to allow changing of unsustainable practices. This is an exceptionally good space to promote new behaviors and attitudes based on a more dignified, healthy and harmonious life. The establishment of equitable relations between women and men should be part of that paradigm.

In this regard, Nicaragua's NBS proposes that "this strategic course of action seeks to change people's attitudes towards the environment and its biodiversity. It expects to promote and guarantee appropriation by the different sectors—stakeholders of the NBS—in order to ensure its implementation on a daily basis, including the generation of spaces and participatory processes based on social and gender equity, seeking to promote responsible attitudes for the sustainable management of the biodiversity for the ultimate benefit of the men and women of all social sectors of the country" (National Biodiversity Strategy of Nicaragua, 2001).

Environmental education objective

To promote throughout the Nicaraguan society respect for the environment and encourage a change in the attitude of men and women towards the sustainable management of biodiversity (National Biodiversity Strategy of Nicaragua, 2001).

c. Plans

Through the guiding action elements included in the NBS it is possible to determine the activities that may be developed at central or sub national level, or at the level of a specific region. This may include topics such as protection, valuation, knowledge, information, use, territorial planning, institutional management, legal and political aspects, social participation, environmental education, copyrights, appraisal updating, monitoring and evaluation.

In each of the above elements may be included actions to substantiate the gender equity proposals involving the conservation and sustainable use of biodiversity resources. Certainty should also exist in connection with the inclusion of the gender equity perspective in the indicator elaboration and verification means.

The starting situation

Among the suggestions to be taken into consideration in this process to mainstream the gender approach, is recognizing that the population is not an homogeneous group. Spain's NBS proposes that "it is starting to be recognized that the 'population' or 'general public' is not an homogeneous mass, but groups that differ about their perceptions, knowledge, attitudes, interests and agendas. Each group has different values and understandings about the importance of biodiversity in their day-to-day life and about the consequences of its loss" (Spain's Strategy for the Conservation and Sustainable Use of the Biological Diversity, 2000). In addition to the differences between social groups, the gender perspective encourages an exploration about prevailing inequalities in the access and participation of women and men.

Knowledge

To develop programs to promote and protect the ancestral and traditional knowledge possessed by communities, by recognizing the substantial contribution women can make in this regard (National Biodiversity Strategy of Nicaragua, 2001).

Conservation and sustainable use of biodiversity

The actions proposed may suggest creative forms of participation and implementation aiming at overcoming the exclusion gaps affecting, for example, the indigenous populations, the farmers and the fishermen/women involved in subsistence fishing, as well as the rural women within these groups.

It is extremely important to allocate to all of the activities to be carried out the necessary technical and financial resources, as well as the mechanisms to guarantee the participation and visibilization of women in the processes involving the conservation and sustainable use of biodiversity.

Following are a few indicators suggested by the Nicaraguan NBS to guarantee women's participation.

Expected results, indicators and verification means related to the biodiversity conservation strategy	
Results	Indicators
Development of programs seeking <i>in-situ</i> conservation of fragile and important ecosystems, by promoting the equitable participation of the people from the various sectors involved.	<ul style="list-style-type: none"> ● Number of men and women who participate in the projects and programs. ● Programs and projects developed from a gender perspective.
Development of programs seeking <i>ex-situ</i> conservation of fauna and flora species bearing national significance.	<ul style="list-style-type: none"> ● Number of men and women involved in the actions carried out.
(Source: Summary extracted from the National Biodiversity Strategy of Nicaragua, 2001)	

NBS may set forth the intention about opening opportunities for women who, because of their gender condition and position, have had no access to the resources and benefits derived from the sustainable use of biodiversity.

Education and training

NSB are expected to be a public document. They have been formulated through a participatory process that should be carried on through the implementation and appropriation stages. NSB stress the importance of arising a new environmental awareness and, as mentioned above, environmental education provides an excellent opportunity to incorporate the gender equity proposals.

Elaboration of materials

To promote the elaboration of didactic and dissemination materials at all levels and in all languages and tongues spoken in our country, placing particular emphasis on the materials developed for women, children and rural populations (National Biodiversity Strategy of Mexico, 2000).

The training and sensitization processes are an important part of this component. Rather than formal training venues, it is expected to create permanent learning processes and practices of new human relations.

