



THE FORCE OF THE CURRENT

Watershed management from a gender equity perspective

Jackeline Siles • Denise Soares
in collaboration with Estela Aleman

HⁱVOS

IUCN
The World Conservation Union

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CONTENTS

FOREWORD

INTRODUCTION

The gender approach in watershed management 6

1.	Why is it important to work with gender in watershed management?	8
2.	How was this methodological proposal conceived?	9
3.	To whom is the proposal directed?	11
4.	Proposal structure	11
5.	Proposal principles	12
5.1.	Watershed management provides gender equity promotion opportunities.....	12
5.2.	Equity is an unavoidable condition to achieve development sustainability	13
5.3.	Community participation invigorates sustainability and equity building processes in watersheds	14

CHAPTER I

Conceptual references and the gender perspective in watersheds 17

1.	Ecosystems: sources of water and life	18
1.1	What is the ecosystem approach?	18
2.	Watershed: the space where population and environment link	20
3.	Relations between water and population	25
4.	Uses and value attached to water by the population	29
5.	Basic elements regarding gender equity	38
5.1	What is gender?	38
5.2	What is the meaning of gender equality and equity?	39
5.3	From natural differences to social inequalities	40
5.4	Gender assignment of work and valuation	41
6.	Why are gender equality and equity essential for the sustainable use, management and conservation of watersheds?	46

CHAPTER II

Watershed management from a gender perspective 49

1. Learning about the principles guiding the water resources' regulatory framework 49
2. Watershed management 52
3. Why management? 53
4. Management styles 60
5. How is gender-sensitive management built? 70
6. Case studies 94

CHAPTER III

Participatory appraisal from a gender perspective 102

1. What is a participatory appraisal and what is the contribution made by the gender perspective? 102
2. Methodological references to elaborate participatory appraisals from a gender perspective 107
 - 2.1 Step 1. Appraisal design 109
 - 2.2 Step 2. Data gathering disaggregated by sex 132
 - 2.4 Step 3. Data processing and analysis 135
 - 2.4 Step 4. Socialization of the results and formulation of conclusions 142
3. Guide for data gathering 147
 - 3.1 Topic 1. Analysis of the situation or local context 148
 - 3.2 Topic 2. Work division by sex 158
 - 3.3 Topic 3. Use, access and control of resources and benefits differentiated by sex 165
 - 3.4 Topic 4. Environmental degradation and its impact by sex 171
 - 3.5 Topic 5. Levels of social participation 178
 - 3.6 Topic 6. Cultural or traditional conceptions 184

CHAPTER IV

The watershed management plan from a gender perspective 193

1. What is the purpose of a watershed management plan from a gender equity perspective? 194
2. Methodological proposal for MPPG elaboration 196
 - 2.1 Phase 1. Conformation of the work group and training of facilitators 197
 - 2.2 Phase 2. Summons for management plan elaboration 200
 - 2.3 Phase 3. Analysis of the appraisal and regulation of the watershed's productive activities 204
 - 2.4 Phase 4. Elaboration of the objectives of the management plan 207
 - 2.5 Phase 5. Elaboration of expected results and indicator building 212
 - 2.6 Phase 6. Definition of the components of the plan 217
 - 2.7 Phase 7. Allocation of resources and schedule of activities 229
3. Ideas to promote equity 234

CHAPTER V

Gender-sensitive monitoring and evaluation system

for a watershed management plan 241

1. Monitoring and evaluation systems in watershed management projects 242
2. How should a gender-sensitive monitoring and evaluation system be established? 245

ANNEX 1

International commitments with reference to women's empowerment, gender equity, poverty eradication, water and sanitation 270

ANNEX 2

Indicators 282

ANNEX 3

A gender equity policy-building proposal 290

ANNEX 4

Guide for the elaboration of a plan for public policy incidence . 298

ANNEX 5

Internet sites on water and gender 309

ANNEX 6

Glossary 311

BIBLIOGRAPHY 322

FOREWORD

The subject of gender in conservation as well as in the sustainable use of biodiversity, has not necessarily been a relevant topic for either the organizations seeking to promote a more equitable world for women and men, or the environmentalist groups. Aware of this reality, a group of specialists within the World Conservation Union (IUCN) took on the challenge of making visible the importance of equity in the environmental sector.

This challenge was not assumed as a theoretical exercise only; it stemmed from the realities surrounding the lives of the thousands of women and men we work with. It was the needs and requests made by these people that drove us to embark on this journey.

The path traveled 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 efforts and procedures.

And then, the challenge gradually turned into commitment. A commitment that is part of our daily lives, a commitment to fulfill promises made. A commitment to human rights and a more equitable distribution of the benefits of biodiversity.

Indeed, for over ten years, IUCN has assumed an international leading position 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 highlight the relevance of gender equity and its relationship with integrated watershed management, biodiversity, protected areas, drylands and marine-coastal zones. This book is yet another effort undertaken to demonstrate our full commitment towards the promotion of more equitable societies.

Lorena Aguilar Revelo

Senior Gender Advisor
August, 2003

INTRODUCTION

The gender approach in watershed management

Watersheds are areas constituted by a water system through which water rushes, flows and drains. In watersheds socio-economic as well as bio-physical systems interact in a dynamic manner, thus reflecting a behavior that responds to the management styles of water, soil, flora and fauna resources, as well as the activities or infrastructure existing in their area of influence. Consequently, watersheds are both, territories where the natural and anthropic hydrologic cycle takes place, and geographic spaces where social groups with different identities, traditions and cultures coexist, socialize and work in direct relation to the availability of resources (Faustino, 2001).

Clear evidence exists in watershed management about the relations of the populations with the natural resources, as well as the interactions taking place inside the social groups, through a logical course guiding the interaction of the high, middle and low parts of the watershed. In other words, it becomes evident that deforestation in the high parts of the watersheds affects run-off in the low parts; that the irrational application of agrochemicals and pesticides in the middle parts contaminates the waters needed in the low parts. Thus, the need for coordination among the social stakeholders of the various watershed spaces, in pursuit of the sustainable management of resources and improved quality of life of all watershed populations, regardless of their geographic location.

The complexity of social, economic, political and environmental processes intertwined in watersheds requires innovative analysis approaches that take into consideration the diversity of interests and needs of the populations that interact with the natural resources in the geographic spaces of the watersheds. The efforts to develop the gender approach when addressing the socio-environmental dynamics of watersheds, responds to the need to open equity venues and opportunities between women and men, oriented towards the promotion of their interests, demands and expectations. It does, furthermore, take into consideration the ethnic-cultural characteristics of the populations and emphasizes affirmative actions focused on women, given their disadvantageous position and the inequality and inequity conditions they are subject to (GWP-TAC, 2000).

Likewise, when dealing with watersheds, the gender equity approach contributes to curb the socio-environmental deterioration pace experienced by these areas because it generates processes such as: a) increasing the participation of women and men in the decision-making processes related to the watersheds; b) promoting a more equitable access, control and distribution of natural resource benefits within the social groups; and c) keeping watershed-related intervention proposals from promoting an adverse impact over a sector of the population.

This material enhances the work in watersheds by contributing elements and tools from a socio-environmental perspective, prioritizing aspects related to community participation and equity and sustainability promotion, which fact makes it necessary to consider a complementarity between the various approach scales, from a farm level—where inequitable relations between men and women are more evident—to the entire watershed, passing through micro-watershed and sub-watershed. In these terms, the watershed constitutes the analysis and planning unit to learn about and prioritize the potential and assess impact, while parcels or farms are the intervention and management units.

By the same token, the proposal is not limited to a specific ecological and socio-economic reality, but makes general recommendations that can be taken up again and adapted to the various contexts worldwide. Several of the examples used refer to different regions of the world.

To make the material more accessible, the authors decided to prioritize hydrographic resources as the axis of the analysis. This, by no means, intends to undermine the importance of the other natural resources of the watershed; quite the opposite, the study has been more accurately focused on the water resource, considered as strategic. There are several conflict-leading factors in terms of the use, access and control of water resources, among which are population growth, inadequate use of the land, social inequity, consumption patterns, the impact of environmental pollution, the water governability crisis, and increased economic activities.

The above outlook poses the following major challenges: ensure the equitable distribution of water, particularly for the poorest segments of the population, where women constitute a majority; adequate management of the water and the land to guarantee water availability for human consumption and food production, while keeping alive the ecosystems. In addition, development strategies should be implemented considering the fact that every human-related activity requires water and generates waste and impacts in dire need of mitigation, including contemplating water management according to its availability in time and space (Ministry of Agriculture, Livestock and Food, 2002).

On the other hand, the populations need to be fully committed to water resource management, as well as to ensure the participation of the various sectors including their willingness to reach agreements on the use and administration of these resources. In this context, political will is essential. Finally, it is also necessary to develop new methodologies whereby management, conservation and restoration of watershed resources may

be approached from broader points of view and theoretical and practical references, taking into consideration the interest and needs of the different stakeholders coexisting in these spaces.

The book **“The Force of the Current - Watershed management from a gender perspective”** was published thanks to the financial support provided by HIVOS (Instituto Humanista para la Cooperación con los Países en Desarrollo). It is a conceptual and methodological proposal providing instruments and recommendations to build processes to promote gender equity in watershed management while promoting environmental sustainability and social participation. Therefore, the processes involving appraisal preparation, management plans, monitoring and evaluation systems, as well as watershed management processes, are expected to promote greater equity, environmental sustainability and participation.

1. Why is it important to work with gender in watershed management?

Gender relations affect the use and management of natural resources. That is, women and men have an unequal access to and control of the natural resources, affect these in a different manner, and experience differently the consequences derived from environmental degradation.

Another essential factor related to watershed management from a gender perspective is the leading role rural women have played in the articulation of family and community nucleus with the natural environment, by carrying out non-remunerated but basic tasks for household reproduction purposes. In most cases, women are directly responsible for firewood gathering, water hauling, animal rearing and backyard agriculture, gathering of non-timber wood species, and informal riverside fishing. In addition, their role as heads of rural households is increasing, due to the increasing male seasonal migration, which fact forces women to add male-related tasks to their already heavy workload.

Under poverty conditions, women are affected the most, given the subjugated, discriminatory and devalued position they are subject to. Poor rural women have to intensify and extend their working day in order to deal with the environmental crisis and restrictive social policies. Among other things, income reduction in rural families affects women by limiting their selection and purchasing possibilities for household consumption as well as their food preparation function, which situation weakens the entire household's health, education and wellbeing. The situation is even more dramatic for poor female household heads, given the fact that, in addition to the household and the remunerated work, women have to take sole responsibility for the survival and wellbeing of the household unit. And along with an increased poverty, domestic violence towards women has also increased, as a male way of letting off steam from daily frustrations (Maier, 1998).

The importance of acknowledging the roles, needs and responsibilities of women and men with respect to nature and under poverty conditions, lies on the fact that these are key considerations to be taken into account when pursuing sustainable development. Thus, the relevance of mainstreaming gender in watershed management to improve the quality of life of the entire watershed's population, thereby aiming at building sustainable societies.

2. How was this methodological proposal conceived?

The proposal seeks to enhance existing documentation; and its contribution consists on providing conceptual and methodological tools to work in watersheds in a participatory manner and from a gender perspective. The populations' interactions with watershed resources provides the perfect setting to illustrate the methodological guidelines of the gender equity approach proposed in this methodology.

It is important to stress that this is a methodological proposal and not a guide or manual. Therefore, the ideas herein outlined should be adapted to each particular watershed, whether in ecological, socio-cultural or political terms. In this way, the validity or effectiveness of the material is strongly linked to the sensitivity and ability of the implementing team. The team should be interdisciplinary to enable a more integral and comprehensive reading of the diverse realities coexisting in watersheds, and recreate the contents of the book in accordance with the particularities of each region.

Interdisciplinary teams are more susceptible to recognizing the different logics, beliefs and cosmovisions of the various populations that coexist in the watersheds, as a result of the possibility for knowledge exchanging among various fields. Since the book constitutes a proposal to work with the people who live and intervene in the geographical spaces of the watersheds, those using it should bear in mind at all times that people are different, and such diversity demands using the material as a dynamic instrument that allows feedback, adaptation and updating.

In these terms, if indigenous groups populate the watershed, the technical team should be able to make a reading about the people from the point of view of their diversity and specificity, as well as to recognize the difference in identities, values and cosmovisions, including the implications regarding their conception of and relation with nature. Under this perspective, the proposal seeks to legitimize the various forms of knowledge of indigenous communities, by combining and complementing these with western knowledge. This means broadening the horizons to bring together modernity and tradition, where the latter will not be overridden, subordinated, excluded and denied by modernity.

For the purpose of gathering the largest number of experiences and knowledge, the proposal was validated in two workshops. The following specialists attended and made contributions to the first workshop held in Costa Rica: Jorge Faustino (CATIE, Costa Rica); Marta Lilian Quesada

(SalvaNaturra, El Salvador); Vilma Pacheco (Ministerio de Salud, Costa Rica); Oscar Palomeque (Sociedad de Historia Natural del Soconusco A.C., México); German Palma Moreno (Instituto Mexicano de Tecnología del Agua, México); Liliana Arrieta (Global Water Partnership, Central America); Suraya Padua (Comisión Nacional del Agua, México); Sonia Dávila Poblete (Global Water Partnership, México); Guiselle Rodríguez, Montserrat Blanco (IUCN-ORMA); and Lorena Aguilar (Senior Gender Advisor-IUCN).

The second workshop was held at the Instituto de Investigación y Desarrollo en Agua Potable, Saneamiento Básico y Conservación del Recurso Hídrico (Cinara), Universidad del Valle, Cali, Colombia. Among the participants were: Mariela García (Cinara Institute, Universidad del Valle); Inés Restrepo (Cinara Institute, Universidad del Valle); Rodrigo Mercado (Corporación Autónoma Regional del Valle del Cauca, Unidad de Manejo de Cuencas Hidrográficas); Alba Miriam Vergara (Corporación Autónoma Regional del Centro de Antioquía); Arlex Saavedra (Serviaguas Montebello-EPS); Diego Escobar (Corporación CORPOCUENCAS); Fernando Sánchez (Corporación Autónoma Regional del Quindío); Gustavo Adolfo Caicedo Salamanca (Unidad Municipal de Asistencia Técnica Agropecuaria Municipio de Versalles); Henry Jiménez (Escuela de Ingeniería de los Recursos Naturales y del Ambiente, Universidad del Valle); Rosa Myriam Jojoa (Asociación para el Desarrollo Campesino); Inés Reichel (Instituto de Hidrología, Meteorología y Estudios Ambientales); Jesús Aníbal Valencia (Instituto Cinara, Universidad del Valle); Lucienne Vaca (Red Departamental de Reservas del Valle del Cauca); Nancy Motta (Centro de Estudios de Género, Mujer y Sociedad); and Oscar Darío Tosse (Ministerio de Ambiente, Vivienda y Desarrollo Territorial).

Our thanks to all for their valuable contributions to this proposal.

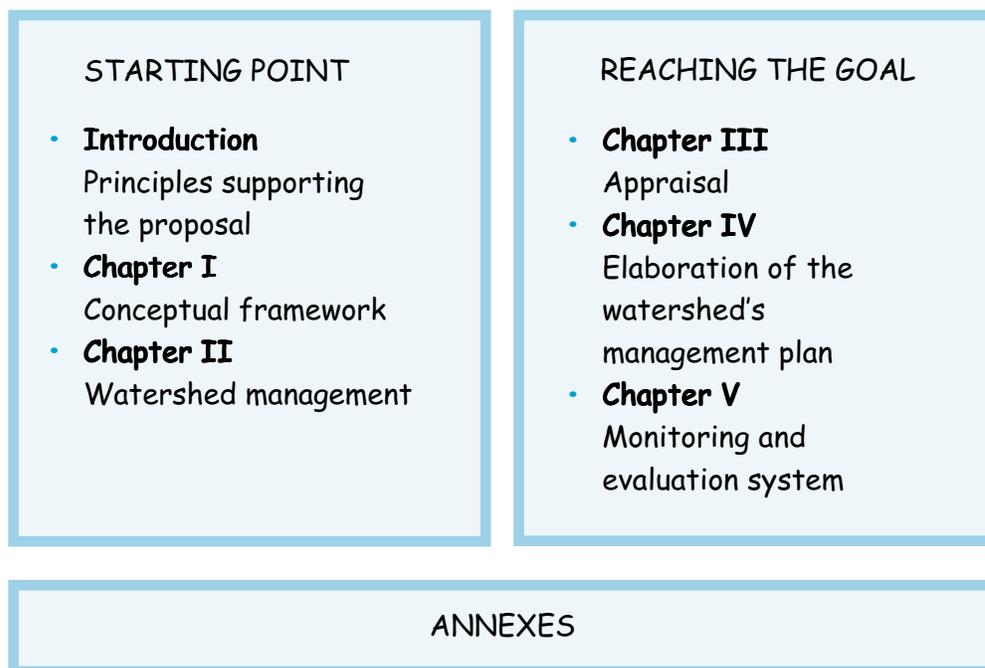
3. To whom is the proposal directed?

The proposal is directed to governmental, non-governmental, academic and social sector institutions, as well as to communities working with and interested in promoting gender equity in natural resource management of watersheds. It was written keeping in mind the teams or stakeholders involved and/or responsible for management plans and watershed management. Since the teams or stakeholders may have different levels of knowledge and experience about gender, there are certain concepts that are explained and developed throughout the chapters. The boxes in each section highlight key concepts and notions.

This module may be used to develop participatory, sustainable and equitable processes related to natural resource management, in general, and hydrological in particular, during the preparation of appraisals, management plans, monitoring and evaluation processes for watersheds, as well as in connection with environmental management.

4. Proposal structure

The book comprises an introduction and five chapters grouped into two clusters. Also included are six annexes providing information related to international commitments on gender equity and water, gender equity indicators, proposals for gender equity policy building, a guide for an impact plan, Internet site references on water and gender, and a glossary. The book's structure responds to the logic proposed in the following tables:



This book can be used as a unit because although the chapters are interrelated, they can also be worked on separately. This facilitates using them at different stages during the watershed resource management cycle. However, it is advisable to put into practice the suggested methodology from the beginning of the watershed's appraisal process. Likewise, throughout the chapters, examples of methodological tools have been included that may be applied to fieldwork. In addition, reference is made to materials that can complement the more general guidelines set forth.

5. Proposal principles

The strategy proposed in this book is based on three principles:

Principles

5.1 Watershed management provides gender equity promotion opportunities

The challenges faced by people in their search for economic and social development are indeed related with natural resources in general and water in particular. Management plans as a watershed management instrument may assist people in their efforts to sustainably and effectively

address water issues. To this end, the plans should propose actions to promote conservation, provide the opportunity to restore and adequately manage watershed resources, in addition to promoting gender equity (Population Reports, 1998).

Appraisal and management plan elaboration, as well as the activities proposed by the plan and resource management, are conditioned by models and structures established in societies. Aspects such as work division, formal ownership structures, and water access and control, are factors that condition actions within the models that assign "feminine" and "masculine" tasks, as these reinforce the traditional roles that have promoted and supported gender inequities and inequalities.

Watershed management from a gender perspective provides a great opportunity to promote equity. This perspective helps to understand an additional form or social differentiation that influences environmental management. Thus, it allows building equitable and fair environmental and management processes, which do not exclude women or men from the benefits and responsibilities inherent to sustainable environmental management. This refers not only to the possibility of including women in management programs and actions undertaken in watersheds, but also in capacity-building processes. Of great importance is building processes that either directly or indirectly allow greater equity in terms of the distribution of economic and social benefits that may be generated by an adequate environmental management capacity (Aguilar, et. al., 2002; Aguilar, and Castañeda, 2002).

In management plans it is possible to propose innovative actions in connection with community resource management and conservation, such as growing a new variety of crop or the development of community organizations responsible for the maintenance of water supply systems. The fact that no "feminine" or "masculine" label has been attached to these activities, allows the promotion of an equitable participation proposal while implementing the activities, thus, allowing both, women and men, to work under conditions of equality. Therefore, a contribution is made towards decreasing discrimination and inequity and increasing equitable access to opportunities and benefits for women as well as men.

5.2 Equity is an unavoidable condition to achieve development sustainability

Sustainability does, necessarily, provide the setting for gender relations, as it would be incoherent to think about a sustainability that excludes half of the planet's population. In addition, gender relations play an essential role in the access, use, management, control and benefit of natural resources in general and water in particular, focal characteristics to build socially and environmentally sustainable watershed processes.

Gender equity is a core aspect of human rights and social justice, as well as a sine qua non condition for sustainable development. One of the fundamental premises of the gender approach is equity. This premise strengthens the social dimension of sustainable development because it

makes visible and tackles the different types of inequities that social groups are exposed to. It does, additionally, allow an approximation to local realities, given the fact that, among other things, it reveals the multiple and complex relations and facilitates a glance at cultural, ethnical and generational specificities (Velásquez, 2001).

It is important to recognize the roles, needs and responsibilities of women and men in their relation to nature, as these are key to lead the path towards sustainable development. The starting point should be to recognize that women have responsibilities and rights in regard to the use and management of water resources, for which reason they should be taken into account as essential management stakeholders. Based on this point of view, through the gender approach it is possible to see and understand that management, appraisals, watershed management plans and development projects, can no longer be formulated from the perspective of a single social individual, and that the challenge and viability of sustainability reside on making visible such a diversity of stakeholders and interests and bring them together at the time the shared ideal is built: to improve the quality of life of the dwellers of watersheds.

In these terms, everyone should have access to the control and benefits of the natural resources on an equal footing to assure the sustainability of development processes. Under an equity principle, programs, projects and actions promoted by management plans should give each person what is rightfully theirs, acknowledging the specific conditions or characteristics of human groups. Equity recognizes diversity and promotes making sure this is not a reason for discrimination.

5.3 Community participation invigorates sustainability and equity building processes in watersheds

Under an equity and sustainability structure, community participation is an invigorating element to solve socio-environmental problems faced in watersheds. That is, it is a strategy that promotes equity to the extent that it generates mechanisms that allow men and women to put forward their development-related demands, concerns and priorities, while promoting the creation of negotiation and consensus venues to discuss about the most appropriate and effective alternatives, from a social, environmental and economic context, to stimulate the resolution of the watershed's problems (Lean, 1998).

Through participation, watershed dwellers are able to both, influence the operation and decisions made in connection with aspects involving their social, economic and environmental welfare, as well as to improve the community's capability to negotiate and intervene in favor of their own interests, that is, their empowerment. Yet, the participation of social groups does not take place in an abstract way to meet isolated or non-viable demands, but to allow women, men, youngsters, older people and indigenous populations, among others, to defend their needs and aspirations, including potential opportunities towards socio-environmental sustainability (Rivera, 1998).

Participation does, additionally, allow the integration of stakeholders into society and the generation of mechanisms to link the people living in the high, middle and low parts of the watersheds, as well as to open negotiation venues with other stakeholders and the government to promote the construction of other policy and intervention models in the watershed. Where people participate, other spaces also open up to the possibility of creating awareness about traditional male and female roles, regarding which, it will be possible to reconsider the roles, rights, opportunities, benefits and responsibilities inherent to watershed sustainability process building. From this perspective, two essential participation aspects become definite: its requirement for sustainable development and its role as an equity-building mechanism.

In these terms, the triad participation-equity-sustainability is articulated in the approach to this methodological proposal that provides the tools to learn about, analyze and intervene in the diverse realities of watersheds. In the same way, it promotes the development of watershed appraisals and management plans that respond to the following questions: Who are the participants? Why are they participating? What are they participating for? In this context, participation seeks to mitigate gender inequity conditions, while seeking to propose alternatives to restore and encourage natural resource and water conservation and sustainable management at a watershed level.

The elaboration of management plans and the regulation of watershed management and coordination processes requires the participation of all the people making use of the resources. Their involvement should take place on an equitable basis. It is also necessary for each person to take charge of the responsibilities and tasks in line with the changes proposed. Should some participants be facing a situation involving disadvantages, subordination or oppression (whether on account of gender, ethnic group, age, religion, political affiliation, socio-economic class or condition), it will be difficult to reach agreements on minimum social participation and equity with respect to watershed conservation and resource development (Niño de Guzmán and Ceballos, 2002).

CHAPTER I

Conceptual references and the gender perspective in watersheds

This chapter includes the following sections:

- 1. Ecosystems: sources of water and life*
- 2. Watershed: spaces that link population and environment*
- 3. Relations between water and population*
- 4. Uses and value attached to water by the population*
- 5. Basic concepts regarding the gender equity approach*
- 6. Why are gender equity and equality essential to the sustainable use, management and conservation of watersheds?*

In many parts of the world there are environmental initiatives that, from an ecosystem view point, try to respond to the challenge posed by undertaking equitable and participatory management of natural resources in general and fresh water in particular in watersheds. These initiatives seek balance between the use of water by the world's ever increasing population, and the need to protect and preserve the resource to sustain the vital functions of the ecosystems. The social and environmental reality where these efforts take place is complex and requires more participatory, comprehensive and integral actions. By working from a gender perspective it is possible to obtain a more holistic

vision about relations between people and the ecosystems. This approach allows a better analysis of usage, knowledge and skill patterns of the people in relation to the conservation and the sustainable use of resources. Furthermore, it favors initiatives that promote greater participation of people with different skills, experiences and knowledge.

To address the complexities of participatory and equitable watershed management, it is necessary to set out from a minimal platform of understanding about the relation between the social groups and the natural resources. To this effect, it is imperative for the various groups involved in watershed resource management to have a common language and terminology to allow them to communicate in the best possible manner.

This chapter includes basic concepts about ecosystems, watersheds, watershed management, interactions between human beings and the water, and about the gender equity approach. These topics are tackled in the hope of providing a conceptual framework to those involved in natural

resource management initiatives undertaken in watersheds, helping them to understand why are gender equity and equality necessary for sustainable watershed management.

1. Ecosystems: sources of water and life

Definition of ecosystem

Ecosystems are communities of organisms that interact with each other and with their surrounding environment. They are combined systems conformed by organic and inorganic matter and natural forces that interact and change. The systems are intertwined in a complex way by the food chain and the cycles of nutrients. The more complex and dynamic an ecosystem, the more difficult management becomes.

Each centimeter of this planet is part of an ecosystem. Ecosystems provide essential goods and services and have intrinsic values (WRI, 2000).

When dealing with ecosystems it is important to bear in mind the dimension (scale and size). One can talk about an ecosystem when referring to a small stream or it can be broadened by referring to a category of ecosystems where, for example, coastal, woodland, agricultural and fresh water

ecosystems, are tackled. One can also talk about "managed or intervened" ecosystems, such as farms or tree plantations, or about "natural" ecosystems, like extensive forests maintaining a significant portion of their original structure and operation (WRI, 2000).

Today, human influence affects somewhat all ecosystems around the world, even the most isolated. "Managed" as well as "natural" ecosystems are live systems capable of producing a wide range of benefits such as water and air purification and climate control, among others, and both are critical to human survival (WRI, 2000).

1.1 What is the ecosystem approach?

The ecosystem approach is a strategy for the integrated management of the land, water and living resources that promotes equitable conservation and sustainable use. This approach recognizes people as an integral component of every ecosystem, as well as the need to manage the interaction taking place between people and the other ecosystem components (IUCN, 2000).

This approach favors the application of scientific methodologies, and is based on the structures, processes, functions and interactions within the ecosystems. It recognizes the need for a management system adapted to the specific characteristics of each ecosystem to deal with their complex and dynamic nature.

*The
ecosystem
approach is
based on
twelve
principles:*

- 1. The objectives involving management of the land, water and living resources are a matter of choice by the women and men who integrate the society.*
- 2. Management should be decentralized at the "lowest and most appropriate" level.*
- 3. Ecosystem managers should consider the effects (real or potential) of their activities in adjacent and other ecosystems.*
- 4. Recognition of the potential gains derived from management. A need always exists regarding understanding and management of the ecosystem within the economic context. This type of management program should: Reduce the market distortions that have an adverse impact on biodiversity; find incentives to promote biodiversity and sustainable use; and internalize the costs and benefits in a given ecosystem to translate its feasibility into a fact.*
- 5. The conservation of the structure and function of ecosystems should be a priority goal of the ecosystem approach, in order to maintain the services it provides.*
- 6. Ecosystems should be managed within the limits of their operation.*
- 7. The ecosystem approach should be undertaken within adequate seasonal and spatial scales.*
- 8. Recognition of the variable seasonal scales and the diverse effects that characterize the ecosystem processes. All ecosystem management objectives should be of a long-term nature.*
- 9. Management should recognize that change is INEVITABLE.*
- 10. The ecosystem approach should seek an appropriate balance between integration, conservation and the use of biological diversity.*
- 11. The ecosystem approach should take into consideration all relevant forms of information, including scientific and local knowledge, innovations and practices.*
- 12. The ecosystem approach should necessarily involve ALL relevant sectors of society and the scientific disciplines.*

(Adapted from UNEP/CBD/COP/5/23/2000)

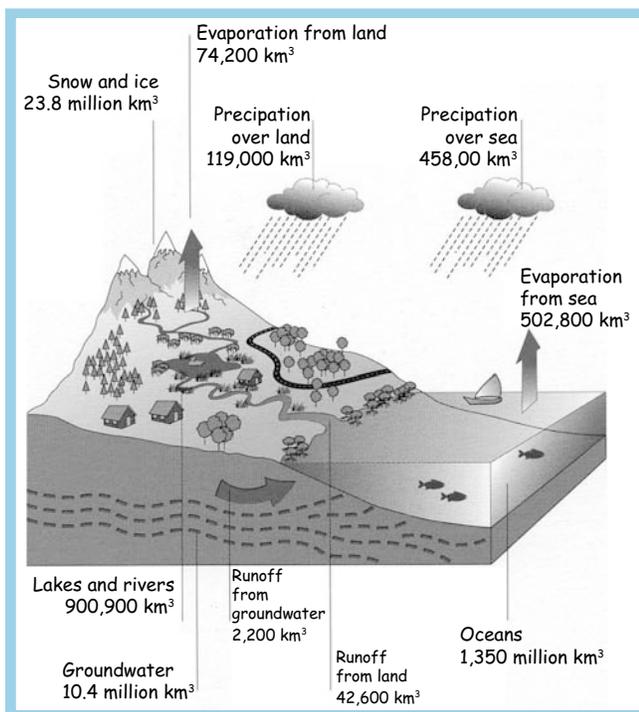


Figure 1: General description of the hydrologic cycle
(Source: Shiklomanov, 1999 in IUCN, 2000)

Definition of watershed

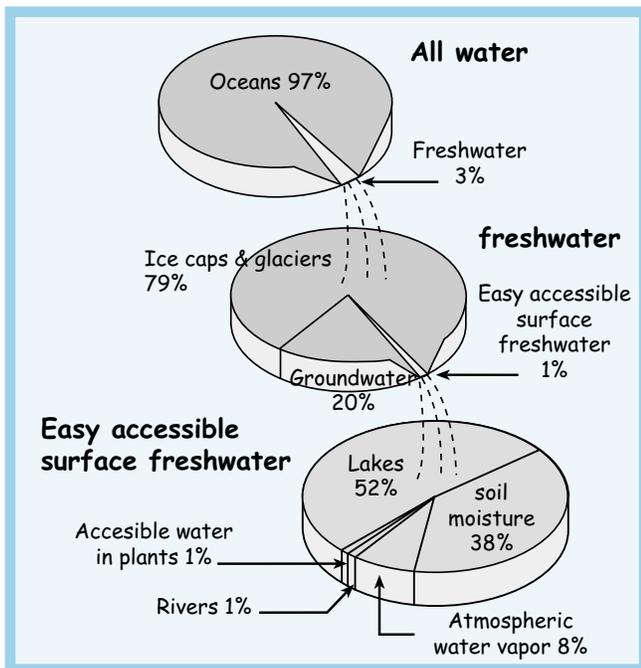


Figure 2: Water distribution in the world
(Source: Lean and Hinrichsen, 1994 in Population Report, 1998)

2. Watershed: the space where population and environment link

The hydrologic cycle of the earth acts as a giant pump that continuously transfers fresh water from the oceans to the earth and back to the ocean (refer to figure 1).

Fresh water is an indispensable component of land ecosystems as well as for life. Water accounts for a 70% of the surface of the earth though most of it is of oceanic origin. Volume-wise, only 3% of the total water of the planet is fresh water (refer to figure 2). Therefore, it is necessary to develop actions to guarantee an adequate supply of good-quality water for the entire population of the planet, preserving at the same time, the hydrologic, biological and social functions of the ecosystems.

The watershed is the topographically delimited area through which water flows creating a drainage network and taking the waters to a larger river, to an aquifer, lake or sea. At the watersheds, the hydrological cycle is linked to the anthropic cycle of water use (see figure 3). Each watershed has a certain water availability. Water availability refers to the water available for the use of people and ecosystems, which is found in rivers, lakes or aquifers. In addition, this availability can make use of water available in the form of ice, or may be harvested through rainwater or fog.

As a minimum acceptable living standard for developed countries, it is considered that a person needs 100 liters of fresh water per day, for drinking purposes, sanitation, bathing and cooking (Population Reports, 1998).

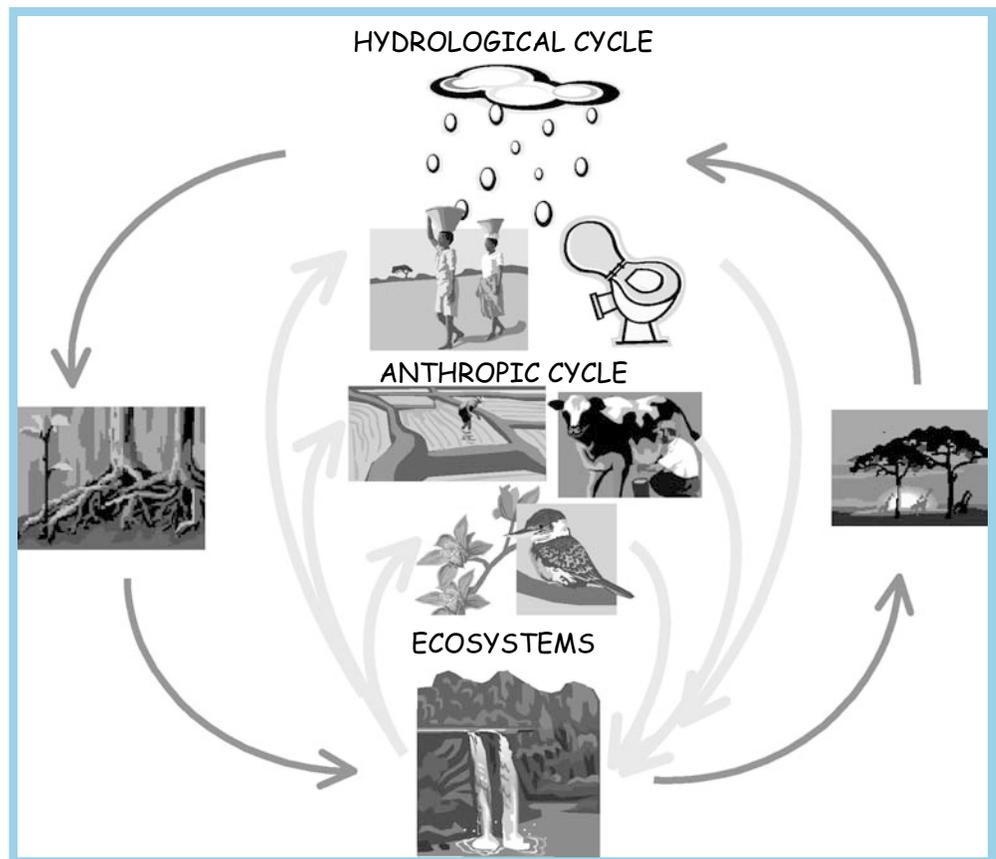


Figure 3: Anthropic cycle - hydrological cycle

Watersheds are geographic spaces where people share the space, identities, traditions and cultures; they socialize and work in accordance with the availability of resources. Watersheds are recognized as a system because of the existence of interactions between the soil's natural system, the water and the forest and the socio-economic system, which—although not having a physical boundary, it does depend on the supply, quality and availability of the resources (refer to figure 4). The various components of the watershed system are not always arranged in a coordinated manner. For instance, the political and administrative division of a watershed might not coincide with its area, in which case various municipalities or public organizations would have interference on the watershed. Furthermore, it is frequent for the regulatory framework to be unclear and not fully adjusted to the needs of the populations and their realities. The above creates tension among all participants, making even more difficult management of the natural resources by all concerned.

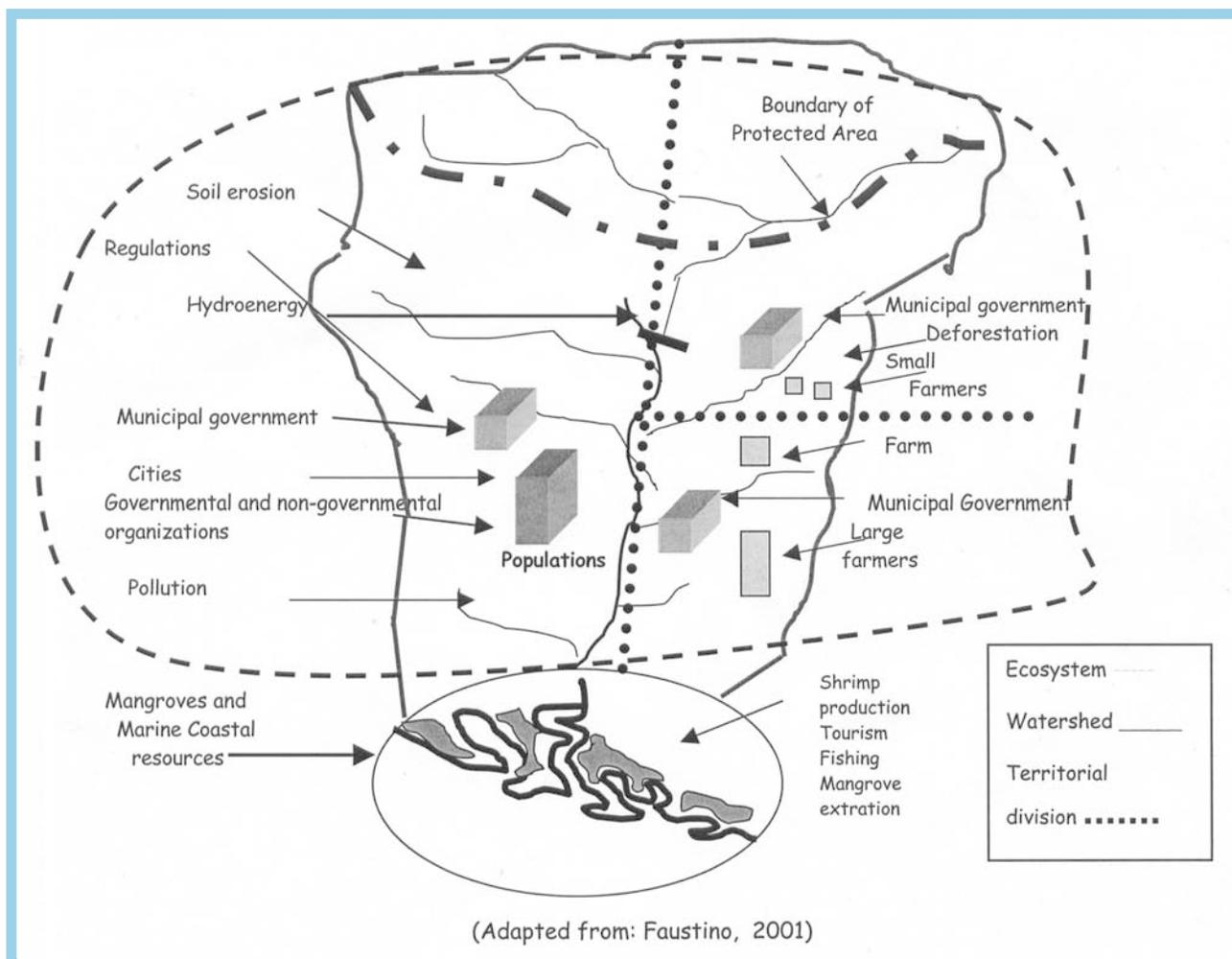


Figure 4: The watershed as a biophysical and socio-economic system

The watersheds and their resources express potentiality and vocation. There are some watersheds, which—because of the soil, type of covering or water availability—are able to provide better services and products. These elements are key when planning and regulating the use of the resources. Watersheds with an adequate availability of water in both, quantity and quality, could provide multiple social, cultural and economic services (hydraulic power, recreation, fish-farming, drinking water, irrigation, etc.). Watersheds with good soils and sufficient water or rainfall, could constitute important areas for food production. Other watersheds might have a natural covering of considerable importance for biodiversity or ecological tourism purposes.