Expected results, indicators and verification means related to the strategies on education, promotion and social participation

Results	Indicators
Development of communication processes seeking to promote changes in the attitude of the Nicaraguan society towards biodiversity management.	<ul style="list-style-type: none"> ● Number of programs or projects where the communication component is included and that are based on a gender perspective. ● Number of materials published and elaborated based on gender criteria.
Implementation of formal and informal education programs in all sectors involved.	<ul style="list-style-type: none"> ● Number of people trained, by sex. ● Type and amount of didactic materials produced based on gender criteria.
Implementation of programs seeking to recover and promote the cultural identity and the traditional knowledge of the communities related to biodiversity management.	<ul style="list-style-type: none"> ● Program elaborated and implemented based on gender criteria. ● Promotion and protection mechanisms implemented from a gender equity perspective. ● Recovery mechanisms implemented from a gender equity perspective.

(Source: Summary extracted from the National Biodiversity Strategy of Nicaragua, 2001)

Monitoring and evaluation

The monitoring and evaluation systems provide information on the progress made by the process and allow assessment regarding compliance with the objectives proposed, by providing timely information for decision-making purposes. The NBS should be documents that motivate action and allow the ongoing construction of a process to develop new relations; they should, furthermore, be accessible and implementation sensitive. To fulfill such role, monitoring and social participation mechanisms should be included in the evaluation.

Spain's NBS puts it this way: "This update will, ultimately, constitute the basic pillar for the possible and most likely necessary reorientation of this Strategy over the course of time, particularly certain specific sectors or aspects, given the different pace at which the changes and achievements of the actions promoted by this document will evolve" (Strategy for the Conservation and Sustainable Use of the Biological Diversity of Spain, 2000).

Institutional planning is promoted through an ongoing monitoring system.

The efforts made to structure evaluation systems from a gender perspective, have met with a number of theoretical-methodological distortions and obstacles, such as for example:

- A prevailing notion that undertaking evaluations from a gender perspective is complex and should be done by specialists; that it is hard to make approximations, and it is impossible to change the power relations system.
- Qualitative aspects are rather unscientific and non-measurable, for which reason it is not possible to elaborate instruments for them.
- The lack of starting points. Monitoring and evaluation systems are expected to be created without gender analysis indicators and elements about the aspects to be affected (IUCN, Arias Foundation, 1999).

The availability of indicators built in a participatory form will ensure compliance with two essential objectives of the process. First, that the visions and interests of the different groups of the civil society, particularly the women and men of all ages are adequately represented in the NBS; and secondly, it enables civil society, the academic and investigation sector, local organizations and NGO, to request compliance reports.

Accountability is a mechanism used in other fields to improve the exercise of democracy and social participation, since it allows all people involved the possibility of being part of the decisions made and the oversights incurred throughout the biodiversity conservation process.

The systems to monitor the state of a country's biodiversity require considerable information, resources, inter-sectoral coordination, communication and dissemination, as well as a political decision to substantiate and grant permanence to the process. These systems pose an important challenge to the nations that lack such potential resources.

In the case of Nicaragua, the NBS includes a strategic action and identifies a few gender indicators showing the incorporation of this perspective.

Expected results, indicators and verification means related to the strategies to strengthen the biodiversity information and monitoring system

Results	Indicators
Strengthening of scientific knowledge about biodiversity.	<ul style="list-style-type: none"> ● Number of training activities conducted and participants disaggregated by sex. ● Information about the uses and management of environmental services undertaken by men and women.
Development of the skills, capabilities and knowledge of the people involved in the conservation and sustainability of biodiversity.	<ul style="list-style-type: none"> ● Number of trained people, by sex. ● Departmental groups trained from a gender equity perspective.

(Source: Summary extracted from the National Biodiversity Strategy of Nicaragua, 2001)

The challenges continue

Many countries have put a lot of effort into the elaboration of the NBS. International agencies have contributed to the process in order to achieve one of the objectives of the CBD. However, the task is far from over. "Most of the Mesoamerican countries have a National Biodiversity Strategy thanks to the financial support received for its elaboration, although not all countries have completed their National Action Plans" (CCAD, 2002).