At the time of watershed planning and regulating, consideration should be given not only to their vocation but also to the interests and needs of the populations with respect to the natural resources. For instance, the hydroelectric power potential of a watershed is of no good if communities do not agree on being relocated, changing their economic activities, or affecting their community development process.

Watershed management poses the need to make a rational use of natural resources within the limits of the watersheds. Such management considers essential taking into account the capacity of use of the land and the establishment of a relation with the geo-morphological, ecological, social and cultural configuration of the watershed.

The GIRH is a process that promotes coordinated development and management of the water, the land and related resources, in order to maximize the resulting social and economic wellbeing in an equitable manner, without compromising the sustainability of vital ecosystems (GWP-TAC, 2000).

Resource sustainability demands participatory management by the various stakeholders and sectors present in the watersheds, in addition to taking ecosystems into consideration as users of these. **The integrated management of water resources (GIRH)** is a process that can help to manage watershed resources. The GIRH takes into account the interactions between the natural system and the people.

Watershed management plans are planning and regulatory instruments designed for development integration purposes while generating a management instrument that will enable communities to make better use of the natural resources. During plan elaboration, the watersheds are analyzed as a system conformed by various components (socio-cultural, demographic, biophysical and economic, among others) that interact in and within the various sections of a watershed (high, middle and low). When determining common priorities, objectives and goals for the various stakeholders, the plan should consider these interactions in such a way as to improve the quality of life of the watershed's social stakeholders.

**Ecosystems
are yet
another
water user**

This book does not intend to propose a watershed management approach that only considers human needs, but rather one that also takes into account the demands of the ecosystems to maintain their forms of life. This entails considering ecosystems as yet another user of water with explicit interests. Therefore, a comprehensive analysis should be carried out to determine the water availability in natural systems as well as their demand.

3. Relations between water and population

Understanding and accepting mutual dependence between the population and the water in watersheds constitutes the starting point to change current management practices involving natural resources in general and water in particular, and undertake a process enabling a participatory and integrated management based on the fact that women and men use the resources in a distinctly differentiated manner as a result of their gender condition.

It is estimated that in the developing world 80% of all diseases are due to the consumption of unsafe water and poor sanitary conditions (World Water Assessment Programme People and the Planet, 2003).

A close relation exists between the availability and quality of the water and the dynamics of the populations. For example, when populations grow, larger quantities of water are used in food production and household consumption. As a result thereof, water scarcity and food insecurity increase, which fact could lead to economic, social and political crisis. Likewise, the opposite might be the case, that is, the scarcity and poor quality or distribution of water sources in nature could have adverse consequences for the population's health, growth and distribution (refer to figure 5).

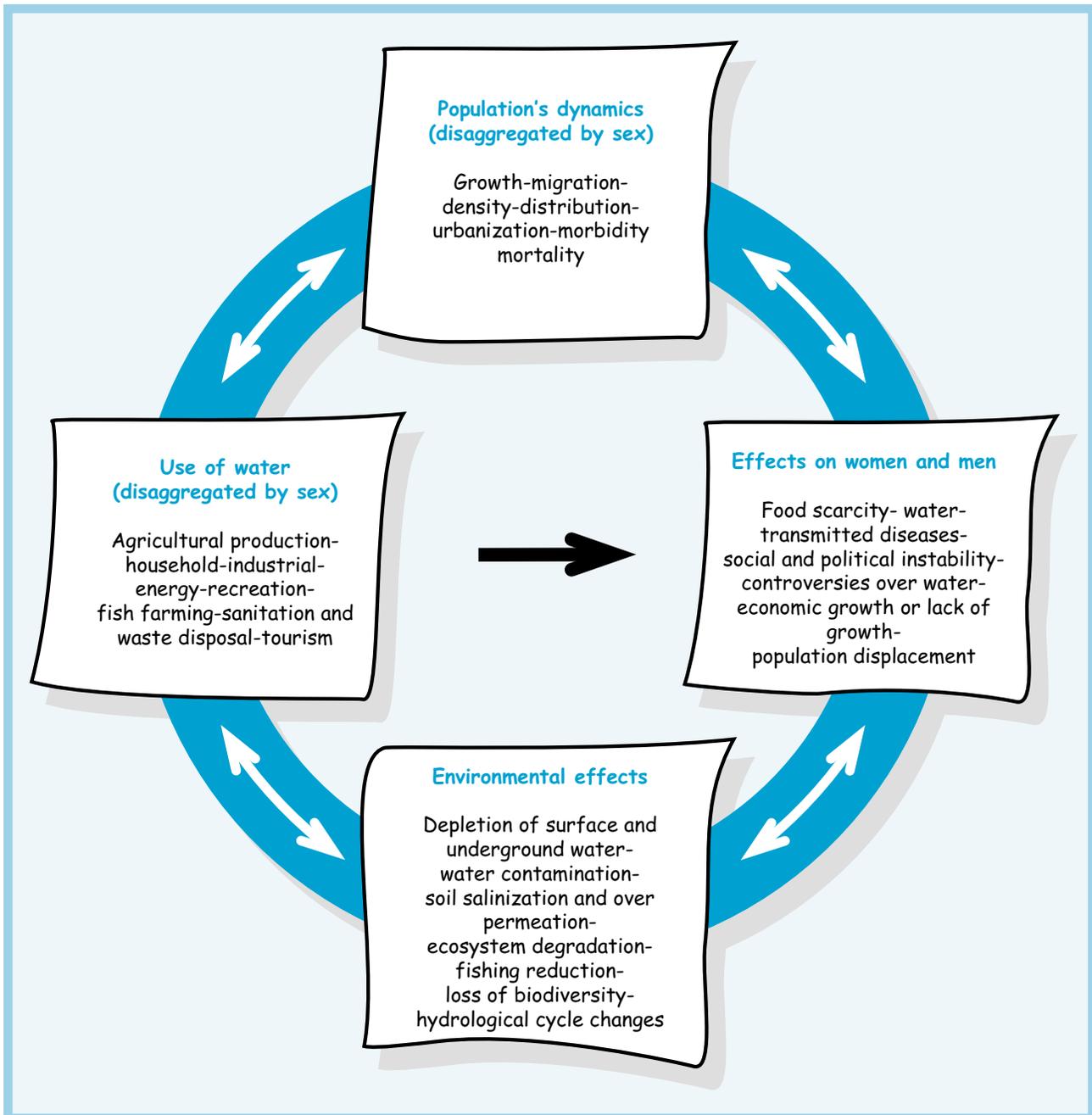


Figure 5: Links between population and fresh water
(Adapted from: IUCN in Sherbinin, 1998)

Interactions between population and water are complex and specific in watersheds. Interactions are conditioned by a series of factors, among which should be noted the climate, topography, vegetation, geology, the extent of alteration of the landscape, as well as socio-economic and cultural characteristics of watershed populations. Such complexity is far more noticeable in the case of transbordering watersheds, as this poses a huge challenge: coordination of efforts between nations in a single watershed management plan, reflecting the interests of all the social stakeholders that reside in the various geographic spaces. Likewise, in a national watershed that extends across various municipalities, provinces or departments, the elaboration of a management plan does also entail a series of challenges. Another aspect present is the fact that the watershed activities undertaken by the communities located on the high part have repercussions on the communities located below (wetlands - marine-coastal zone), which situation requires negotiations between stakeholders, whose demands are not always convergent.

Women and girls tend to suffer more as a result of the lack of adequate sanitation facilities (World Water Assessment Programme People and the Planet, 2003).

The socio-economic conditions, diversity of the indigenous people, poverty, culture, institutional agreements and political factors also play an important role in the reality of watersheds. A combination of social inequity, economic isolation and a lack

of poverty alleviation programs, force the women and men who live under such conditions to overexploit the land and forestry resources, with the resulting impact on the quality and quantity of water. It is also important to understand that interactions in a watershed itself may be affected by aspects such as variations in water supply seasons, consumption patterns, contamination and industrial sector increase.

The watershed as a system

A watershed is a system where economic, social and environmental components are closely linked to each other. This makes it imperative for appraisals, management plans or other management and planning instruments used in natural resource integrated management, to be undertaken through a participatory and consensus process.

In participatory planning, the gender perspective is the core element involved in the formulation of a given set of actions with the women and men of the community, region or country, articulated in the watershed's management plan, and which implementation leads to a coordinated development and management of the water, land and related resources.

To enable managing the water resource and proposing a natural resource management plan for watersheds, an analysis involving the deterioration of water resources should be addressed in an integral manner. The use people make of both, the water and the land, has reciprocal effects: the use of the land is dependent upon water availability, and the quality of

fresh water ecosystems is directly affected by the use of the land. A simultaneous analysis should be conducted on ecosystem performance at different hierarchical levels, both in space and time. Integrated planning and regulation of natural and water resources should be articulated at a local level (household unit, farm or community) as well as at a regional level (watersheds).

Four key factors should be borne in mind:

- a. women and men have an unequal access and control over water and natural resources in general;
- b. women and men use, manage and have a differentiated impact on natural and water resources, given their roles in society;
- c. the degradation impact has a different effect on women and men;
- d. the benefits derived from the use of the resources are not equitably distributed between women and men.

4. Uses and value attached to water by the population

The use and management of water resources is a priority matter for the world's entire population. Since water has a decisive impact on the social wellbeing and health of the people, it plays an unquestionable role in maintaining the structures and functions of the natural systems, conditioning to a large extent the possibilities for economic development. In fact, great social, cultural, environmental, political and economic value is attached to water.

Water is an indispensable element for life. People have the **human right** of using water to lead a healthy life. Women and men alike depend on water on a daily basis, either to drink it, or use it in food preparation, personal hygiene and household cleaning, among many other uses, within the household unit. Household uses of water meet the reproductive needs of the members of the household unit and it is women who, because of their gender role, usually bear the heaviest burden regarding the family's social reproductive activities.

The water's cultural value cannot be ignored. Many cultures carry out a number of ceremonies to pay tribute to the water, in addition to drinking it in ceremonial preparations and meals, as well as community celebrations in general. Contrary to other social groups who attach economic value to the water, indigenous communities do not; to them, water has a social use, where it is considered a symbol of identity and community cohesion.



Value
of water

The social, environmental and economic values of water provide security to the populations at these three levels. Environmental security is guaranteed as of the acceptance, valuation and fulfillment of individual, social and institutional responsibilities regarding adequate management, conservation and rehabilitation of the ecosystems. Social security is provided through the equitable, safe and efficient access to water, as well as by taking on responsibility towards its conservation and sustainable management. Regarding economic security, current trends involving consumption, demographic and society-nature articulation patterns are expected to be reversed, in order to guarantee meeting present and future demands of water resources for all populations and social sectors, without compromising the ecological, biological and hydrological integrity of the ecosystems. Given the complex meanings and uses of water, when developing projects which core element is the access and control of water resources by local populations, consideration should be given to the most integral solution, for the purpose of responding from multiple perspectives to the demands of the populations (IUCN, 2000).

Despite the relevance of water resources and their close relation to all forms of life on the planet, a large part of the populations did not develop a water culture designed around a vitally important, finite and scarce resource. This has led to a very serious problematic derived from its use and management. From this perspective, should current water consumption and varied use patterns be maintained, the world will experience increasing water scarcity problems in several regions, the pollution situation regarding currents and aquifers will get worse, and there will be serious restrictions concerning water availability for the world's populations (IUCN, 2000).

In most cultures, women and men, often supported by children, carry out different tasks, have different access to the resources, benefits or decisions made about them. This also is the case in watersheds because of the interaction of several cultures and ethnic groups, each one with its own particular way of linking to resources and relating to each other. According to GWP-TAC (2000) and Overholt, et.al. (1991), watershed water is used by populations in various manners, among which are the following:



Water uses

- Water for human beings
- Water for food production
- Water for nature
- Other water uses

Water for human beings

The number of people using water is increasing. At present, 54% of all fresh water available in rivers, lakes or aquifers in the world, is used by human beings. By the year 2025, this figure will increase to 70%. Should the increased water consumption per person be added to the above, this percentage could easily reach 90%, leaving only 10% to be used by the remaining living organisms on the planet (World Water Assessment Programme People and Planet, 2003).

Following is an account of the uses people make of water. A considerable effort has been made to make visible the use women make of water, in order to provide technical staff with added knowledge which, in turn, will allow them to keep these uses in mind when preparing a technical proposal or a watershed management plan.

The women from Altos de Menga (Cali, Colombia) used water sources as community sites for laundry washing and daily bathing. It was their point of communication and news transmission. The aqueduct was installed by the city's water supply company, which put an end to their meeting sites. At the present time, communication among them and their involvement in community projects is difficult.

In various rural areas around the world, the migration of men seeking better working conditions is becoming increasingly frequent. In the rural areas of Cuenca, Ecuador, it is common to find towns virtually inhabited by women and children because the men have gone East in search of work. However, during an evaluation conducted by Vjisscher and others in 1995, it was found that the wives of the water committee members had taken on the aqueduct-related tasks, but the decision-making meetings were only held when the men returned to the communities (García, 2000).

Women play a very important role in water supply for human consumption. In most places in the world where no aqueduct exists for household water supply, it is women who every day invest countless hours and energy carrying water to meet household needs. This activity takes a toll on their physical health and, in many cases, the location of water sources far away from their homes, makes them more vulnerable to sexual assaults. It is also common for water collection sites to be socialization spaces for women. However, when aqueducts are built, women are usually excluded from the consultation, planning, training or decision-making processes because of the common belief that "technical matters" fall under male domain.

Women work actively in their communities to improve the living conditions of their families and neighbors. In spite of this contribution, their effort is not rewarded in the same manner when it comes to having control over the water services they have helped to build. They are not asked about the best location, the technology to be used, type of supply, costs, benefits and disadvantages of the supply systems to be installed. Regarding administration of community-managed

water services, women are the ones who usually hold secretary or treasurer positions. There are extremely few instances where women chair water supply committees. To improve this situation, it is important to ensure the participation of women in all instances related to the control of water, including decision making.

Water for food production

At a worldwide level, agriculture is the human activity that uses more water. The amount of water used in agriculture represents about 69%. Irrigated lands generate around 40% of the food and use between 2,000 and 2,555 km³ of water per year. Poor irrigation practices have caused flooding and salinization problems to 10% of the world's irrigated lands. Large-scale agriculture using agrochemicals presently accounts for 70% of water contamination and is the single most responsible for aquifer overexploitation (World Water Assessment Programme People and the Planet, 2003).

Rural women are responsible for half of the world's food production and account for about 60% to 80% of the food production in most of the developing countries (World Water Assessment Programme People and the Planet, 2003).

As a resource, water is essential for the development of agricultural, livestock, forestry and industrial activities. Nothing can be produced without water. In many parts of the world, where poverty conditions prevail, food security depends on the work of women. They are in charge of tending plant nurseries and aquaculture-related activities, including agroindustrial activities at a

small-scale level and tending the cattle and smaller species, to feed their families, or sell the products on the local market. It is frequent for women and men to cultivate plants requiring different quantities of water to grow. On the other hand, most commercial crops are tended by men.

Traditionally, women have been responsible for the education of the family, socializing their children and transferring to them the traditional values and knowledge. Because of this, the activities carried out in the watershed aiming at rehabilitating or building an irrigation system, implementing agroforestry and grazing systems, aquaculture or any other activity to increase land production and water management, should keep in mind the teaching role performed by women. Thus, technology transfer and adoption by the community will then become a reality.

Irrigation projects may have different impacts on the lives of men and women. These usually intensify the amount of work for women, boys and girls in activities related to growing crops, transplanting, weed control, harvesting, storage and processing of agricultural products, since irrigation-based production allows more than one crop cycle. This means additional workload burdens for the women because the other responsibilities assigned on account of their gender are not reduced. Women and children do not have equal access to agricultural tools and technologies as men, thus, their workloads are not lightened up.

Investigation results show that in the Río Laja watershed, México, men own and work irrigated lands, while women do not. The investigation did further show that irrigation is symbolically and culturally considered a man's activity, although many women are involved in it. It does, furthermore, make evident that within household units an erroneous perception prevails regarding the distribution of productive tasks, which hide the work carried out by women.

This causes women to be excluded from irrigation associations because they do not hold titles to land tenure, and lack an irrigation status because they are not household heads. In addition, they are not taken into consideration when building or planning the infrastructure of irrigation projects, or when the gains are distributed. In conclusion, women's exclusion from decision-making venues and irrigation project benefits, has made worse the discrimination and insecurity they experience (Rico, 1998).

By the same token, land tenure may be affected by irrigation projects. In general terms, men try to take control over women-managed lands to increase their production power as well as any income related to it, or because the land under irrigation and with infrastructure becomes more valuable. As a result, women lose control over the land portion that is rightfully theirs, thus decreasing their participation in the use of community lands, and the resulting loss of independence and income (Koppen, 1990).

Water for nature

Ecosystems provide basic goods and services to sustain life and are the basis for the environmental, social and economic security of the populations. Human beings have appropriated the water found in the ecosystems to supply their homes, produce food and use it in industrial activities. Such uses have caused an impact on the quantity and quality of water, affecting, consequently, the ecosystem's hydrological relations. For example, wetlands are being destroyed, marine species are becoming extinct, the forest is affected, etc. The loss and degradation of ecosystems has differentiated social and economic implications for men and women. Fresh water ecosystems need this liquid to survive, preserve their values and continue providing goods and services to mankind.

Basic goods and services provided by some ecosystems		
Ecosystem	Goods	Services
Fresh water ecosystems	<ul style="list-style-type: none"> • Drinking and irrigation water • Fish • Electric power • Genetic resources 	<ul style="list-style-type: none"> • Mitigate water flow (control flow time and volume) • Dilute and transport waste • Nutrients cycle • Maintain biodiversity • Provide water and associated habitats • Provide a transportation corridor • Provide employment • Provide transportation ports and routes • Provide habitats for people • Provide employment • Contribute aesthetic beauty and recreational opportunities
Coastal ecosystems	<ul style="list-style-type: none"> • Fish and seafood • Fish flour (animal feed) • Algae (as food or for industrial uses) • Salt • Genetic resources 	<ul style="list-style-type: none"> • Moderate storm impact (mangroves, barrier islands) • Provide habitats for wildlife (marine and land) • Maintain biodiversity. Dilute and treat waste • Provide transportation ports and routes • Provide habitats for people • Provide employment • Contribute aesthetic beauty and recreational opportunities
Agricultural lands (Agro-ecosystems)	<ul style="list-style-type: none"> • Food crops • Textile crops • Genetic resources for crops 	<ul style="list-style-type: none"> • Maintain some of the watershed's functions (filtration, flow control, partial soil protection) • Provide habitats for birds, pollinating birds, and soil organisms important for agriculture • Develop the soil's organic matter • Fix carbon • Provide employment

(Adapted from: WRI, 2000)

Mismanagement of water resources as well as sectoral management approaches have caused the loss of biodiversity and impact on the quality and quantity of water. People in the communities see their ways of life affected when water is detoured to irrigation channels, dams are built, or when agricultural-produced contamination takes a toll on their health. Water resource degradation has social, cultural, political, economic and health implications. As a result, because of gender considerations, the way of life of community women and men is affected in a differentiated manner.

Women, oil and ways of life in the Niger delta

The Niger delta on the Southern part of the country, is the largest oil producing region in Sub-Saharan Africa. However, in spite of the fact that the region's oil exports have contributed billions of dollars to the Nigerian economy, it has had no positive effect on the local economy or the environment.

"Oil extraction by western multinational companies has caused considerable damage to the Delta, including serious water and soil contamination, collapse of fisheries, deforestation, wildlife destruction and migration and, in general, scarcity of drinking water. Each one of these environmental impacts has had serious social and economic consequences; for instance, loss of agricultural production, loss of hunting and fishing opportunities, and most of all, massive migration of men. In this particular case, the Ibeno women have been affected not only by the obvious impacts: water contamination, firewood scarcity, and impact on public health, but have also been affected by the migration of their partners. The migration of men has imposed on women responsibility over the agricultural production of the region. Consequently, women are working a more degraded land, with fewer labor resources, and contaminated water. In addition, for labor requirement purposes, many women have been forced to take their daughters out of school to do agricultural work. Another measure taken by the women to maintain the labor force has been maintaining a high rate of fertility" (Okoko, 1999).

Women adapt in very creative ways to the challenges posed by the environment to their way of life; for example, in this particular case, women increased the use of forestry resources to offset the low agricultural productivity. This case study shows that when analyzing the interaction between gender, water and nature, specialists should take into consideration the secondary effects of water contamination and degradation, which affect the way people deal with the reduction in water quantity and quality. In addition, the people's way of life is a major factor in the human-nature relation. Finally, consideration should be given to the fact that the experience of environmental degradation may provoke creative adaptation responses, deriving from the relation between the role of gender and the environment. In this case, women's cultural botanical knowledge facilitated an efficient extraction of forestry resources (Khosla, 2003)

Other water uses

Dams have been built for thousands of years to control floods, use the water as hydraulic power, or provide water for household, industrial and irrigation purposes. But over the last 50 years, the problems and social and environmental impacts of large-scale dams have also become evident. Large-scale dams have fragmented and transformed the rivers

of the world. It is estimated that between 40 and 80 million people have been displaced by dam construction. There are many countries where, as decision-making has turned more open, inclusive and clear, the decisions involving dam construction have become increasingly controversial, to the point where the future of large-scale dam construction is now questioned in many countries around the world.

Almost 60% of the world's 237 largest rivers are heavily or moderately fragmented by dams, deviations or waterways (WRI, 2000).

Dams have made an important and significant contribution to human development, and the benefits derived thereof have been considerable. However, in most cases, attainment of these benefits involved an unacceptable and frequently

unnecessary price, especially in social and environmental terms, by the people displaced, communities located downstream, tax payers, and the environment. When compared to other alternatives, the lack of equity regarding benefit distribution has raised doubts about the value of many of the dams when it comes to meeting water and power needs for development (World Commission on Dams - IUCN, 2000).

To create the necessary conditions for a positive resolution of conflicts derived from hydroelectric project development, it is necessary to include in the discussions all the stakeholders whose rights are at stake and who are taking risks associated to the various options involved in the development of these projects. When satisfactorily negotiated, the results improve considerably the effectiveness development of water and power projects, as a result of the fact that damaging projects are discarded early on, and the alternatives offered represent only the options that major stakeholders consider are better to meet the needs in question.

Water use by industry

Another important use of water concerns the industrial sector. The demand for fresh water is considerably increasing worldwide as the economic development of countries increases. The use of water for industrial purposes is constantly increasing.

Use of water by the industry:

- *At a global level, the industry uses 22% of the water.*
- *In developed countries, 59% of the total is used*
- *In developing countries, 8% of the total is used*

(World Water Assessment Programme People and the Planet, 2003).

Like agriculture, this sector has had a huge impact on the quality and quantity of the water and, thus, on the health of the people and the quality of the ecosystems. Between 300 and 500 million tons of heavy metals, solvents, toxic waste and other contaminating agents that accumulate in ecosystems each year come from the industries (World Water Assessment Programme People and the Planet, 2003).

5. Basic elements regarding gender equity

It is very important to have a clear understanding about the elements related to gender equity. Following are the most important aspects related to this approach.

5.1 What is gender?

Gender refers to the attributes and opportunities associated with being a woman or a man and the relations established between both. These attributes, opportunities and relations are socially built and learned through the socialization process, they are dynamic, changing and, therefore, may be modified. In most societies, differences and inequities exist regarding

Gender should not be mistaken with sex. Sex refers only to the set of biological characteristics that differentiate human beings as women and men.

the activities undertaken by men and women in connection with the access to and control of the resources and the decision-making venues. Gender is part of a more complex social interweaving that interacts with factors such as socio-economic condition, ethnicity and age.

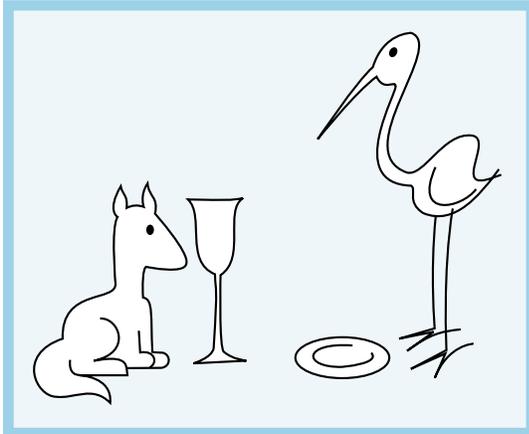
Therefore, the adoption of a gender equity approach means focusing on women and men, in the relations between them and the natural resources. This approach seeks to avoid limitations or restrictions simply based on sexual differences regarding the access to the resources and opportunities.

5.2 What is the meaning of gender equality and equity?

Gender equality does not only mean equal number of men and women or boys and girls in all activities; neither does it mean that the needs of both should be fulfilled in the same manner. It does not mean that men and women are identical, but that their rights, responsibilities and opportunities cannot depend on the fact of having been born man or woman. It means acknowledging that, quite frequently, men and women have different needs, are confronted with different limitations, have their own aspirations, and contribute to the conservation and sustainable use of resources in a differentiated manner. Gender equity should not be considered as a "women's issue" but should involve all human beings.

Nevertheless, in most contexts it has been proven that gender equality is not sufficient, and that the equality of rights and legislation has not assured equitable benefits for all.

Gender equity promotes the elimination of economic, political and educational barriers, and the access to basic services, in such a manner that all people (women and men) may have the same opportunities and benefit in an equitable way.



To illustrate what is understood by equality and equity, the figure on the left shows the fox and the bird on equal conditions with respect to the possibility of feeding themselves. But, their eating possibility will depend on the container used, since each one has a special way of being fed. The use of an unsuitable container for either one, would promote inequity.

Gender equity and equality are not conditions one can stop promoting once acquired. The progress made can be easily eroded, for which reason actions should be undertaken towards the continued and sustainable promotion of more equitable relations.

5.3 From natural differences to social inequalities

Differences between women and men alone do not cause inequality. It is caused the moment when the social group assigns higher value to one of the genders. It is, precisely, such social valuation what prevents both genders from having the same opportunities for their personal and collective development. Below are some of the forms through which these inequalities are expressed:

Inequalities

- Women are viewed as less fit to make decisions and hold influential positions.
- There are some countries where investment is not proportionately made for the education of boys and girls, assuming that girls will not need to study because they will remain home when they grow older.
- Greater freedom is granted to the male sex than to the female sex. For example, many women have to ask permission from their spouses and partners if they wish to go out of the house to participate in community activities.
- Women have very little or no access whatsoever to land, forest or water rights. In general terms, assets are in men's names.

Therefore, resource conservation and management initiatives involving watersheds require mechanisms to identify these inequalities and support actions to take the necessary measures to contribute to equity between genders.

5.4 Gender assignment of work and valuation

Work division is a process through which tasks are differentially assigned and distributed, as are the venues where these take place, the responsibilities set for their fulfillment, the resources to undertake them, and the benefits derived thereof. This work division is dynamic and may vary from one culture to another, according to the economic, social or geographic situation of the household or community.

Based on the gender theory, work is classified as: reproductive, productive and communal. Women and men play different roles in each one and are assigned different responsibilities.

Reproductive work

Involves the activities related to biological reproduction, in addition to those involving family sustenance, socialization and education of boys and girls, health care, feeding and all related tasks. At the household level, women and men have their own areas of work, responsibility and authority.

Productive work

Involves the activities that generate income, goods, services or benefits for household consumption or market commercialization.

Community work

Refers to all community activities carried out to assure family reproduction, advocacy and improvement of better living conditions, and community organization.

A broader definition of this work classification is found in the glossary

Examples:

Reproductive

Water supply for household use

Tending to the sick for water-related diseases

Sewage water management

Productive

Irrigation of land owned by men and women

Water sale

Food preparation for commercialization purposes

Community

Participation in water committees

Community control over minimum environmentally acceptable waterflows and levels

Efficient and rational use of water

Gender building poses that the activities assigned to women are "complementary". Social reproduction tasks are not valued economically or socially, in addition to the fact that there is no recognition involved about them, whereas productive tasks have a trading value. It is taken for granted that it is the man who works and sustains the family, and women and children only help.

Women must find solutions to cover the expenses generated by family reproduction. To this effect, they take on two or even three shifts of work in connection to formal or informal activities. This is what is known as the "triple shift"¹.

The false division between water for productive and household uses

The common division between water for "household" and "productive" use has reflected in the past the sectoral division between the water for health and basic needs (household use) and water for agriculture and industry (productive use). This division is false, particularly at the household unit level, where household water may be used for a wide range of income-generating activities (be it in cash or kind), commonly carried out by women, like for instance: tending to minor species, beer brewing, brick production, vegetable crops, etc. However, the productive possibilities of household water are hard to quantify. This entails the risk of placing a dramatic focus on water supply where the economic benefits are obvious, substantial and easily assessed, which would be detrimental to not so clear economic benefits.

There are great differences regarding the ways men and women use the water for "productive" and "household" uses. Men use "productive" water (for irrigation or livestock rearing), whereas women dominate the "household" sector. For example, studies conducted in Nkayi, Zimbabwe, showed that only the men from communities where there are dams use the water for cattle rearing, while the water wells, mainly used for household purposes, were exclusively dominated by women. At places where the wells were used for both purposes, the profile of the user was mixed and conflicts arose as a result of the priorities of each user, where the use of water for cattle rearing exceeded the household use (Clever, 1991).

1. It refers to the simultaneous participation of women in productive, reproductive and community management tasks. Traditionally, this term has been used to visualize the women's workload, given their responsibility over the three roles.

Another important aspect to be considered is the use and enjoyment of time. It is falsely assumed that reproductive work, household work, is less burdensome and easier to do than productive work. Thus, once the man returns home, he does so to get fed and rest. Whereas regarding women the notion exists that during the day she only wastes time and, therefore, does not need to rest. Furthermore, it is considered "natural" for her to take on everything related to the family's reproduction and sustenance. If the need arises to have to walk several kilometers to haul water for cooking, this is an activity already implied within reproductive tasks and must, therefore, be carried out. Thus, women have no time to participate in projects or organizations, training, recreation, education, or for themselves.

Natural resource access, control and benefits differentiated by gender

A differentiation must be made between these terms, in order to make them useful to gender analysis in development processes. The term access is defined as the possibility for participation, utilization and benefit of resources. Control refers to the dominion, ownership and the power to decide how the resource is to be used. There are some circumstances where women may eventually have access to a resource (that is, the possibility of using it), for example, the land, and have limited control over it (cannot decide whether to sell or lease). Benefits are the economic, social, political and psychological retributions derived from resource utilization.

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

- Women and men operate at different levels (according to the gender division of work), as a result of which, their experience, interests and use of resources, goods and services, is also different.
- Laws, traditions and social uses determine which individuals have access and control over a given resource.
- The ownership and benefit of resources is generally assigned to the individual known as responsible for the productive level.
- It is men who benefit the most from the activities involving education, access to knowledge and technology, and who have the opportunity of becoming empowered through these new experiences, not only on account of the newly acquired knowledge, but also because of the social recognition obtained.

The differentiated access, control and benefit of resources between women and men is due to:

Who, how and when are decisions made?

Social inequality and inequitable distribution of resources, goods and services generates a situation of subordination by women, which excludes them from decision-making venues. This situation keeps them from raising particular needs and interests associated to their gender condition, and contribute their knowledge and experience to the development of their communities. This condition of women's invisibilization from decision-making venues makes it necessary for participatory processes to include a series of elements to achieve a more effective and democratic representation.

Participation is a social process through which people, depending on their own interests (class, group and gender, among others), participate directly and through their representatives, on decision making in connection with the various aspects of collective life. Participation is a necessary condition of the citizens, as people view themselves as citizens when they have the right to influence the processes that directly or indirectly affect their own destiny.

The following guidelines are recommended to ensure that social participation contributes to gender equity:

Guidelines to be followed:

- Resource allocation to develop skills among women and other groups traditionally excluded, to promote their active involvement in decision-making venues.
- Recognizing that human groups are not homogeneous in the watersheds. This makes it necessary for decision making to recapture social diversity in order to have a more integral vision.
- Ensuring that watershed management considers the experiences, knowledge and "learning" of women.

In a project implemented by IUCN, in Tanga, Tanzania, women stopped participating in community meetings. This led to holding special meetings with the women to analyze with them the causes and consequences of their lack of participation. The women pointed out a number of reasons to justify their absence. The main cause was that the men paid no attention to them, so they did not want to continue wasting their valuable time. Another reason was that the meetings were scheduled at times that were inconvenient for them.

It was necessary to summon the men and women to a new meeting to address the problem. After a few hours of exchange and some promises made by the men about paying attention to them, the women finally agreed to start attending again the meetings (Ingen and Kawan, 1998).

If it is accepted as a principle that water is a human right, a social, environmental and economic asset that should be administered by the groups involved to ensure water supply for present and future generations, participatory processes should then be promoted from a gender perspective, to guarantee that the effective demand of water by women and men from the various social strata be identified and met. It should, furthermore, be assured that use and efficiency estimates of water-related services are based on an analysis that takes into consideration the differentiated activities carried out by women and men with respect to water use.

6. Why are gender equality and equity essential for the sustainable use, management and conservation of watersheds?

The human rights approach describes situations not only in terms of human needs or development requirements, but also in terms of the social responsibility to consider inalienable individual rights. It is about empowering people to demand justice as a right, and not as an act of charity, giving communities the moral basis to demand international assistance when needed (Human Rights Approach to Sustainable Development, 2002).

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

To understand gender relations with the environment, a more comprehensive analysis is required concerning patterns of use, knowledge and skills related to management and conservation of watershed resources. It will only be through the application of a gender approach that a clearer and more integral vision will be obtained about the relations human beings have built with the ecosystems.

Using the gender equity approach means analyzing and understanding the various roles and responsibilities, the levels and quality of participation in decision making, the needs and visions of women and men alike.

Furthermore, using the gender perspective means going beyond a mere recognition of the differences, and implies working towards building more equitable relations between women and men.

- Make visible the links between the various social stakeholders conforming the population and the water. For example, it allows identification of the role played by women and men in relation to the use, supply, administration and conservation of water.
- Recognize that both have particular needs and interests, have different aspirations and contribute in a different manner to the conservation and sustainable use of watershed resources.

Using the gender approach in integrated watershed management will help to:

It has been demonstrated that the involvement of women in water-related project planning, work construction, administration and management, has translated into development benefits in general for the projects, the household unit, and women themselves (Wijk, 1998).

- Identify the diversity of stakeholders, their interests and needs, promote a more equitable participation in decision-making venues involving resource management and conservation. Development and natural resource management initiatives that exclude women as stakeholders or other stakeholders ignoring half of the population, affect the efficiency and effectiveness of the actions promoted.

- To make sure that the benefits and services generated by watershed management are more equitably distributed among the various stakeholders and social stakeholders. An equitable consideration of the various groups will contribute to ensure that the management plan improves the economic and social development of the communities while reducing competition and conflicts related to natural resources.
- Avoid reproduction of inequity and subordination relations that undermine human rights and social justice principles.
- It could favor appropriation of the watershed's management process by the women and men who live in the watershed.

Women's perspective in watershed planning

A female member of a watershed committee located in the Surguja district, India, asked how the women's priorities had been incorporated into the watershed's management plan. She stated that she knew nothing about the plan or its contents and complained that the women of the community had been banished from the watershed's wage-earning work. An agriculture official who was present and was responsible for the watershed's management project, explained to the visitors that this woman did not qualify as a member of the group of people who use the land simply because men were the owners of the land. Only male land owners had been considered eligible to earn wages related to soil conservation and management activities. He explained that two self-help groups of women had been formed: one for palm leave rug weaving, and another to make brooms. Each group had been provided with a revolving credit fund of US\$114 as working capital. In light of this, a committee member expressed disapproval regarding the rug-weaving project. She told the visitors that it took her from 8 to 10 days to weave one single rug that could be sold for less than US\$1, while the minimum daily wage paid for a job requiring no manual skills was approximately US\$1.5. She, furthermore, explained that community tradition

established that men and women should administer their own income; therefore, the fact that married women could not earn an equitable salary equal to the wages earned by their husbands, did not allow them to enjoy an equal status and affected the food security of the household unit (Seeley, et.al., 2000).

In the search for a conservation and sustainable management of water resources, each person has responsibilities and tasks to fulfill so that, together, they will be able to carry out the changes proposed. When there are participants who are in a relation of disadvantage or subordination and oppression (due to gender, age, ethnic group, class or socio-economic condition, religion, politics, etc.), it will be difficult to achieve minimum agreements to enable them to be recognized as their equals: people with whom to share tasks and who can be trusted and relied upon.

CHAPTER II

Watershed management from a gender perspective

This chapter includes the following sections:

1. *Learning about the principles guiding the water resources regulatory framework*
2. *Watershed management*
3. *Why management?*
4. *Management styles*
5. *How is a gender-sensitive management plan built?*
6. *Case studies*

Watershed management pursues the adequate use of natural resources according to the people. It does, furthermore, favor water supply in quality and quantity, promotes sustainability, improves the quality of life of the people, and seeks to promote equity and environmental balance in the watersheds.

Management processes do not escape the reality present in the watersheds, which may support or hinder their work. State decentralization and the incorporation of municipalities into resource administration may be important factors favoring the watershed's integral management. On the contrary, the presence of regulations unsuitable to the social reality or absence thereof, which would contribute to an ineffective resource governance, may, in some instances, hinder rather than help. It is important to know the water resources' regulatory framework of each country and be aware about potential limitations regarding compliance. Acquaintance with the regulatory and institutional framework, provides a clearer notion about who will be the best partner for management processes in a given watershed.

1. Learning about the principles guiding the water resources' regulatory framework

World conferences and fora have been held on the environment, water, trade and social conditions, with the objective of providing principles and guidelines to guide environmental policies and management. These principles stimulate people to find solutions to deal with ecosystem deterioration, poverty, inequity, contamination and the inefficient use of water. Annex No. 1 lists the international and United Nations conferences where the countries have clearly made the commitment of favoring women's

A number of agreements have been reached at these events:

empowerment, gender equity, poverty eradication, and the efficient use of water. To achieve environmental management in tune with the commitments acquired, the countries will have to undertake a holistic, sustainable and equitable approach mainstreaming gender, social justice and human rights.

- a. Water is a human right and an asset to society, culture and the environment, and its value is more than just economic.
- b. Water is a finite and vulnerable resource, essential to life, development and the environment, for which reason it requires effective management to guarantee a long-term supply.
- c. To achieve social security, the populations must be provided with an equitable, safe and efficient access to water. Water supply for basic needs should be a priority and readily accessible to low-income families, as lack thereof, is a determining factor of poverty and has a devastating effect on millions of poor households headed or sustained essentially by women.
- d. Other principles have also been established like participation and inclusion, justice, transparency, valuation, and the precautionary principle, as the basis for the policies regulating people's use and access to the natural resources. For example, the Dublin conference, held in 1992, summarized in four principles the aspects around which the water sector should work. It stresses that water management and development should be participatory and involve all water users. The third principle states that "women play an essential role in water provision, management and protection".

The four principles of Dublin:

1. *Fresh water is a vulnerable and finite resource, essential to sustain life, development and the environment.*
2. *Water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels.*
3. *Women play an essential role in water provision, management and protection.*
4. *Water has an economic value in all its competitive uses and should be recognized as an economic good.*

(Source: GWP-TAC, 2000)

Documents generated at subsequent events place greater emphasis on working through an approach that mainstreams equity, women as essential stakeholders and their participation in decision making involving the resources. The generation of natural resource management policies that promote participation and equity principles, requires the analysis of current regulations on land tenure, water access, participation, resource control, education, commercial and market aspects, among others, to eliminate existing inequities (GWA, 2003). The integrated environmental watershed resource management is not exempted from this reality, for which reason it should contribute options regarding the application of the principles.

**Development of a water policy:
South Africa, a unique case**

The elaboration of the National Water Act policy, in 1998, in South Africa, has been an example about the democratic and inclusive creation of a policy. First, the policy was developed in an interactive and participatory manner with all parties involved. Gender mainstreaming and a pro-poor orientation were part of the policy. Formal recognition exists that water access is a human right, maintains the principle of subsidy, supports and allows decentralization of water service management, although this is difficult in rural zones due to the lack of local capacity. In addition, in tune with the principle that water access is a human right, there is a policy on "free basic water". This innovation is based on the premise that there are sufficient wealthy people to subsidize poor people through a variety of tax mechanisms. The above has allowed each home to receive 6000 liters of free water per month. The families have to pay for any water consumption above that amount. This policy may be revised and modified in accordance with the country's economic situation.