The above reflections are expected to help biodiversity conservation initiatives to generate opportunities and mechanisms to implement actions towards the achievement of conservation and equity promotion objectives. Conservation constitutes an opportunity to promote equity and create new ways to relate with the environment and overcome prevailing inequalities between men and women. Social equity should also be understood as an essential component for conservation and sustainable development, a new development logic and a more human dimension for the betterment of the people of the world.

Access and control of resources, and distribution of benefits and opportunities

Gender relations have an impact on the access and control exercised by men and women of resources and opportunities. They usually generate an inequitable distribution of costs and benefits derived from the use thereof. Therefore, these aspects constitute elements of analysis of gender relations.

_ **The access** is defined as the possibility for participation, utilization and benefit of resources as well as opportunities.

_ **The control** refers to the authority, property and power of decision. Under certain circumstances, women have the access to (the possibility to use) a resource, for example, the land, but lack or have a limited control over it (cannot decide whether to sell or transfer it).

_ **The resources** are goods and services: economic or productive (land, equipment, tools, work); political (leadership capacity, information and organization); financial (money, capital, credit); and temporary.

_ **The benefits** are the economic, social, political and psychological retributions derived from the utilization of the resources. Benefits include meeting basic and strategic needs: food, housing, education, training, political power and status, etc.

_ **The opportunities** are the possibilities to develop intellectual, physical and emotional capabilities, to achieve the goals set in life.

Biodiversity

General term used to designate the variability of living organisms of any source, including land and marine ecosystems, other aquatic ecosystems, and the ecological complexes they are part of; it comprises the diversity within each species and among species and ecosystems. The biodiversity is based on time (evolution) and space (biogeographic distribution).

Biological resources

The genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with real or potential value or usefulness to human beings.

Biosecurity

The control of risks derived from the transference, manipulation and utilization of living organisms modified as a result of biotechnology and its effects on the environment and human health.

According to the Cartagena Protocol, biosecurity should guarantee: «an adequate level of protection regarding the safe transference, manipulation and utilization of living organisms modified as a result of modern biotechnology, that may have adverse effects on the conservation and sustainable utilization of the biological diversity, including the risks posed to human health, and specifically focusing on trans-bordering activities.

Biosphere

The total range of living beings and their environment that comprises the lithosphere (surface of the earth), the hydrosphere (earth waters) and the atmosphere, which is almost 15 Km thick from the surface of the earth.

Biotechnology

Any technological application using biological resources, living organisms or their by-products, for the creation or modification of products or processes for specific uses.

Biotic communities

The group of animal and vegetable populations that live in an undefined area, including microorganisms.

Civil society

The sphere of autonomous institutions, protected by the law, where men and women may carry out their work freely and independently from the state.

Co-management

Also known as participatory management, involves an institutional arrangement between the local users of a territory or set of natural resources and/or groups interested in its conservation, and public entities responsible for the administration of said resources. The process leads to the development of community skills to enable them to effectively undertake a biodiversity conservation role.

Common law right

Unwritten standards that generate a right based on traditions and customs.

Community or communal work

It refers to the activities undertaken in the community to assure family reproduction, support and improvement of living conditions and community organization. It includes the work carried out in social committees or groups involving the investment of time and resources by the members. Both, women and men, are usually involved in community activities in separate groups, but male groups usually obtain greater social recognition.

Condition and position, practical and strategic needs

Categories that support gender analysis to determine the differentiated situation of women and men, in order to develop strategies to minimize the inequalities that exist at a community level and effectively solve the needs of women and men, through priority actions focusing on the people at the greatest disadvantage to help them achieve their development.

- Condition

It refers to the conditions under which people live. It specifically points towards the so-called practical needs (conditions involving poverty, access to services, productive resources, health care and education, among others).

- Position

It refers to social standing and recognition, to the status assigned to women with respect to men (inclusion in decision-making venues at community level, equal wages for equal work, limitations regarding access to education and training, etc.).

- Practical gender needs

It refers to the needs derived from the material living conditions of men and women.

- Strategic gender needs

These are long-term needs that consist on the possibility of bringing to an equal and equitable level the gender position of men and men in society.