(Water Sanitation Program, 2002).

2. Watershed management

Watershed management is the established form to undertake actions including aspects such as: coordination, administration, reconciliation, seeking resources, promoting integral participation and organization. Management should integrate aspects involving production, economic growth, quality of life, wellbeing, sustainability and equity. To this effect, there are two groups of complementary techniques, direct and indirect techniques.

Examples of direct actions related to environmental management: technical and practical forestry alternatives, productive unit or farm planning, agroforestry, soil, water and irrigation conservation, flood and contamination control, protected area management, land use, environmental education, strengthening and promotion of organized groups, etc.

Examples of indirect actions related to environmental management

Agents: Government, international organizations, non-governmental organizations, watershed boards, organized groups, other	Beneficiary groups: Community women and men, local organizations, municipalities, communities, other
Administration of resources and people	Access to training
Application of private and public action regulations	Access to credit
Logistic support	Promotion of social activities like breakfasts with key people to inform about management actions
Search for funding sources	Access to financing
National and other accounting	Access to information
Training and professional technicians	Access to input
Technological development	Access to markets
Decentralization and regionalization	Access to rural extension programs
Advanced education and investigation	Access to advanced investigation results
Formulation of international public policies	Access to commercialization services
Formulation of national public policies	Access to social services
Theoretical and field investigation	Access to specialized technical services
Public legislation and regulation	Access to technologies Creation of watershed venues to undertake training processes throughout the various sectors
Economic management (macroeconomics)	Access to the use of natural resources
Supervision of regulation compliance	Participation in public policy formulation
Users' organization	Participation in the elaboration of public and private action rules
Public organization and rationalization	Participation in social organization
Provision of credit and incentives	Participation in sectoral and multi-sectoral planning
Provision of social services to the population	Participation in local management processes
Provision of specialized technical services	Participation in proposal preparation
Provision of resource uses	Delivery of logistic support
Sectoral and multi-sectoral planning	Delivery of incentives
Institutional strengthening	Participation in evaluation and monitoring processes
Budget preparation	Control of water misuses
Functional relations among sectors	Take advantage of opportunistic moments like political and regulatory support
Any other action allowing the execution of indirect activities	Building of local agenda and strategic indirect activities alliances
Integration of the educational community	Participation in local management programs

(Adapted from: Daurajeanni (1991) in Faustino, 2001)

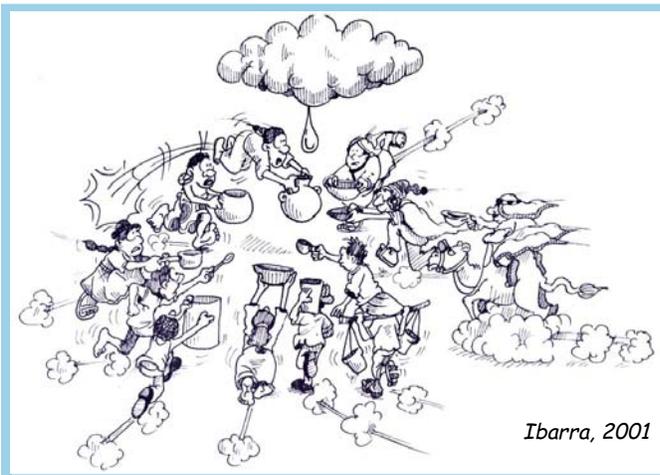
Watershed management from a gender perspective is a subject that has not been thoroughly addressed by the countries, as it poses a series of challenges not yet overcome at the practical level. Among such challenges is the biophysical, organizational, cultural and socio-economic diversity found in watersheds. Difficulties are found when attempting to reach a consensus about the interests and demands of the different social stakeholders. At the watersheds there prevails regulatory and institutional frameworks and social relations that neither promote the women's real integration into management processes, nor improve their quality of life.

To enable working in watershed management from a gender equity perspective, thus, it should be understood as *the exercise of individual and group capacities, competences and resources to reach an agreement on organizational, regulatory and decision-making issues through participatory processes that promote an integrated management of natural resources by the women and men dwelling in the watershed.*

Watershed management

41

3. Why management?



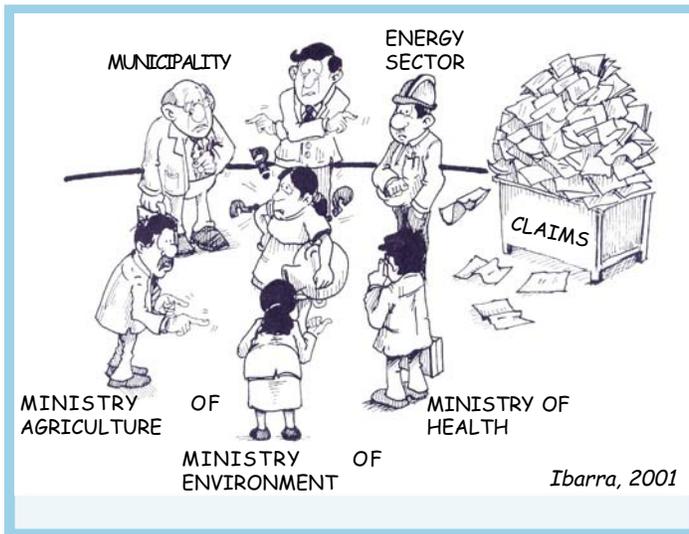
The problems related to water deterioration due to inadequate management of the soil, the effects of climatic change and contamination, among others, accelerate the scarcity situation. Water availability and quality are becoming increasingly compromised, to the point where water supply for certain uses is precluded. As a result thereof, there is increased competition about water utilization for the different **uses** (agriculture, forestry, livestock, household use, tourism, commerce, energy, conservation and industries) and the **users** (communities, companies, men and women).

Resource deterioration in watersheds has a differentiated impact on women and men. The use, access and control of resources is also influenced by the gender condition of the people. The above shows watersheds as life and production spaces, where conflicts exist among user groups because of the increased competition between the uses of the water and other resources present in the watershed.



The problems involving access to the water resources are not restricted to the above-mentioned aspects only, but also to legal and structural problems related to inadequate regulations and the absence or ineffectiveness of the organizations responsible for the administration of the natural resources, which situations hamper the actions that promote watershed management.

Under these circumstances there is a lack of functionality regarding water-related public policies¹, which, for the most part, were formulated in another historical context, with other usage conditions that did not take local realities into consideration. In many cases, they neither recognize the ancestral rights of the peoples, nor integrate the gender equity perspective, have promoted sectoral management of the resource, have no ecosystem approach, and have not considered nature as a water user, which has not facilitated an equitable and sustainable access to water.



These flaws of the institutional, regulatory, governmental and market systems, among many others, are directly related to the ineffective governability of water prevailing in most countries. Such ineffectiveness has promoted conflicts between formal institutions and stakeholders, an inadequate use of the water, and the lack of responsibility and participation by the various stakeholders in the sustainable management of resources.

It was not until recently that, at a worldwide scale, a governance process was initiated seeking to apply a series of principles to achieve an effective governability of water.

Principles to achieve an effective governability of water

Openness and transparency: institutions should work in an open and transparent manner.

Inclusion and communication: by improving participation at all government levels the probability of creating more confidence on the final result and policy-making institutions will increase.

Integration and coherence: policies and actions should be coherent and integral.

1. Among the major limitations of public policies regarding water resources worldwide are: water regulation is fragmented between sectors and institutions; governments are too dependent upon centralized and overloaded administration to create, operate and maintain water regulation systems: the finiteness of fresh water is underestimated and its economic value is ignored, and the regulatory policies do not link in an integral manner the quality of the water to human and environmental health (Population Reports, 1998).

Equity and ethics: women and men alike should have the opportunity of improving or maintaining their wellbeing. Equity among the various stakeholders, concerned parties and constituents-consumers should be carefully monitored through the development and policy implementation process.

In terms of **performance and operation**, a sound governability requires processes and operations to be:

Responsible: functions involving legislative and executive processes should be clear. Each institution should adequately explain and take responsibility for what they do.

Efficient: should offer economic efficiency as well as political, social and environmental efficiency concepts.

With response and sustainability capability: policies should deal with what becomes necessary according to the demand, clear objectives, future impact evaluation and, to the extent possible, past experience (GWP, 2003).

Among the actions implemented to improve the current situation, is the creation of decentralized organizations to operate as watershed management mechanisms. The creation of these new structures seeks to improve administration, develop water-related infrastructure and preserve watershed resources through community participation. Some of these organizations take the name from watershed committees or interinstitutional commissions. These organizational structures are responsible for summoning the entire population and stakeholders involved, be it institutions or companies, holding an interest in the zone. True summons calls for a gender approach whereby, by recognizing their conditions and interests, women and men will draw nearer in an equitable manner.

In these terms, watershed management involves a set of integrated actions generated from a **group-building vision** that recognizes the intervention of various stakeholders with not always coincidental interests on the use of resources. There are many instances where this gives way to conflicts, which should be dealt with through consensus venues where all people are allowed to participate in equal conditions.

Conflict resolution

Therefore, **conflict resolution** should be one of the elements to be considered in watershed management. Environmental conflicts are increasingly occurring in our countries, due to ambiguities about jurisdiction, function overlap, competition over resources where water scarcity and contamination exists, differences concerning organizational position and influence, incompatible objectives and methods, communication deformations, unfulfilled expectations and needs or interests, power or authority inequality, etc. (GWP, 2003).

Conflicts may be positive. These can help to:

- *Identify the problems requiring a solution*
- *Make the necessary changes*
- *Allow making adjustments without compromising the base of the relation*
- *Help build new relations*
- *Change the views about issues and clarify purposes*
- *Identify what is more important*

(Source: GWP, 2003)

The analysis of conflicts and their interactions may be the starting point for any watershed management strategy, since it enables approaching the limitations, perspectives and challenges posed by the negotiation processes undertaken between uses and users, as well as contributing to generate consensus and collaboration platforms and policies.

The war about water in Cochabamba, Bolivia

In the conflicts that have arisen in the Cochabamba Central Valley over the past few years, there is a clear evidence about the conflicting issues at stake: access to water, administrative organization and regulatory framework.

At the Cochabamba Central Valley, the major users of water are the irrigation farmers, who for a long time now, organize the access and distribution of water, and other group activities according to their "uses and traditions". This is at least how it works in the tenths of irrigation systems using water of surface origin. In connection with underground water extraction, they were never able to define similar rules. Since the 70s, irrigation groups sank water wells following no rules regarding distances between wells or permitted extraction volumes, which—in the long run—led to an overexploitation of aquifers. Such overexploitation was made worse because in the same aquifers, but only a few kilometers upstream, are the water wells owned by the thousands of water well owners from the city of Cochabamba, and because construction and paving works considerably reduced the aquifers' recharge zones.

When the water supply company of the city of Cochabamba proposed drilling water wells in the Central Valley in order to correct the problem involving drinking water scarcity, the irrigation farmers organized against the proposal in favor of aquifer protection. At first, the company ignored the proposals, resorting to the legal power that allows the owner of a plot to extract underground water from the subsoil. Thus, several wells were drilled in land owned by the Bolivian Army and other plots of land were acquired in promising sites.

However, irrigation farmers thwarted subsequent drillings, claiming that the extractions planned would affect their water sources.

In this conflict rural municipalities joined forces with the irrigation farmers, supporting their interests while protecting the water sources they use to provide drinking water to their communities. For obvious reasons, the Cochabamba municipality defended the company's interests. However, none of the municipalities could impose their reason, given the lack of administrative regulations on the subject and absence of a clear definition about each one's competences. For this reason, and in view of the regional importance of drinking water for a city with a population of more than 500,000 inhabitants, even the department's prefecture had to become involved in the problem, but like the municipalities, only on a voluntary basis, given also its absence of legal competence on the matter (Duran, Hoogendam and Salazar, 1997).

Two years after the first war over water, the government proposed the privatization of the water supply company, to which effect, a contract with an international consortium was signed and a safeguarding law was enforced. This privatization process met with strong opposition by citizens and farmers. The citizens protested against the raise in drinking water fees after transfer of the water supply company took place, the irrigation farmers protested against the law on the grounds that it could affect the legal right over their water sources.

The protests against the privatization of the drinking water service coincided with a series of protests against the government's general politics, as a result of which, popular rising resulted in two total blockades of the city. In addition to having to take up again its decision, the government further agreed to review all the articles of the proposed bill about which the irrigation farmers had reservations (Boelens and Hoogendam, 2001).

Taking into consideration the reality of the conflicts, it can be stated that watershed management seeks to facilitate or encourage coordination of the actions implemented within the watershed's scope of action, which will have repercussions on the access, use, control and benefit of resources by the various stakeholders. Given the fact that within the watersheds coexist social stakeholders with different interests, the efforts involving the provision of services and opportunities oriented towards meeting the demands of a given group should be capable of facilitating the formulation and application of clear regulatory frameworks. However, the legal framework alone is not enough; actions are required by the stakeholders in order to turn the formulation of regulatory mechanism frameworks into a social practice. The greater the participation of stakeholders and people affected by the management process, the greater will it be their interest and willingness to comply.

"When attempting to harmonize the multiple uses and interests involved in water watershed management, it is crucial to recognize a major fact: interest harmonization and management decentralization basically mean to distribute the resources, power and authority of users, non-users, and the 'coordinators' themselves. Social relations and power structures revealed in the actual and unequal distribution of production means and the benefits generated, have a decisive influence on the formulation and execution of policies and legislations related to water resources. Therefore, when seeking to improve water resource management through a coordinated policy, in addition to focusing on operational strategies and application instruments, it is important to undertake an analysis of the different stakeholders, their divergent knowledge, interests and powers, and the diverse strategies about the acquisition and use of water as well as the formulation of the rules of the game. When conducting this analysis, all official speeches based on terms like "equity", "democracy" or "popular participation", that do not include the ways to achieve those goals, should be demythologized" (Boelens and Hoogendam, 2001).

Participatory watershed management from a gender perspective, should consider the conflict of interests arising between the uses and the social stakeholders as the determinant variable, so that the decisions made in connection with the best way to address watershed work, the projects promoted, restructuring or definition of new regulations, as well as the structures created for management purposes, promote equity and participation.

Equity is essential in all processes involving the formulation of new rules for the negotiation, equitable representation within coordination, management and administration venues, and the decisions shared by men and women at a watershed level. In the particular case of women, and on account of the prevailing gender inequity condition, special emphasis should be placed on the importance and need to make additional efforts to overcome their condition of subordination, by promoting participation, organization and empowerment processes within negotiation venues to allow women to stand up in defense of their positions and interests.

4. Management styles

Watershed intervention models have evolved through the years. This section addresses several models to facilitate understanding about the development process towards more integral management styles.

According to Dourojeanni and Jouravlev (1999), in some regions of the world no consensus has existed regarding the objective of watershed management because there is no conceptual clarity about the meaning of watershed management. Function overlap exists among the institutions responsible for natural resource management in watersheds. Due to the unclear nature of the regulations, efforts are made to synthesize based

on the terms used in management processes, the manner how watershed management has been undertaken in the region. To this effect, a relation has been established between watershed management stages, objectives, elements and natural resources considered in the watershed management process. The following table illustrates the authors' proposal.

Classification of management actions involving watersheds				
Management stages	Watershed management objectives			
	For integrated use and management	To use and manage all natural resources	To use and manage water only	
			Multi-sectorally	Sectorally
	(a)	(b)	(c)	(d)
(1) Previous	Studies, plans and projects (watershed regulation)			
(2) <i>Intermediate (investment)</i>	"River basin development" (integrated watershed development or regional development)	"Natural resources development" (development or use of natural resources)	"Water resources development" (development or use of water resources)	"Water resources development" (drinking water and sewer system, irrigation and drainage hydroelectric power)
(3) Permanent (operation and maintenance, management and conservation)	"Environmental management"	"Natural resources management"	"Water resources management"	"Water resources management" (administration of drinking water, irrigation and drainage)
		"Watershed management" (watershed management or regulation)		

(Source: Dourojeanni, 1994 and CEPAL, 1994)

The authors conclude that the most complete level of management takes place under column (a) at the intermediate and permanent stages where regional development and environmental management techniques are applied at watershed level. Efforts are made to implement this management process through the creation of watershed corporations or commissions. The intermediate level is given by column (b) where the actions are oriented towards the coordination of the use and management of all the natural resources that exist in the watershed, including the water. The application of the integral conception of this management style is practically non-existent in some regions of the world. However, there have existed some "watershed management" projects and programs. The third level of management is oriented towards the coordination of investments for water

use and its subsequent administration and is represented in columns (c) and (d), respectively. This is the best known management level, where most studies and investments on hydroelectric power, irrigation, drainage, drinking water and flood control, have been made.

The authors, further propose the existence of partial watershed management styles. Among the activities carried out by these are: watershed protection for water use and supply purposes; management of underground water recharge areas; wetland management and protection; management of agricultural, forestry and grazing lands, etc. All of these actions move towards the integrated management of watersheds, but have not completely achieved it, and have been generally carried out by public or private entities or local governments in an independent manner and, quite frequently, without any coordination among them.

Another interesting approach style is presented by Boelens and Hoogendam (2001), who propose that the approaches adopted for watershed management differ from each other in at least three vital aspects, as of which their intervention proposals are built: a) definition of the regulatory spheres for water distribution; b) formulation of adequate mechanisms to regulate water uses; c) strategies involving resolution of conflicts between users and uses.

The central axis of four watershed management approaches are built around these perspectives: state control, commercial, consensus, and organizational strengthening. A brief analysis of each one allows understanding how consensus processes among the different uses and rights of water take place at the watershed, as well as how to determine which of the perspectives contributes more effectively to the resolution of conflicts among the watershed's social stakeholders, based on equity, sustainability and participation criteria.

Following is a summary of the major approaches discussed by Boelens and Hoogendam (2001); at the end of each section we have integrated the gender analysis as our contribution to the construction process of this perspective.

Watershed management based on a state ownership approach

This management perspective emphasizes state control over water management and awarding and adaptation of water rights. Under such approach, it is a public responsibility to guarantee that all sectors have the right and access to water, that is, the state plays a leading and decisive role in the regulation and execution of water management. The experience of this approach in Latin American countries, for instance, shows that state intervention generates a vertical and domineering relation towards water users. In cases involving water management decentralization at a watershed level, the strategy followed by this approach usually is the appointment of a state agency to take charge of the process. However, given state reduction, the state is becoming increasingly unfit for resource management.

In a general context of decentralization and privatization, some countries try to maintain state control over decisions involving water management, as is the case in Peru. In these terms, they experience the paradox of legislation and institutionalization of multi-sectoral water management through watershed organizations. Yet, most of these organizations are "paper institutions", and in other cases, they have been created in a vertical, bureaucratic and state-controlled manner, without encouraging participation and coordination among the various sectors making use of the water, or promoting a drawing power at the watershed level.

The Gordian knot that in this case hinders watershed organizations from effectively carrying out their role as watershed resource managers, is the fact that the legislation itself defines, without prior consultation with all concerned sectors, the organizational structures, functions and styles of representativeness that should operate. Thus, the opportunity is lost in connection with the consensus venues for problem solving between local social stakeholders and dealing with the watersheds' particular contexts.

To assure the presence of the gender equity perspective in the state control approach for watershed management, it is essential to mainstream it into the decentralization process.

Within a context of state reduction and reconsideration of some of its characteristics, a process is encouraged whereby greater decision-making power is delegated to local governments (municipalities) and other decentralized institutions in connection with environmental issues and natural resource management. It is important to use these venues to promote recognition of each player in the watershed and legitimize the mechanisms through which all stakeholders may contribute to a sustainable management of the resources.

Under this perspective, public entities and local and private organizations should undertake initiatives leading to promote equity within the organizations. For example, within watershed boards or the structure created for watershed management purposes, affirmative gender actions should be promoted, such as:

- *To have an explicit gender policy*
- *To hire personnel responsible for gender issues*
- *To mainstream the gender perspective*
- *To encourage selection and hiring of personnel, without limiting opportunities according to sex, so that women may be able to opt to management positions, under conditions of equality*
- *To create a salary policy where women and men have equal salaries for the same job*
- *To make sure that women and men have the same promotion possibilities*

Watershed management based on a commercial approach

Privatizes and decentralizes water management services

It promotes decentralization of management and concession of water rights based on market regulation and the "rationality of individual stakeholders". Its discursive axis is centered on the decentralization and privatization of water management services and privatization of water usage rights. According to this approach, free competition among water users and uses allows (re)distribution of water rights to the sector making the most profitable use of the resource, thus increasing the value of the water and efficiency of its use.

This perspective ignores the social and environmental function of water, as it does not consider that the use affects non users as well. Furthermore, the commercial approach does not only encourage speculation, monopolization and accumulation of water rights in the domineering sectors of the economy, but also contributes to encourage concentration of water management and reduces the possibilities for consensus among the various groups making use of the water resource.

For example

The first Latin American country that applied the above approach was Chile, where water rights are private, transferable and regulated by private law. In the practice, and contrary to what one might expect, the model showed great difficulty to solve multi-sectoral management conflicts. In addition, its own application has caused problems. In these terms, the conflicts between non-consumption use (power generation) and consumption use (agriculture) have worsened, being the rule that domineering sectors in economic terms are the ones who benefit from the model. The application of the commercial approach without consideration to the gender inequities existing in societies, accentuates the disadvantageous condition of women, particularly in the case of women who are household heads and who do not have sufficient economic resources to afford paying fees that have no consideration whatsoever for their condition of vulnerable and poor group. Thus, in a water privatization process, certainty should exist that the regulatory and administrative framework provides for an effective regulation to protect and prioritize the use of water in social as well as environmental terms. It is essential to ensure that no social injustices exist, and that it contributes to conflict resolution and encourages collaboration among the various watershed stakeholders. Legislation should, likewise, assure women the right to water for household and productive activities oriented towards the social reproduction of the household unit.

From a gender perspective, the option of privatization of water resources demands public discussion on the subject and the participation of all sectors involved. It does, furthermore, demand the provision of information to all sectors concerned, making sure the discussions are held in a transparent, open and inclusive manner. Information should reach all sectors, including making certain that women learn about and understand how privatization will affect their access to water. It also demands making sure that water supply for the ecosystems is maintained and that the role of the government becomes more effective in terms of protecting the rights to water access by poor people and the ecosystems.

Water scarcity and women in poverty in Monterrey, Mexico

The major problem in Monterrey was the break-off that has long existed between the private sector's elite and the federal government. The city's water supply was generally under financed by the local government, and, therefore, was ill developed during 1940 and up until 1980, despite the record-breaking growth of the population, the industry and commerce. During the 80s, water supply was rationed throughout the city on a daily basis. It was due to the women with mid-low and low income who, through public mass protests, forced government planners to start thinking about possible options to solve this crisis on a long-term basis. The lack of infrastructure in a city as large and important as Monterrey was not solved until 1985, when a large dam was built to supply water to the urban zones. In addition, the water distribution system was extended to the homes of the poorest areas that had no previous direct access to water services. After the women tried to negotiate with the authorities and initiated a media campaign on water scarcity problems, both without significant results, they decided to block the roads and "kidnap" vehicles and staff involved in water services. Thanks to the women's protests, the water problems in Monterrey became a political concern and a national priority. Additional investments were made in the construction of new infrastructure. The entire population benefited from the women-led protests (Tortajada, 2002).

Watershed management based on a consensus approach

It promotes negotiation and collaboration among the various stakeholders to reach agreements and commitments

The intention of this approach is neither to make prevail a sole state orientation nor the free market rules; its axis resides on promoting negotiation and collaboration among the various stakeholders in order to reach agreements and commitments among them, as well as to achieve a consensus and balanced situation for all parties concerned. Its strategy proposes as the central element, the creation and strengthening of management consensus venues, created through the integration of governmental and non-governmental organizations, multi-sectoral, endogenous and exogenous, that represent the diversity of the needs and interests of all stakeholders interacting in the watershed.

This perspective is gaining wider acceptance at the level of watersheds. However, the concretion of truly efficient platforms for consensus and inter-sectoral management remains a huge challenge. The strength of the approach is also its weakness. That is, coordination among groups with divergent interests concerning the adjustment or redistribution of water rights may work against established interests, quite frequently, holding great political or economic power.

The perspective requires a system that provides adequate, transparent and easy access to information, given the fact that a real collaboration among different stakeholders can only be achieved through the knowledge and analysis by all the stakeholders present in the watershed, of solution-related proposals, including social, environmental and economic costs and benefits.

A process of constitutional and institutional reforms has taken place in Ecuador, characterized, on the one hand, by the privatization of state enterprises, and on the other, by the decentralization of natural resource management, delegating decision-making capacity and authority to regional governments. Under this perspective, state controlled irrigation management systems have been transferred to regional development corporations and user organizations, and a decentralized strategy has been proposed based on the collaboration among local, state and national networks under a watershed management approach.

This process needs time for institutional adjustments and the definition of new regulations and guidelines. Until such a time when the state's new roles and regulations are defined, non-governmental organizations are experiencing interesting coordination processes at watershed level. One example is the Chanchán river watershed, where different social sector and farmers' organizations have grouped under the Management Committee for the Chanchán Watershed, in order to jointly deal with problems related to erosion, soil instability, floods, and encourage a systematic natural resource management (Boelens and Hoogenhan, 2001).

To reach a gender equity-based level of collaboration, the following aspects should be taken into consideration: time, place, language used at the meetings by the people representing the various interests of the watershed, ensuring that the collaboration venues created are appropriate to the women's time availability conditions. In this case, obstacles might exist for their participation, such as, for instance, inadequate meeting schedules, lack of child care facilities, or lack of clarity regarding the information to be delivered. To overcome these obstacles, simultaneous spaces could be scheduled for adults and children, making available child care services, schedules in tune with the activities of the women and other groups, availability of a translator, preferably from the community, and taking the time to extend invitations to the women, either individually or collectively.

Facilitation of these venues should ensure that the women as well as other groups are able to freely express and stand up to their ideas, needs and concerns regarding natural resource management.

The invitations for collaboration venues should explicitly include women, and should be designed in agreement with the groups involved. Should certain groups or people oppose women's participation, it would be convenient to schedule exclusive or preferential venues for women at the places and sites they attend: school meetings, health care clinics, churches, etc.

Principles of the approach

Watershed management from an organizational strengthening approach

Organizational strengthening or empowerment is based on two watershed management principles; namely: 1) the changes in water management are motivated by the groups of users around common interests, demands and needs; 2) the distribution and adjustment of uses and rights requires the creation of negotiation venues, since in most cases, it is not a harmonious process, but rather one involving confrontation and conflicts among groups with different interests and perspectives and, essentially, with unequal negotiating power.

In this sense, the approach seeks to increase the negotiation capacity and power of the groups less able to make decisions, in order to enable them to stand up to defend and negotiate their interests on water management in the watershed. One of the strategies used for group empowerment is the association of groups with similar problems and demands, as well as organization by sectors. The central points of this approach are self-valuation, organizational strengthening, participation, increased negotiation capacity and capacity to partner with other organizations.

The demands of the mapuche communities, in Southern Chile, involving the return of their water rights, fall under the organizational strengthening approach. During colonial and republican times they were stripped of their land and, thus, water rights including access to subsidies and aid for irrigation projects, since this assistance is conditioned to formal land and water rights of ownership. Prior to undertaking this struggle, around sixty mapuche communities were organized to demand the return of their territory, constitution of their own municipality, and recognition of their rights to water management under their common law and principles.

Under the organizational strengthening approach, multi-sectoral management is undertaken through the articulation of various organizations joined together for the purpose of undertaking a water sustainable management strategy. For instance, a management platform implies the organization of various groups of water users from the lower part of the watershed, joined by the common interest of preventing users from the higher part of the watershed to monopolize their access to water. It can also be taken as an example of group struggling against the creation of monopolies holding great political and economic power over water rights.

To guarantee that the organizational strengthening approach contributes to the empowerment of both, men and women from the communities, where in most cases women are at a disadvantage, it is essential that they participate along with the men on the definition of alternatives involving natural resource management in their regions, as full members, that is, having a say and vote with respect to changes undertaken in the region, whether organizational, productive or of any other type. In the practice, women's strengthening to promote their participation in management processes has taken place in three ways:

- Community recognition regarding differentiated interests by gender.
- Promotion of women's organizations.
- Promotion of women's participation in community organizations.

The participation of women in organizations of their own poses the advantage of conforming a venue where they can discuss and analyze their problems and needs more freely and gain strength to become actively engaged in community, local and regional structures. Women's groups are an opportunity to strengthen their self-esteem. However, such spaces are not trouble free as a result of community predominant traditions and values, which promote distrust and criticism towards women's groups, which fact could cause their isolation or relegation to secondary tasks.

The advantage posed by strengthening the participation of women in community organizations is that they become incorporated into the major watershed development activities and sustainability initiatives, even in the decision-making process. However, community organizations do not always reflect the participation of women in top managerial positions or in the decision-making processes. This has been mainly due to the fact that, because of their gender condition, women face greater difficulties to develop the skills necessary to carry out this type of work, and the possibility of participation in public venues is far more restricted than for the men. By not being elected to the communities' boards, it is common for their interests and expectations to be excluded, added to the fact that this does not help them to gain confidence about their capacity as leaders and stresses the belief that these are men's tasks and responsibilities.

For each particular case it is necessary to determine which women's participation systems are more convenient, taking into account the need to promote equality of opportunities between men and women to participate in management processes and the activities undertaken in connection with the implementation of the watershed management plan.

Women's participation in organizations should be strengthened

5. How is gender-sensitive management built?

None of the approaches presented above can deal alone with the challenges entailed by watershed management. An articulation is necessary of the main elements of each approach. Therefore, the state can and should play a role in watershed management. Just as important is the collaboration and strengthening of local and regional organizations. The challenge lies on balancing the different mechanisms needed to regulate resource use and management, definition of regulation and conflict resolution bodies. This balance depends on the hydrologic conditions of each watershed, the characteristics of the uses and social stakeholders, the competitions between uses, the power relations existing in the watershed, their historical development and present situation in connection with the use and management of resources, and the negotiation and collaboration power of existing organizations.

Suitable management models should be developed

Thus, a management model cannot be viewed as a recipe. Instead, suitable models, adequate to the conditions of the watersheds, should be developed. For this reason it is recommended to propose general criteria regarding regulation mechanisms and bodies, and take into account some of the elements that should be considered in strategies designed to improve multi-sectoral watershed management from a gender perspective.

Regulation bodies should take into consideration the need to guarantee the effective and beneficial use of the water and the natural resources in general, in order to avoid speculation and safeguard their social and productive role, as well as the need to protect the ecological base to ensure quantity and quality and promote the distribution of the rights to the water under equity criteria. Likewise, decentralized entities operating under the general regulatory framework should be flexible enough to adjust their norms to the particular situation of individual watersheds.

Next, is the development of elements such as the information, empowerment, leadership, organization, collaboration, and the legal framework that should constitute the essential part of watershed management where equity and participation is promoted. The purpose is to contribute ideas and methodological tools to assist the organizations and the work teams undertaking this type of management. Two case studies involving local management are shown at the end, where the above-mentioned elements have been taken up again in order to better illustrate a gender-sensitive management possibility.

The information

Starting from the premise that a management process entails establishing bridges between the different points of view and interests, promoting the discussion of problems, opportunities and alternatives of action, it first becomes necessary to develop an information dissemination process among social groups related to the topics of interest around the watershed.

This, for the purpose of making informed, and thus, more accurate decisions. At the time of conforming the team responsible for coordinating management activities, consideration should be given to the communication skills of all parties involved in watershed management, their credibility and motivation, as well as the ability to motivate processes based on consensus and collaboration.

According to Acuña (2003), information is a right as well as a necessary condition to promote participation.

Information should be characterized by being:

Timely and adequately designed to incorporate socio-cultural and linguistic aspects, simple language, literacy rates, and communication channels commonly used. The form and contents of the message should evolve around gender considerations.

Clear mechanisms to allow the access of women and men to information. In many instances, the information is managed by organization leaders, who, often times, are men, and do not bother to make sure that the information reaches the women. In the communities there are many women who think that they know nothing about the subject and, therefore, do not expect to learn more about issues involving natural resource management. In these cases, dissemination of the information should take into account the reality of the women. In this way, consideration is given to their every day experiences, as a result of which, they might become interested on the subject. The information should be made available in places where the women gather; the posters or communication media chosen should include images of women.

Access to different types of information. Access should exist to information on regulatory frameworks, community participation mechanisms, biophysical and socio-economic aspects. The information should be updated and reliable, and presented in a readily understandable fashion, like maps drawn through the use of Geographic Information Systems (GIS), drawings, maps drawn by community members, and aerial photographs or social maps that could be very useful, while promoting criteria that may be generated by information analysis processes through formal or informal education, for decision-making purposes.

Empowerment

Gender-sensitive watershed management processes recognize that women and men are socialized in a distinctly different manner. It is well known that they experience conditions of inequality with respect to access, use and control of resources, and that power relations are present throughout every single sphere of activity in the lives of human beings. The expressions involving power relations are reproduced at every level: household, regulatory, productive, institutional, to mention just a few of the most important ones. These social conditions have created gender gaps where women's discrimination is evident, and they are not able to benefit from the resources and services existing in watersheds on an equal opportunity basis with respect to men.

The transformation of power mechanisms between genders is an essential condition to promote equity and participation in the processes involving watershed management. This transformation demands that women strengthen their negotiating and decision-making abilities, and establish equitable relations with men as well as other women. Through empowerment processes, women and/or other groups subject to disadvantageous conditions increase their access to power, as a result of which unequal power relations between genders or groups are transformed. The goal of empowerment is the transformation of structures and institutions that reinforce and perpetuate gender discrimination. As far as watershed management is concerned, resorting to mechanisms such as credit, budget allocation for equity or training promotion activities, could help the less privileged groups to gain access and control of the information and promote their participation in natural resource management.

One of the most important aspects regarding empowerment is that one person cannot empower another. It is a personal achievement that facilitates a person's participation in processes undertaken to define their opportunities in life and, above all, it is a democratizing process, where the achievement of equitable relations between genders is a priority.

Like empowerment as a process for power relations building between genders, **participation** is a mechanism that promotes and values the empowerment of the individual. Participation should be considered as a central strategy in management. It allows the different social stakeholders, depending on their interests, to directly participate in management processes. A requirement for real participation is the availability of both—adequate, timely and expedite information—and strengthened and organized people. In addition, favorable conditions should exist for these people to express their points of view and be able to make decisions that will, in all likelihood, affect their lives and the resources of the watersheds where they dwell. It also implies considering their interests in the definition of regulations and activities at a watershed level.

There are several methodological tools to help develop empowerment and participation-related issues. *Module 5, In unity there is power*, of the *Towards Equity Series* (IUCN, 1999), describes 40 techniques to facilitate the analysis, review and reflection on power relations within an environmental management participatory process. As an example, we have chosen two techniques from this module to show to the technical staff of watershed projects how these issues may be addressed.

Matrix of power

Decisions	Sex	
	Women	Men

Source: "Los Gráficos", Módulo de enfoque REFLECT, CIAZO, El Salvador, 1998.

Objective: Representation and analysis about the participation of women and men in the decision-making processes of a project, organization or community located in the watershed.

Duration: 2 hours.

Resources: Flat surface: blackboard, flipchart paper. Markers. Color pencils. Cardboard or paper cards. Tape.

Procedure:

1. The facilitator prepares a matrix in advance (similar to the attached example).
2. Participants are divided into mixed groups to respond to the following question: Which were the most important decisions made by the project, organization or community over the last year?
3. The answers are written (or drawn) on the cards (one answer per card).
4. The cards of each group are presented to the plenary, and a selection is made of the most common and most significant ones.
5. The cards are placed one by one on the columns of the matrix.
6. Two groups are conformed: one by women and another by men. Each group must identify the decisions made where they had any participation.
7. In the plenary, each group indicates on the matrix its participation, by coloring the corresponding box (one color may be assigned by sex).
8. Upon completing it, the matrix is analyzed, and reflection is guided towards questions such as:
 - Which were the decisions where only women participated, those where only men participated, and those where both participated?
 - What effects did this participation have on the natural resources, organization or community?
 - How have these decisions affected women?
 - Which decisions generated conflict between men and women?
9. To conclude, the facilitator can guide the formulation of some conclusions.

Past, present and future



- Source:** Memoria Taller "Metodología de Trabajo con Mujeres", Secretariado Social Arquidiocesano, El Salvador, 1995 (Adaptation).
- Objective:** Visualization of a deconstruction process for inequitable relations within a group, project or organization.
- Duration:** 1 hour.
- Resources:** Materials found in the community. Flipchart paper. Markers. Tape.
- Procedure:**
1. Participants are asked to move around the room and find 3 items: one symbolizing their past, another one their present, and the third one their future, with respect to each participant's experience regarding their relation with the men and women of the group or project.
 2. Groups are integrated by affinity, preferably mixed.
 3. Each participant presents the symbols and the corresponding meaning to the group. Then, a selection is made of the three that best symbolize the feeling of the group.
 4. In the plenary, the symbols are grouped together by past, present and future. The facilitator encourages reflection about the changes that are necessary to establish equity relations within the group.

Leadership

Reality in watersheds shows the existence of a large number of social stakeholders with different interests about the use of resources. Leadership should be promoted recognizing this **diversity**, making **minorities** visible, and promoting the organization and **construction of new leadership styles**. Based on the above, decisions are made to support a fair and equitable access to resources and power venues.

In spaces where women and men interact, women have had fewer opportunities to develop in the political arena. To promote a management plan that stimulates women's leadership, it is necessary to understand and undertake **affirmative actions** to counteract the discrimination and inequity faced by women in public and private venues. The important contributions that household and daily life make or can make to the political field, should also be made visible.

Leadership of women and men should be **collective, democratic and based on service and solidarity**. Leadership is, likewise, a capacity inherent to all people and an ability that fosters participation. This is the reason why leadership has a political vision; it does not seek to exclusively achieve material vindication, but above all, to transform power relations in order to exercise through new equitable practices of equity, participation and empowerment for the groups and sectors most excluded from the organization, institution, society and the watershed in general. Therefore, the empowerment of people is the basis of gender-sensitive leadership.

Organization and strengthening of existing organizations

An organization is conceived as a **"voluntary association created by a group of people or organizations or both, willing to develop a number of actions to achieve one or several objectives involving resource management in watersheds, that could not be achieved individually"**. Thus, every organization present in the watershed has an established structure with a level of internal coherence, a mission, policies and work mechanisms to reach objectives and build economic, social and environmental development.

The promotion of organization and validation of the various organizations present in the watershed, are strategies implemented to solve the problems commonly faced by men and women in a watershed, and constitute the first step towards management. The popular saying that **"in unity there is power"** is taken up again by the dwellers of a watershed to promote group formation. Therefore, if this is one of the means to secure access to water in a watershed, it is worth asking: **how is an organization formed or how are existing organizations strengthened, and which are the venues that make possible the negotiations over a watershed's natural resources from a gender perspective?**

In this respect, considerable literature is available to guide this process. However, it is important to take up again some basic guiding aspects, among which are the following:

1. The conformation of an organization should respond to a common problem or interest; for instance, lack of water. Thus, this becomes a goal to achieve.
2. Consideration should always be given to the problems that affect people in different ways. For example, the lack of water in a household is more strongly perceived by the woman, given the role she plays within the household unit. This opens a space to reflect on the need to involve in the organization not only the men but also the women, considering their practical needs as the first link to subsequently favor fulfillment of their strategic gender-related interests in the organization.
3. An organizational structure should exist from a gender perspective where the relation, communication and distribution of responsibilities and tasks is defined. A definition should also be made regarding regulations, communication channels, venues for complaints, and a flow chart. All of this according to the type of organization.
4. The operating rules should be established in a participatory manner, and should be generated within the group, to arrange the activities to be undertaken by the organization.
5. Within the group there should be a person, commission, board of directors, council, etc., assuming the role of "leader" to guide the group's activities. This is an important power and decision-making venue. It is here where spaces should be provided to encourage the participation of women under equal conditions in management and/or coordination positions.
6. From a gender perspective, leadership within an organization "implies capacity to negotiate, allocate resources, establish alliances with other people or sectors, and include on the agenda not only the needs of men regarding water, but also those proposed by the women" (INAMU, 1999).
7. Every organization should have a plan to achieve the goals and/or mission proposed. In the case of natural resources in a watershed, since this is a topic that generates conflicts among stakeholders, the plan is particularly important given the fact that it also turns into a political impact plan, which, among other aspects, should also include the following:
 - Analysis about the stakeholders who make decisions in power venues as well as decisions involving natural resources and gender. In this way, an identification is made of potential obstacles for the process and the negotiation venues.