Coniferous forest

Coniferous forests are naturally found in the northern hemisphere, in cold and temperate zones and, in a smaller proportion, in similar zones of the southern hemisphere. In the vegetable kingdom, coniferous are found in smaller numbers than broad leaves.

Conservation

The protection, care, management and maintenance of ecosystems, habitats, wildlife species and populations, within or outside of their natural environments, in order to safeguard the natural conditions for their long-term permanence.

Conservation *ex situ*

The conservation of the components of the biological diversity outside of their natural habitats.

Conservation *in situ*

The conservation of the ecosystems and natural habitats and maintenance and recovery of viable populations of species in their natural environments and, in the case of tame and cultivated species, in the environments where they have developed their specific characteristics.

Convention on Biological Diversity

International convention that identifies a common problem, sets general objectives, policies and obligations, and organizes financial and technical cooperation. However, the responsibility concerning objective compliance does mainly fall on the countries.

The Convention has created a global forum, a series of meetings, where governments, non-governmental organizations, academicians, private sectors and other concerned groups and individuals, share ideas and compare strategies, while private enterprises, landowners, fishermen/women and farmers implement most of the actions affecting biodiversity.

The highest authority of the Convention is the Conference of the Parties (COP), conformed by all of the governments (and the regional economic integration organizations) that have ratified the Convention. This entity verifies the Convention's progress, identifies new priorities, and establishes the work programs of its members. The COP does also submit recommendations to the Convention, creates groups of specialists, revises the progress reports of the member countries, and collaborates with other international organizations and agreements.

The COP relies on the experience and support of other groups established by the Convention:

- The subsidiary body for scientific, technical and technological assistance (SBSTTA). It is conformed by specialists from different fields of the member countries. It serves as the main advisor in connection with the COP's scientific and technological recommendations.
- The Clearing House Mechanism. This electronic network promotes technical and scientific cooperation as well as information sharing.
- The secretariat, based in Montreal, linked to the Environmental Program of the United Nations.

The main objectives of the Convention are:

- The conservation of biodiversity
- The sustainable use of the components of biodiversity
- The equitable distribution of the benefits arising from the commercialization and the use of genetic resources.

Ecological diversity

Variety of ecosystems on any geographic level.

Ecological evaluation

To determine the value of something, for example, the value of the natural functions supplied to society by an ecosystem.

Ecological regulation

The environmental policy instrument which purpose is to regulate or induce the use of the soil and the productive activities to protect the environment, the sustainable preservation and exploitation of the natural resources through the analysis of deterioration trends and exploitation potentials.

Ecosystem

Any unit limited in space conformed by a biotic community that interacts with the physical environment in such a way that a flow of energy leads to a clearly defined trófica structure (food chain) and material cycles within the system. Ecosystems may be small and simple, like an isolated pond, or large and complex, like a specific tropical rainforest or a coral reef in tropical seas.

According to the Agreement on Biological Diversity, an ecosystem is understood as a dynamic complex of vegetable, animal and microorganism communities and their non-living environment that interact as a functional unit.

Ecosystem integrity

The continuity and full character of a complex system, including its ability to perform all the essential functions throughout its geographic setting; the integrity concept within a managed system implies maintaining key components and processes throughout time.

Ecosystem resilience

Ecosystems suffer natural disturbances (strong winds, fires) that affect their structure and operation, to which they respond through the recolonization of vegetable species in the affected areas. The recovery time is directly dependent upon the intensity and extension of the disturbance. The ecosystems' capacity to approximately return to the state prevailing prior to the disturbance is called resilience.

Efficiency

The utilization in the best possible way of the complete package of potential or available resources.

Endemic species

Population of a species that is native to the region, and which area of distribution is restricted to a small place.

Environment

It refers to all living and non-living components and all the factors, like the climate, that surround an organism. It is frequently confused with the word ecology, which is the science that studies the relations of living beings with each other as well as with all the non-living parts of an environment. The environment could be conceived as a row of domino tiles. In this sense, ecology would be the study of the effect on each other of all the domino tiles while falling.

Environmental impact

The measurable effect of human action over a certain ecosystem. A measuring instrument is the manifestation of environmental impact, through which document is revealed the significant and potential environmental impact generated by an activity or work, as well as how it could be avoided or mitigated in the case of a negative impact.