- Identification of potential allies in order to determine the strengths and weaknesses of the organization.
- Elaboration of a power map to visualize the relation between forces. This will enable recognition about the stakeholders involved in the proposal for problem solving.
- Definition of strategies, activities and commitments. A thorough revision about the elaboration of the most convenient plan to influence decision-making venues, is found in the module dealing with impact (Escalante, et. al., 2002).

An organization conceived within the above parameters is a requirement for the adequate representation of the groups of men and women, youngsters, older people, boys and girls, as well as an instrument to promote negotiation venues on water management, with the sectors and institutions, as well as between the men and women living in the watershed. Following are two methodological tools to support the work of an organization.

Building the organization



Source: INAMU. Para volar necesitamos avanzar juntas. Módulo 4. Costa Rica, 1999, pag. 21-22.

Objective: Start the activity by welcoming all participants and reminding them that you will be talking about the organization as a management tool.

Resources: Chairs for each participant, a large room.

Procedure: Ask participants to stand up, form a circle leaving an arm's length distance between each participant. Explain to them the dynamics to be carried out and ask a volunteer to come to the center of the circle. Tell them that they will all build a machine.

Step 1. The volunteer will begin by making a part or piece of the machine. To this effect, he/she invents a movement and sound.

Step 2. Explain to the other participants that they may voluntarily integrate into the machine by making different movements and sounds. It should also be explained that each part should be linked to the others, since all parts should work together like a machine. For example, the participant can touch the shoulder or hold the leg of another participant, and so on until the machine has been completed.

Step 3. After all participants have been integrated, ask them to increase the speed of the movements and volume of the sounds. Then, ask them to slow down until coming to a full stop.

Step 4. After having stopped, take one of the participants out of the machine, and ask the others to try to run it without the missing part. Subsequently, take out three parts from different sections of the machine and ask them again to try to run the machine. After doing it for one minute, stop the machine and ask the group to applaud and cheer the group's creativity.

Step 5. Ask the participants to sit down in a circle to talk about the dynamics.

Start by asking them the following:

- What do they think is the relation of the machine they built with respect to an organization or group?
- What happened when a few parts were removed?
- What cases should be taken into consideration for an organization to work well and achieve its goals?

Step 6. Close the activity making the following comments:

- A machine may be compared to an organization or group, since the organization is conformed by a group of people joined together in pursuit of a common objective.
- Although in the organization everyone has different roles and responsibilities, like each part of a machine, they must work in a joint and coordinated manner to achieve the same objective, distributing the work among all people involved, in accordance with the possibilities and limitations of each one.
- The organization is a right of men and women, it allows us to achieve our goals, to be heard, to be taken into consideration and informed.
- It also allows us to reinforce our strengths and overcome the limitations we have as persons and as a group.

Identification of common needs and interests for participation and organization purposes



Source: INAMU. Para volar debemos avanzar juntas. Módulo 4. San José, 1999, pag. 22-23.

Objective: Identification of the common interests and needs of men and women for participation and organization purposes.

Resources: Chairs for each participant, a large room, flipcharts, markers.

Procedure: Step 1. Participants should form sub-groups of a maximum of 8 people. Ask one volunteer per group to copy the following questions:

- Why would they like to become organized and for what purpose?
- In what type of organizations would they like to participate?
- Which rights would they like to advocate for as women and mothers in these organizations?

Make a list. Indicate to the participants that they will have 30 minutes to answer the questions. They should also designate a member of the group to present it to the group through a poster.

Step 2. Ask participants to sit on the floor and make a circle and ask each sub-group to share their work.

Step 3. Ask them: What do you find in common in the answers to the questions prepared by the sub-groups and what binds you together to fight for your rights? Allow participants to gradually identify common grounds.

Make the following comments:

- In societies like ours, marked by social inequalities, there are millions of people who, on account of being under age, or being women, or poor, or the mere fact of being different, as in the case of disabled persons, or because of a sexual option different from the traditional, nationality, etc., do not have the same possibilities to fully exercise their right to participation and organization to change the things that affect them either personally, their family, the community or the society.
- Trying to change a society cannot be done individually; thereby, the importance for all community groups to join together and participate in the defense of their rights.
- Participation in different public venues and organizations involved in natural resource management should serve to defend women's rights to participate under equal conditions.
- It is important to seek support from other equally discriminated groups, to join forces and fight together for social justice and the full incorporation of women into these decision-making venues.

Consensus

To reach consensus it is necessary to create venues where all watershed stakeholders are legitimized, their interests over the resources are recognized, and have the opportunity of negotiating with each other. In general, women have been restricted from the possibility of fully participating in public venues, for which reason efforts need to be made to make them visible as an important social stakeholder in the watershed.

Women's absence from public venues limits their possibilities to voice their interests and needs to other stakeholders. As a strategy to overcome this condition, gender-sensitive watershed management focuses on the empowerment of women and a leadership that promotes and facilitates their participation. Both strategies, along with strengthening of the groups of women and their negotiation capabilities, help achieve the objectives concerning access, control and use of the watershed's resources.

Consensus reaching venues should have the same power-linked balance that exists among the different groups present in the watershed. It is intended for the groups holding less power to be taken into consideration to avoid the prevalence of the interests of stronger groups. The objective of consensus reaching venues is for stakeholders to negotiate agreements, establish organizations, rules and systems, in order to share the benefits and responsibilities related to the sustainable management of the natural resources. In addition, management should not be restricted to the local scope, but should start there and begin building networks involving inter-relations at a community, micro-watershed, sub-watershed and watershed level, to broaden the scope and level of management towards negotiations and decision making that will have a positive impact at a more macro level, so as to affect the quality of life of the entire watershed's population.

Methods to resolve environmental conflicts

An environmental conflict arises when two or more parts feel they have incompatible objectives with respect to the use, access and control of a natural resource.

In order to have an effective participation in conflict resolution, the following questions should be asked:

- *Who or what tells me that there really is a conflict?*
- *Who has the power to define it?*

About the parties:

- *Who are fighting?*
- *How many are they?*
- *Is there a power imbalance?*
- *What are the explicit and implicit needs of the various groups involved in the conflict?*

About the moment:

- *Is there sufficient time to work out things?*
- *Should we wait for another moment, day or week?*

About the place:

- *Should we do it in private?*
- *Will the group benefit from the use of a technique, but will this cause embarrassment to the parties?*

About the expression of feelings:

- *Has adequate space and conditions been given to express feelings?*

About frequency/time:

- *Is this something that happens every day?*
- *Several times a day?*
- *It happened only once?*
- *Is it a recent or old conflict?*

About the technique:

- *Which one should be chosen?*
- *Is it something simple about resources or something difficult about deeply rooted values or needs?*

If I choose a very difficult technique:

- *Wouldn't it be better to train the group first? (CEPPA Foundation,u.d.)*

Resolution of environmental conflicts

According to Acuña (2002), there are traditional and alternative methods to deal with environmental conflicts. The first refer to commonly used methods, such as arbitration, trial and administrative decisions. These are characterized by a resolution made by an "impartial third party" and the agreement has a binding character, meaning that, even if one of the parties is not in agreement with the decision made, it must be honored. On the other hand, these processes are extremely costly and slow. The following table presents a summary of traditional methods for the resolution of environmental conflicts.

Traditional forms for the resolution of environmental conflicts				
Conflict resolution form	What does it entail?	When can it be used?	Who decides?	Result
Arbitration	Private and voluntary process where the parties ask an arbiter to resolve on the controversial issues, subject to prior agreement regarding the binding nature of the resolution.	When the parties wish to avoid going to court	The arbiter	Binding decision whereby the parties previously agree to honor the resolution
Trial	Judicial procedure (structured and rigid)	When the parties take the case to a court	Judge	Binding decision
Administrative decision	Administrative procedure	Organization or institution responsible for the regulation of the use of the resources	Local, regional or national government	Binding decision

(Adaptation: Sánchez, 2002)

In order to find more democratic and participatory methods for environmental conflict resolution, other alternatives have been developed, among which are: the negotiation, mediation, facilitation and the negotiating table. The following table presents a summary of each of the alternative means to resolve environmental conflicts.

Alternative forms for the resolution of environmental conflicts

Type of resolution	What does it entail?	When can it be used?	Result
Negotiation	All parties involved in the environmental conflict meet to express their interests with respect to a proposed action and jointly analyze the possibilities for a satisfactory decision for all parties involved	When the parties do not wish to resort to the administrative or judicial process	Satisfactory agreement for all parties involved
Mediation or assisted	This is a technique through which an impartial third party facilitates processes involving conflicting parties, playing an active and mediating role in the negotiation	It allows resolution of a more acute dispute or conflict that is not resolved through negotiation, or is not possible due to the level of hostility existing between the parties involved	Satisfactory agreement for all parties involved
Facilitation	It is a voluntary process used to resolve environmental conflicts. The facilitator assists the parties in identifying and defining the problem and points under debate.	Before the conflict reaches a critical stage	Satisfactory agreement for all parties involved
Negotiation table	It summons all parties to interact and find a joint solution	There are evident differences among the parties involved	Satisfactory agreement for all parties involved

(Adaptation: Sánchez, 2002)

Following is a methodological tool that might provide support to the work carried out in connection with consensus reaching.

Constitution of work groups (focus groups)



Source: Geifus, Frans. Ochenta herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997, p. 31.

Objective: Organization of community members with common interests or conditions, in order to develop a specific topic within the problems/alternatives identified by the community.

Resources: It applies to all exercises.

Procedure: Focus groups are particularly useful under three circumstances:

- when the high number of participants does not allow to thoroughly address all the topics presented;
- when attendance should be divided into different groups because of the very different views and relations with respect to the problems analyzed, and these specific points of view should not be ignored (f.e., women and men, youngsters, etc.);
- when there are persons particularly informed and/or interested about a specific subject regarding which the rest of the attendees cannot or do not want to focus on.

The participation of focus groups should be voluntary to the extent possible, unless the assembly decides otherwise.

Step 1. Preparation. The issue under consideration should be very clear because this will determine participant selection. The subject may have been previously determined or it may come up during a group exercise.

Step 2. Participant selection. The focus group should be homogeneous: they should all be involved in the problem that will be analyzed, or share similar characteristics, or be local experts on the subject.

Participants may be selected based on information provided by key informants, or based on other exercises (social map, for example). The group can include between 4 and 12 people.

The legal framework

Reference was made at the beginning of this chapter to the subject of governability and the international agreements related to women's empowerment, gender equity, poverty eradication, and the sustainable use of water that the nations have agreed to incorporate into their policies, strategies and work plans. The above implies that governments should generate a regulatory framework outlining how the natural resources of the watersheds should be used and whose responsibility it is, develop programs and allocate resources to correct social inequalities, favor women's participation and incorporation, equitable, efficient and safe access to water by the populations and the ecosystem.

The countries have laws that correspond to different levels such as municipal, state or national. The reality in many countries shows that, although a regulatory framework exists, it does not respond to the needs of the people, usually is contradictory, has a sectoral approach and lacks the instruments and means required for enforcement by the designated institutions. Furthermore, management decentralization of natural resources is becoming increasingly frequent. In the case of water, for example, local municipalities or governments are assigned management of this resource. In many instances, these organizations lack financial resources and qualified and gender-sensitive technical staff, in addition to the lack of complete strategies to guide their development. Moreover, the water and sanitation sector lacks a gender and strategy policy that should be promoted in its programs and projects. On the other hand, there are many instances when political affiliation prevents full institutional development and fulfillment of their role throughout the territory.

Another reality that may be found in the watersheds is the little or no relation among the public entities responsible for water supply and the institutes for women's affairs and the municipalities. In cases where these last two organizations may have worked with gender issues, it would be easier to mainstream the gender perspective into the community water supply activities undertaken.

It also is a fact that in many countries the regulatory framework related to water or other watershed resources, is under elaboration, reform or restructuring, for the purpose of building consensus about the best resource management practices. Thus, if the watershed's communities and organizations are aware of this fact, are informed about principles generated at international conferences, and manage and have information on the natural resources, and if at the watershed's level there may have been consensus venues and a grassroots organization interested on an optimal resource management, these can have greater impact and participation in the modification of municipal laws or by-laws, or in cases where a regulatory framework may be lacking, they might awaken the need for a regulatory framework suitable to the conditions of the watershed.

To influence the national regulatory framework, specialists need to work on the subject from a community grassroots level. To promote a legal framework to regulate natural resource management from a gender equity perspective, communities and organizations must recognize that public policies are not **neutral**, and that the actions implemented have differentiated impacts on women and men. Therefore, in the processes undertaken to develop an equitable regulatory framework, these local organizations should favor and promote the participation of women and men in all decision-making processes and levels through which consensus is reached for policy formulation purposes, facilitation of capacity building to defend their own interests, needs, rights, and consider the creation of negotiation venues. The latter should also encourage an equitable distribution of responsibilities, rights and benefits among those directly or indirectly involved in policy implementation.

Local populations should organize and effectively influence decision-making venues. Organization also allows participants to share common aspirations and establish objectives and actions to fulfill their expectations. In this connection and from a gender equity perspective, it is important to include women in the decision-making and power exercising venues, as an institutional strengthening strategy to broaden the impact.

Several world conferences establish the principles governing the sustainable management of water resources, and in some countries environmental legislation or public policy formally adopt gender equity promotion. For instance, the Mesoamerican ministries of environment have issued policy declarations and elaborated action plans. These guidelines should be taken up again in water resource management policies.

One sector where it is possible to influence the organization of men and women, is the sector involving the elaboration of laws and regulations for water resource management. This has traditionally been considered a male domineering space, with a patriarchal culture involving little or no consultation at the moment of elaborating such instruments. This system is also reproduced in policy implementation by institutions as well as at a local level. Following are some of the manners in which organized groups are able to influence this legal framework from a gender equity perspective:

Forms to influence the legal framework from a gender equity perspective

- Establishment of strategic partnerships and/or associations with other social groups that experience the same problems and share similar expectations, through agreements, letters of understanding, joint watershed-related plans, projects, institutions, women's organizations, companies, universities, in order to strengthen organization initiatives.

- Creation of discussion and coordination venues where the various groups may eventually include work agendas in order to guide the activities with respect to their impact on the regulatory framework.
- In cases where no water resource policy exists, the formulation of an institutional declaration is proposed. In this manner, the international water resource agreements listed in Annex 1 as well as those on gender, will be specified promoting actions based on principles of equity, participation and sustainability. For guidelines on this matter reference should be made to Annex 3, which explains how gender was mainstreamed into the ministries of environment of Mesoamerica.
- Elaboration of a public policy impact plan to influence public programs and policies involving water resources implemented by the government. This entails, among other things, learning about the participation mechanisms used in the political system and revising existing policies related to water resources. For illustration purposes, Annex 4 describes how an action plan should be prepared.

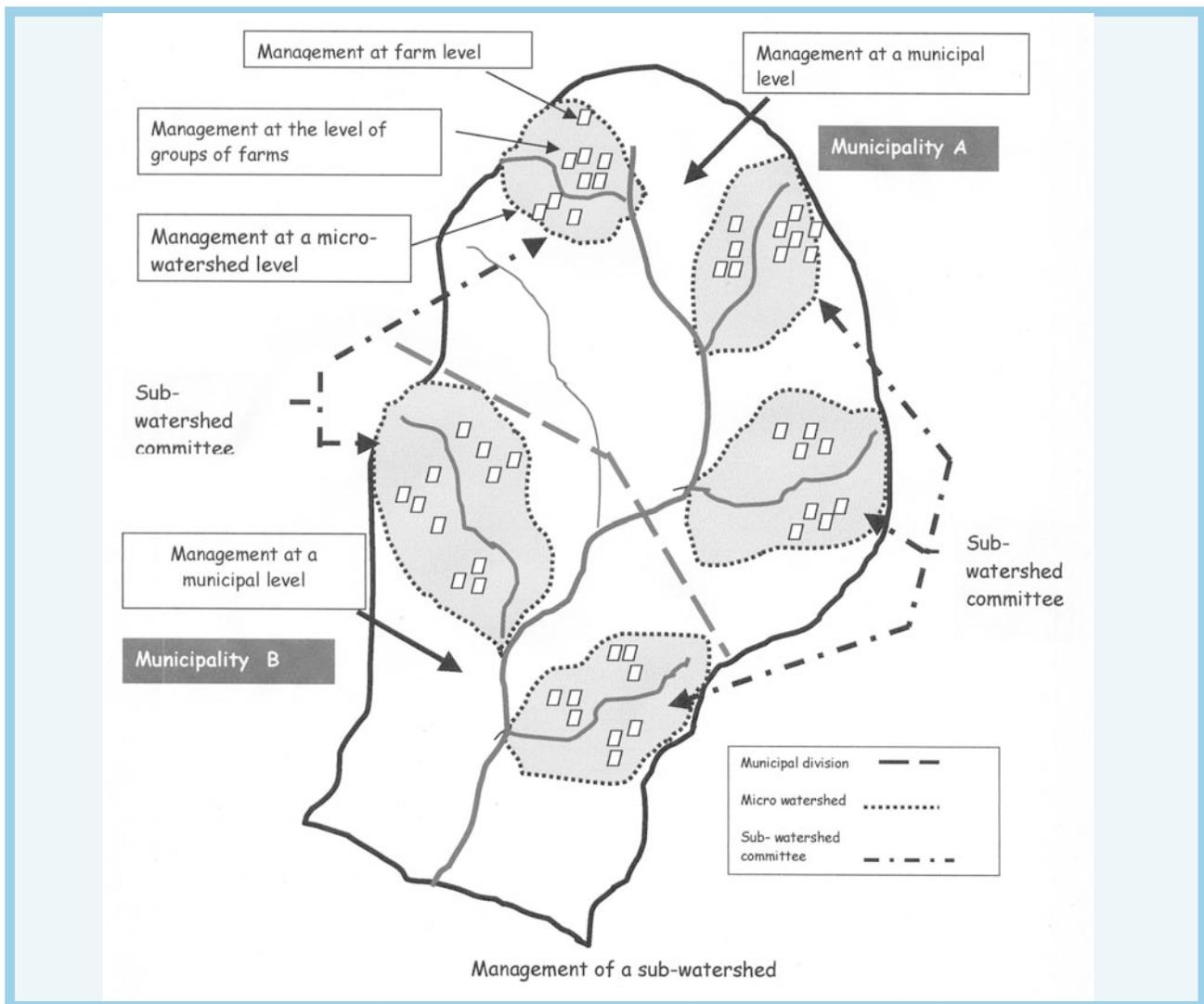
6. Case studies

Following are two case studies on watershed management where the above-mentioned elements have been integrated.

Watershed management based on local management processes

To demonstrate the viability of achieving benefits and impacts derived from watershed management, it is very important to consider the key aspects involved in watershed management and a clear understanding about management and its processes. Also essential is the definition of an integral vision, the territorial context and the effects (external) of watershed management, as well as the responsibilities of those responsible for watershed management.

By complementing the various management styles proposed in conventional literature, this section of the manual presents a simple alternative, based on participatory processes undertaken from the base on upward, from a local entity, in small territories (micro-watersheds), but centrally linked, without by-passing the global territorial context because by the end of the process one has reached the watershed's level. The following graphic illustrates how this management style starts working at a farm level, and then moves on to groups of farms within the micro-watershed's context, in order to relate them to other similar groups in nearby micro-watersheds and, thus, be able to develop the sub-watershed committees that work at a municipality level.



This experience has been developed by the project "strengthening local capacity building for watershed management and prevention of natural disasters FOCUENCAS-ASDI-CATIE", at the Copán river sub-watershed, Motagua Watershed, Honduras. The local counterparts are the communities of the municipalities of Santa Rita, Cabañas and Copán Ruinas. The project's proposal is based on the following aspects:

- (i) Start by clarifying what is watershed management and what do we expect to achieve through its management. It is necessary to have a vision about the watershed, the sub-watershed, the micro-watershed, the strategic zones, and the farm or production or intervention unit. It is here where, together with the stakeholders, a definition is made about the implications and objectives of the project. To this effect, it is necessary for the stakeholders to have timely information designed in an understandable manner about watersheds and watershed management. To coordinate what is understood as negotiation, it is necessary to develop strategies and methodologies that will allow the different groups to express their ideas, needs and interests, in order to reach an agreement about what needs to be done.