Environmental indicator

It is a parameter or value derived from general parameters that describes in a synthesized manner the pressures, condition, responses and/or trends of environmental and socio-environmental ecological phenomena, which meaning is broader than the properties directly associated to the parameter's value.

Environmental protection

Any activity that maintains the balance of the environment by preventing contamination and the deterioration of the natural resources, including activities such as: a) changes in the characteristics of goods and services, and changes in consumption patterns; b) changes in production techniques; c) waste treatment or disposal in separate environmental protection facilities; d) recycling; e) prevention of landscape degradation.

Environmental services

These services describe qualitative (even spatial) functions provided by the natural resources. Three types of environmental services usually exist: a) deposit services, which reflect the functions of the natural household environment as an absorbent dump of the waste originated by household productive activities and industrial activities in general; b) productive, with respect to water, land and air resources, which reflect the economic and ecological functions for human consumption, energy, and agricultural purposes, etc.); c) recreational and socialization services, covering the basic functions of the environment to meet the recreation and socialization needs as well as the cosmology of certain societies.

Environmental valuation

Estimate about the magnitude or quality of the natural environment (air, water, soil) or investigation about the effects that a certain function or activity has on another function or activity.

Equality

The condition of one thing being similar to another in terms of nature, form, quality and quantity. The achievement of the equality objective goes beyond the mere prohibition or elimination of discriminations.

- Equality of opportunities

It is the situation where women and men have equal conditions to become intellectually, physically and emotionally fulfilled, to achieve the goals set for their lives and develop their potential capabilities, regardless of gender, class, sex, age, religion and ethnic group.

- Equality of treatment

It presupposes the right to the same social conditions of safety, remuneration and work conditions, for women and men alike.

Equitable benefits

It refers to the ultimate impact of development efforts on both genders. It implies that the results should be equally accessed and utilized by men and women. Equality of opportunities does not, necessarily, imply that both genders enjoy the same benefits.

Equity

It seeks people's access to equal opportunities and the development of basic capacities; this means that the barriers hindering economic and political opportunities, as well as the access to education and basic services, should be eliminated, so that the people (women and men of all ages, conditions and positions) may be able to enjoy such opportunities and benefit from them.

It means justice; that is, giving each one what is rightfully theirs, recognizing the specific conditions or characteristics of each person or human group (sex, gender, class, religion, age); it is the recognition of diversity, without giving reason to discrimination.

Ethnic groups

It refers to the classification of the population according to its social and cultural organization, which conforms particular ways of life for the members of a group. In general terms, the people who are part of an ethnic group share characteristics such as race, language, territory and above all, their view and interpretation of the world. Each ethnic group defines particular ways of life for women and men, thus determining the specificity of the condition and position of women.

Family

Taxonomic category used in the classification of living beings in order to group one or several similar genders, that are supposed to be closely related. Normally, the characteristics used to designate the families are easily observable.

Functions of the ecosystems

The capacity of the natural processes and components to supply goods and services that will be utilized or are being used to improve the human quality of life.

Gender

Genders are bio-socio-cultural groups, historically built from the identification of sexual characteristics that classify human beings. Once classified, they are assigned a differentiated set of functions, activities, social relations, forms and standards of behavior. It is a complex set of economic, social, legal, political and psychological determinations and characteristics, that is cultural, creating that which in each period of time, society or culture constitutes the specific contents of being a man or a woman.

Gender analysis

Is a theoretical-practical process that allows a differentiated analysis between men and women of the responsibilities, knowledge, access, use and control over the resources, the problems and needs, priorities and opportunities, in order to plan development based on efficiency and equity.

Gender analysis does, necessarily, involve studying the forms of organization and operation of societies to analyze social relations. This analysis should describe the subordination structures existing between genders. The gender analysis should not be limited to the role of women, but should cover and compare the role of women with respect to men, and vice versa.

Genetic diversity

Variety of genes or sub-specific genetic varieties.

Genetic resources

The genetic material with real or potential value.

Genetic stump

Is the base of the coded genetic information of organisms.

Mainstreaming

Gender mainstreaming means paying constant attention to equality between women and men regarding policies, strategies and development interventions. Gender mainstreaming does not only mean making sure that women become involved in a previously established development program. It also seeks to make sure that women and men alike participate in the processes involving the definition of objectives and planning, to guarantee that the development initiative meets the priorities and needs of women and men. Therefore, it seeks to consider equality in relation to the analysis, policies, planning processes and institutional practices that establish the global conditions for development.

Gender mainstreaming requires an analysis about the impact that development interventions might have on women and men throughout all areas of social development. This analysis should be undertaken prior to making important decisions about the goals, strategies and distribution of resources.

Management of ecosystems or ecosystem approach

The manipulation or regulation of the human uses of ecological systems, in order to preserve defined and expected characteristics and processes and meet human needs in an optimum and sustainable manner.

Megadiverse countries

Bolivia, Brazil, China, Colombia, Costa Rica, Ecuador, India, Indonesia, Kenya, Malaysia, México, Perú, the Philippines, South Africa and Venezuela. Three fourths of the world's flora and fauna species are found in this group of 15 countries. Some of the advantages of being included in the megadiverse group are: bearing influence on the definition of policies on biological diversity conservation, and being included among the international assistance agencies' countries that receive priority attention in connection with funding for natural resource conservation projects.

Migration

The displacement that implies changing the usual place of residence from an administrative political unit to another, at any given time.

Overexploitation

The use or extraction of a resource to the point of exhaustion or extinction, or diminishing a population to a level below the minimum required for a sustainable performance.

Participation

It is a social process through which the different stakeholders of the population, based on their own interests (class, group, gender, etc.), intervene directly and through their representatives, in the course of the different aspects of communal life. Participation is a necessary condition of the citizens, as people consider themselves as citizens when they have the right to exercise influence on the processes that have a direct or indirect effect on their own destiny.

Perennifolious forest

It is commonly called jungle. Unlike the caducifolious forest that means deciduous leaves, the perennifolious forest has trees with perennial or permanent leaves. It is found in altitudes ranging from 0 to 1000 meters above sea level.

Population

Set of individuals from the same wild species that share the same habitat. It is considered as the basic management unit of wild species living in freedom.

Power

The dominion, power or jurisdiction to order, define, control and decide about something or someone.

Dominion powers are social, collective and personal. They allow the alienation, exploitation and oppression of another being. Power materializes in concatenated processes involving forms of intervention in someone's life from a superiority rank (value, hierarchy, authority). Dominion powers are the set of capacities that allow control over the life of other(s), including asset expropriation, subordination and running of their lives. Domination implies the capacity to pass judgment, punishment and, ultimately, forgive.

Precautionary Principle

The idea that under serious uncertainty conditions, the exploitation of potentially damaging resources should not take place until it is proven that the risks fall within acceptable limits.

Preservation

The set of policies and measures to maintain the conditions favoring the evolution and continuity of the ecosystems and natural habitats, as well as the conservation of viable populations of species in their natural environments and the components of biodiversity outside their natural habitats.

Productive work

It comprises the activities that generate income, goods, services or benefits for household consumption or market commercialization, through which household reproduction is safeguarded. The social construction of genders assigns the productive work to the men. Fulfillment of their role as providers means to obtain the resources outside the private sphere of the household to support their family and meet their needs. In spite of the fact that the productive work is an activity socially assigned to men, the fact of the matter is that women, girls and boys also participate.

Protected area

It is an extension of land and/or sea especially devoted to the protection and maintenance of the biological diversity, including the natural and cultural resources related thereto, that is managed through legal or other effective means (IUCN).

Recovery

Restoration of natural processes and genetic, demographic, or ecological parameters of a population or species, with regard to its state at the initiation of the recovery activities. It also refers to its past local abundance, structure and dynamics, to resume its ecological and evolutionary role, and the consequent improvement regarding habitat quality.

Rehabilitation

The conversion of a deteriorated ecosystem into an alternative use or state, for the purpose of fulfilling a specific management objective, particularly with respect to the conservation of biodiversity.

Reproductive work

It comprises the activities related to the biological reproduction in addition to those involving family sustenance, its working capability, socialization and education of girls and boys, food preparation and health care, and all associated tasks. These tasks are usually assigned to the women, who carry out household activities, housework, care and education of girls and boys, care of older or sick people. Men hardly ever assume or are responsible for household chores. Within the predominant construction of feminine and masculine gender, these are activities «forbidden» to men. Nevertheless, there are men who participate in these tasks, thus, breaking the mould or stereotype.

Resource deterioration

The utilization of a resource that lessens its total actual or potential availability, in the present or future time.

Resources

It is understood as goods and means. There are several types of resources, including: economic or productive (like the land, equipment, tools, work, credit); political (like leadership capacity, information and organization); and temporary (which is one of the most scarce resources for women).

Restoration

The conversion of an ecosystem to the condition it was in prior to the anthropogenic disturbance.

Role

The role, function or representation a person plays within society. This role is based on a system of values and customs that determines the type of activities a person should develop.

Right

The goods that a person or group may acquire based on prerogatives, opportunities, property or social custom.

Sex

It refers to the set of hereditary biological characteristics that organize individuals in two categories: man and woman.

Sexual division of work

It may refer to two different phenomena: the first one refers to the effective distribution of tasks between men and women, where women are assigned the care of children and elderly people, household sustenance, community services, etc. And the second one involves stereotyped ideological notions about what is considered as the appropriate occupation for each sex. While the stereotype is static, the distribution of tasks undergoes a historical transformation between genders, adapting to the specific needs of the household units in each of the stages of their development and the dynamics of the local and regional economy.

Socialization

The socio-psychological processes through which the individual is historically developed as a person and a member of society. It is through this process that the individual acquires a personal and social identity as part of the social group it belongs to. The individual takes shape as a person, with personal characteristics and features derived from this configuration process.

Solution strategies

Series of activities adopted by people facing threats, such as resource deterioration, market collapse, conflicts or other forces affecting the viability of their subsistence.

Species

The basic unit of taxonomic classification, conformed by the set of individuals with similar morphological, ethological and physiological characteristics, that are capable of breeding and generating fertile offspring, and sharing similar habitat requirements.

Subordination

The institutional change process whereby the decision-making power is transferred to the appropriate lower level, guaranteeing that power and resources are equitably transferred to ensure the importance of the decisions made.

Subsistence

Capabilities, goods (including material and social resources) and activities required as a means to survive. Sustainable subsistence implies the ability to deal with tensions and shocks and recover from them, while maintaining or improving capabilities and goods both, at the present time as well as in the future, without undermining the natural resource base.

Surroundings

The set of natural, artificial or man-induced elements that make possible the existence and development of the people and all other living organisms that interact within a given space and time.

Sustainability

It refers to the adequate access, use and management of the natural resources, to ensure that the men and women of present and future generations are able to meet their basic needs on an uninterrupted basis. Pattern of behavior that guarantees for each of the future generations, the option to enjoy, at the very least, the same level of welfare enjoyed by the preceding generation. Emphasis is placed on the inter-generational equity of development.

Sustainable development

The change in living conditions where present needs are met without compromising the capacity for the future generations to meet their own needs.

Sustainable human development

It is a process to broaden people's options. It goes beyond income and economic growth, to cover full flourishing of the human capacity. It places the human being (its needs, expectations and opportunities) at the core of the concerns and activities focusing on men and women alike, as well as for present and future generations.

Sustainable management

Management through which the present potential of the resources is used in the best possible way, and does not reduce the availability of the resources.

Sustainable use

The use of an organism, ecosystem or any other renewable resource at a rate within the bounds of its capacity for renewal.

Taxonomic diversity

Variety of species or other taxonomic categories.

Triple role

It is understood as the women's simultaneous participation in productive, reproductive and community activities (refer to productive work, reproductive work and community work).

Women's empowerment

It is the process through which people gain increasing power and control over their own lives. It involves aspects such as awareness raising, development of self confidence, and extended opportunities and options. Women's empowerment is a changing process where women gain increasing access to power, which fact results in the transformation of unequal power relations between genders.

Women's invisibilization

Society's devaluation about the activities carried out by women. A clear example of this fact is society's concept about household and reproductive work, which are not included in national statistics.

Vulnerability

The extent to which subsistence is threatened due to factors, tendencies and violent changes beyond its control.

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