- (ii) Next, is the definition about the level of intervention, whether it is a micro-watershed or the higher part of the watershed or sub-watershed. Coordination among local stakeholders is needed for decision-making purposes. Efforts should be made to assure that stakeholders are equitably represented, bearing in mind that women are not isolated stakeholders, but should be present in all groups. This is the definition of the setting that operates from small to large territories.
- (iii) The interest and needs of the various local stakeholders is defined. The technical assistance and participation of governmental and non-governmental institutions working at a local level, is very important here. Participatory techniques are used and conditions are created for the less stronger groups to voice their interests and needs. A prioritization of the activities to be implemented should be carried out together with the community.
- (iv) The activities begin by working on a farm-to-farm basis (household participation). All pertinent approaches are applied there: gender, sustainability, profitability, etc. This intervention should consider the purpose around the micro-watershed's management. For example, in agroforestry systems, the production of bio-input or protection of a water source (the catchment and recharge zones). How do these integrated activities favor the watershed's management? The management process based on local initiatives and interests starts here.
- (v) The above proposal seeks to develop activities towards the integration of farms with similar purposes. Family groups that will undertake the same activities are conformed. This enables making management visible or the application of technologies suitable for watershed management. To achieve this result, consideration is given to the negotiation of local projects within the context of a management plan or guidelines for micro-watershed management. The above seeks to undertake affirmative empowerment actions and facilitate women's participation in the groups, in addition to budget allocation for gender-related activities within the context of the management plan.
- (vi) At the above-mentioned micro-watershed groups may develop in a parallel manner in numbers equaling the number of problems or needs requiring solution, without losing the watershed's wholeness. In this way, this territory will achieve the expected management results maintaining the visibility and landscape hold. This leads to a portfolio of projects under negotiation or implementation. The integration of these activities generates the impact, associated or external effect, because, in addition to generating benefits in each farm or site, they produce benefits outside of the farm, a zone or the micro-watershed.
- (vii) Similar work is carried out for other micro-watersheds of the sub-watershed or the watershed. At this level of intervention, negotiations are coordinated with the local governments (municipalities). Each micro-watershed may have its own strategic

resource or may have a particular idea upon which the negotiation is based. The integration of well-managed micro-watersheds dominate sub-watershed spaces, which, in turn, will allow an integral management of the watershed.

- (viii) The territorial negotiation of municipalities and watersheds promotes the development of municipality partnering actions, linking with central government entities or with decentralized institutions interested in watershed management (hydroelectricity, irrigation, tourism, etc.). It is here where different products, such as the watershed management plans, the guiding principles of municipal management or joint strategic plans, are built.
- (ix) At a micro-watershed level, local organizations may conform the micro-watershed committees, where women participate actively and hold management positions to promote the responsibility of an implementing, coordinating and facilitating entity. Organizational negotiation does, likewise, take place at a sub-watershed level. The organization involved in the micro-watershed's negotiation will develop the mechanisms involving payment for environmental services and setting up of an environmental fund for micro-watershed sustainability.
- (x) Finally, the organization of the watershed entity at the watershed's level, called authority, council, etc., represents the global integration body regarding which the territorial negotiation is materialized in response to the management needs of the watershed and the local government bodies.

This negotiation style requires a participatory and pragmatic process; it mainstreams the gender perspective throughout its work with activities involving education, sensitization, awareness and collaboration. This should allow articulation with both, the decentralization policies and watershed management institutions.

The project access, negotiation and sensible use of water - AGUA

The project access, negotiation and sensible use of water - AGUA was implemented by the Consortium CARE-SALVANATURA-SACDEL-FUNDAMUNI, between June, 1999 and December, 2002, through USAID funding, and for the purpose of improving in an environmentally sustainable manner the access to drinking water of women and men from rural communities in 18 municipalities of El Salvador. The consortium is currently executing the two-year extension of the project.

The implementation of AGUA began with a appraisal of selected municipalities and sub-watersheds, through which the technical and administrative teams of the consortium learned about biophysical, social, economic and infrastructural aspects, including the identification of community leaders, authorities and institutions and other sectors present

in the geographical areas of interest. Appraisals at a municipal level were carried out using the information gathered from observation visits and interviews made to key informants using guides and questionnaires, and gender-sensitive participatory appraisal workshops conducted at a sub-watershed level. These documents reported the interests, needs and problems identified and prioritized by the women and men of the communities. The information did, furthermore, serve as the basis to select the 14 sub-watersheds where the activities related to the five components of the project were focused.

At a municipal level, the organization and/or strengthening of local development committees was facilitated through leader training (men and women), as well as by drawing near leaders and local authorities. This process was completed through the elaboration or updating of municipal strategic plans. At the same time, and in order to improve the quality and quantity of water in the sub-watersheds, project beneficiaries applied a number of soil conservation practices, including a reduction in the use of agrochemicals, training to assist their neighbors in the use of applied technology for their farms or parcels of land; while female and male community leaders, teachers, students, NGO and GO specialists trained as local environmental trainers, promoted small projects to improve the environmental conditions of their communities and groups. Organized in water boards and committees, they underwent training to improve the administration, maintenance and operation of drinking water systems. In addition, groups conformed by these sectors participated jointly in the implementation of physical works and reforestation processes, for the purpose of protecting the catchment and recharge zones of the water sources; while the processes involving the participatory formulation of municipal by-laws for water conservation, protection of salty forests, integral management of solid waste, etc., were facilitated.

During the process, the organization of farmers' associations for collective commercialization of products and purchase of materials was very important, as was the case regarding associations established between boards and committees for the administration of water systems for chlorine purchasing purposes as well as to provide mutual support in the resolution of conflicts and problems related to the operation and administration of the water systems constituted. The understanding about the sub-watershed shared territories and the understanding that problems between neighboring municipalities were common, led to municipality association processes to conform associations or micro-regions where the mayors, municipal boards and local development committees sought alternatives to solve the problems prioritized in their strategic plans for municipal development. They prepared profiles of joint projects, negotiated funds collectively and signed letters of understanding, agreements and other documents making specific commitments towards joint work.

The levels of organization and integration of local development activities such as agroforestry, water source protection, solid and liquid waste management, construction of physical drinking water and sanitation infrastructure, environmental education, local legislation formulation, and strengthening of local organization for watershed management, were

carried out in a participatory and gender-sensitive manner, as a result of which, during the third year of execution of the project, sub-watershed committees were conformed, and participatory management plans and project profiles were elaborated for six of the prioritized sub-watersheds.

CHAPTER III

Participatory appraisal from a gender perspective

This chapter includes the following sections:

- 1. What is a participatory appraisal and what is the contribution made by the gender perspective?*
- 2. Methodological references for the elaboration of participatory appraisals from a gender perspective*
- 3. Guide for data gathering*

In the previous chapters were addressed the principles upon which the proposal of this module is based, as well as its background and conceptual framework. This and the following chapters deal with the implementation of a watershed management plan and the monitoring and evaluation system, and describe in detail the methodological guidelines that will enable turning theoretical proposals into concrete strategies of proposal action and evaluation. This

appraisal exercise is a crucial stage of the methodological process, given the fact that it allows coming into contact with the different realities of the watershed, in order to try to explain and lead these towards greater levels of equity, sustainability and social participation.

1. What is a participatory appraisal and what is the contribution made by the gender perspective?

Prior to discussing the terms that will provide the appraisal with the participatory orientation and a gender equity perspective, it is important to clarify that, above all, it is a watershed appraisal. This has conceptual and methodological implications to the extent that this perspective must permeate the appraisal process and provide it with specificity. That is, all of the activities, regardless of the scale (farm, micro-watershed, sub-watershed, watershed), should reflect the inter-relations that exist among the watershed's higher, middle and lower parts, as well as the role each of its geographical spaces plays in terms of the socio-environmental dynamics of the entire zone. As such, if an appraisal is made about the lands of farmers or communities, it is necessary to place them in the broadest space of the watershed (high, middle or low watershed), as well as to analyze their relation with these spaces and the potential opportunities or limitations to implement alternatives to promote sustainability processes at the watershed level. Upon completion of these considerations on the

development of appraisals in hydrographical watersheds, it will then be possible to start working on the aspects related to the need for participation and promotion of gender equity in appraisals.

The participatory appraisal is constituted at the very beginning of a negotiation process involving natural resources in general, and water in particular, in a watershed, to the extent it describes and explains a problem in order to contribute the elements to work it out. However, the scope of the appraisal would be minimized if only problem gathering were addressed, given the fact that the process makes evident not only the problems of the social stakeholders of the watershed with respect to the natural or water resources, but also their struggles, articulations with other organizational bodies, their future projects, hopes and opportunities to make their dreams come true.

Participatory appraisal lies within a systematic process of knowledge, understanding, planning, execution, monitoring and evaluation of actions to promote the sustainable management of water resources and transform the socio-environmental reality of a watershed. It is not constituted as an end in itself, but as an instrument that enables the elaboration of a watershed management plan according to the real needs of the various stakeholders living in their communities, since this analysis instrument makes it possible to plan transforming actions stemming from the social practice of local individuals, rather than from a practice they are not familiar with.

Unlike the traditional appraisal, where the research team does not actively involve the local social stakeholders in the process, in participatory appraisal the participation of watershed dwellers is essential. In addition, the process does not stop at an investigative level, but becomes committed to the proposing level, to the extent it attempts to establish strategies involving socio-environmental change. It breaks with the dichotomy between "who knows" and "who does not know", since both, specialists and community members, interact in a joint learning/ investigating process. Furthermore, the appraisal is not conceived as a series of consecutive and isolated steps, but as a process where all stages are closely related (Abella and Fogel, 2000).

In operational terms, the participatory appraisals from a gender equity perspective seek to blend together the theoretical-conceptual approaches of the gender perspective in the actual work, revealing how gender differences define the rights of the people, their responsibilities, limitations and opportunities of access, use and management of water.

Now then, from a participatory and gender equity perspective, it is important to recognize that watershed management plans affect men and women in a differentiated manner, as a result of which, the orientation of programs and projects should be revised and reconsidered, adjusting them to the specific demands of men and women of watershed communities. From this perspective, a participatory and gender-sensitive appraisal is key to the extent it voices the problems,

interests and hopes of all the social stakeholders of the watershed in their relation to the water resources (Aguilar, 1996).

The gender perspective focuses its emphasis on the social stakeholders, making evident that in a watershed men and women differ from each other because of the social roles they fulfill, the perceptions and expectations they express and the limitations and needs they strive to meet. Because of the diversity comprised by the different realities of the high, middle and low portions of a watershed, the appraisals should overcome the general assertions and go deeply into the special characteristics. This will allow a closer and clearer knowledge about the people, which fact will derive in strategies that will have a true positive impact on improving the conditions and quality of life of all its dwellers (Arguello, et. al., 1995; Aguilar, et. al., 2002).

A participatory appraisal from a gender equity perspective differs not only from the concept of the appraisal, but also from the participatory appraisal, to the extent it moves on towards the definition of the criteria related to gender equity. The construction of the category of "participatory appraisal from a gender equity perspective" is integrated in the following manner:

APPRAISAL

Systematic process to recognize a certain situation and the reason for its existence.

PARTICIPATORY APPRAISAL

Systematic process to recognize a certain situation and the reason for its existence, where knowledge is built through the intervention and opinion of the people involved in that situation.

PARTICIPATORY APPRAISAL FROM A GENDER EQUITY PERSPECTIVE (PAGEP)

Systematic process to recognize a certain situation and the reason for its existence, where knowledge is built through the intervention and differentiated opinions of the people involved in that situation, who—in addition—are not viewed as an homogeneous group, but the situation is addressed starting from the recognition that women and men have different needs, perceptions and realities depending on gender, age and social condition. In other words, power relations within the community are revealed.

It should not be forgotten that:

At the time of elaborating appraisals and watershed management plans from a gender equity perspective, it should be clearly understood that this approach has implications concerning: a) what needs to be done; b) with whom it will be done; c) what is the purpose for doing it; and d) how will it be done. There are a few basic criteria that should be considered in the work.

Criteria to undertake appraisals from a gender equity perspective:

The people participating in the process cannot be taken as an homogeneous group. The following three considerations detach from this criterion:

- a. It should be recognized, depending on the location of the watershed (upstream, in the middle or downstream), gender, ethnicity and age; how the social stakeholders perform within their ecological environment; the uses they make of the water; the conditions involving access, control and benefit of the use of the natural resources in general and water in particular.
- b. An explanation should be provided about the differentiated effect the quality and availability of the natural resources and water in particular have on men and women, according to their location in the watershed and the sector they belong to.
- c. The socio-economic context, as well as the services, resources or facilities men and women have access to, should be recognized.

It is important to sensitize and train the staff involved in the appraisal in terms of the pedagogical process guiding the participatory appraisals from a gender equity perspective.

Four considerations are detached from this criterion:

- a. The facilitating team should clearly understand the intention of working with a gender equity approach, whether at a strategic, collective or individual level;
- b. The facilitating team should be knowledgeable and experienced on the methodologies and techniques required to carry out appraisals with a gender approach, in order to adapt these to specific contexts and situations instead of following pre-established recipes;
- c. The facilitating team should be familiar with the availability of time and the pace of work of the women and men who will be involved in the process, assuming an attitude that will encourage their participation in an equitable manner;
- d. The facilitating team should use a language that is clear and accessible to all.

The participatory appraisal from a gender perspective should be based on a more integral and systematic process that interweaves gender equity into the planning processes associated with water at all levels (macro, intermediate or local). Under the macro perspective, the gender equity approaches should permeate the national public policies, the development plans and the juridical framework of the water (Bejarano and Soriano, 1997).

At the intermediate level, attempts are made to mainstream the gender approach into the work carried out by the institutions responsible for linking together the public policies involving water management and the populations. Otherwise, most of the beneficiaries of water management programs and projects will be the traditional beneficiaries, considered as household heads, producers, fishermen and decision makers, mostly male population, which situation does not only entail wasting the huge potential of women, but also limits their potential and does not fulfill their interests and demands.

At the local level, that is, the communities dwelling in the watershed, this will be the starting point for the elaboration of projects related to water management and water services, since it is at this level where the problems, needs and potentialities of social articulation are identified - water resources - in order to provide solution alternatives that will not only respond to the demands of women and men from the populations of the high, mid and low sectors of the watershed, but will also be based on elements of sustainability, equity and economic and cultural feasibility.

The local level reference is not the communities of the watershed as a whole, but the families that conform these. It is assumed that the household units are units of production and reproduction and that water plays a decisive role in the development of both activities. By the same token, men and women fulfill their productive and reproductive roles in an unequal manner and under conditions of disadvantage for the women, since they perform tasks that are not socially appreciated, in addition to being practically invisible and ignored regarding their participation in productive activities (Balarezo, 1998).

2. Methodological references to elaborate participatory appraisals from a gender perspective

Participatory appraisal from a gender perspective is an analysis tool under continuous construction, through which the particular conditions surrounding the specific reality become evident, thus facilitating reflection

about the reasons behind their existence, and the actions required to change this reality by working in a critical and conscious manner towards its transformation. While constituting the first approach to a given reality, it also is the basis of success for management plans involving water resources, since it grants voice to the various social stakeholders to allow them to assert their development demands and priorities (Aguilar and Castañeda, 2000).

Context analysis is a preliminary phase of the appraisal

It is essential to make an **analysis of the context** as a preliminary phase of participatory appraisal from a gender perspective. A first approach is made through context analysis to the region under consideration, in order to become acquainted with its regulatory and institutional framework, socio-cultural dynamics and organizational structures, as well as to define the zone division required by the area. The results of this analysis will provide the standards to establish the strategies to approach and work with the communities of the watershed. To carry out the context analysis secondary information sources may be consulted in combination with a few quick visits to the zone.

The responsibility regarding the elaboration and execution of the gender-sensitive participatory appraisal in a watershed will fall not only on the facilitating team, but on the representatives of the communities or organizations as well, who will actively participate in all of the phases of participatory appraisal, which are described below:

Steps of the appraisal

- Step 1. Appraisal design
- Step 2. Data gathering
- Step 3. Data processing and analysis
- Step 4. Socialization of results and definition of strategies to be undertaken

The following pages will describe in detail each one of the appraisal steps and will provide theoretical and practical references to elaborate them.

2.1 Step 1. Appraisal design

Planning is the first step in the development of a gender-sensitive participatory appraisal in a watershed. This implies the articulation of a few tasks:

- conformation of the facilitating team
- location of the context and identification of the participants in the process
- definition of the information required
- selection of the methodological tools to be used
- elaboration of a work plan

● Conformation of the facilitating team

The starting point is the premise that a gender-sensitive participatory appraisal will be developed. Thus, conformation of the facilitating team should take into consideration the integration of a trans-disciplinary team, where the scientific knowledge of specialists from outside of the communities of the watershed and with different backgrounds, are interweaved with the empirical knowledge of local leaders with a variety of experiences (Esteva, and Reyes, 1998). The work group will, furthermore, be conformed by both, men and women, who must comply with certain recommendations, among which should be noted the following:

- being open and sensitive to the gender equity issue;
- ensure an equal participation of women and men in the process;
- recognize the power relations existing between men and women and try to create opportunities to work with women in a separate way, while at the same time promoting shared venues;
- facilitate dialogue and negotiation among groups with diverse interests;
- provide support to women to help them raise their demands with clarity and negotiate their interests;
- promote among men the need to appreciate the points of view of the women, based on the fact that men as well as women have valid approaches regarding community development.

The role of the facilitating team

The role of the facilitating team within a appraisal or planning process is to allow and encourage the expression of the different ways of thinking, in order that they may be shared and taken into consideration in decision making. The facilitating team should not only know how to use the appropriate tools in connection with participation and equity promotion, but should also be acquainted with the regulatory, institutional and policy framework, and have a democratic attitude, capable of creating a trusting atmosphere among participants, able to listen, not trying to impose their opinions, as well as possessing analysis and synthesis capability (Aguilar, *et. al.*, 1999).

Under these terms, the facilitating team should create a friendly and adequate learning environment, encourage discussions within the team and establish strategies to involve everyone in the process, encouraging shy people to express their points of view and keeping those who talk too much from monopolizing the discussions.

The following table, adapted from the book written by Frans Geilfus, illustrates some of the changes that are needed for a facilitator to move away from the traditional "vertical-directed" profile and move towards more collaborative forms.

Table 1. Changes needed in a good facilitator

"Vertical-directed" specialist	Facilitator
ATTITUDE CHANGES	
Thinks that only his/her knowledge is valuable and "scientific".	Recognizes and respects all sources of knowledge for their own value and tries to appreciate the knowledge possessed by the women.
Believes him/herself superior and different from the people of rural communities.	Treats male and female farmers with respect.
Believes he/she has all the answers and that all others have nothing relevant to contribute.	Tries to learn from the farmers and his/her colleagues (open attitude).
Is bossy, tells people what to do, feels threatened by people's participation.	Seeks to promote cooperation, is democratic.
SHARING	
Always maintains the attitude that: "they have to learn from me".	Is convinced that learning is a mutual process and that everyone has something to contribute.
Does not request or facilitate comments from the people; is afraid of showing his/her ignorance by asking transparent questions.	Shows interest and enthusiasm about learning from rural people; recognizes and respects the knowledge possessed by the farmers.
Uses value judgments and rates without understanding the conditioning of his/her own values (modern/traditional, advanced/backward, hard working/lazy, etc.).	Recognizes the relative value of his/her knowledge and values, and avoids passing judgment on others, and tries to understand.
Does not share responsibilities with the community, but blames it if something does not turn out as planned.	Shares responsibility with the community.
Is not interested in, and does not take any notice of everyone's participation.	Creates an atmosphere of trust to encourage everyone to express themselves and reminds them that everybody has something to say, makes efforts to involve the quiet ones, especially women.
CHANGING METHODS	
Has unquestionable faith on the "scientific method" and applies it in a dogmatic way. Does not recognize the validity of local knowledge.	Recognizes the relative value of any method, and knows that none has absolute validity.
Lacks an attitude of self-criticism.	Is aware of the biases and limitations inherent to any approach; tries to correct them.
If it does not fit statistical analysis, it is "anecdotic" information.	Knows the importance of non-quantifiable information to understand and develop systems and processes.
Produces a vast amount of descriptive and statistical data that interferes with the understanding about reality-related.	Applies the system approach and notion process approach; favors understanding about descriptive details.
Applies methodologies and procedures without flexibility and much analysis; this leads to adapting reality to the instruments.	Is willing to use a combination of methods adapted to the needs and conditions of the moment, as well as the needs of the men and women.
(Source: Geilfus, 1997)	

- **Location of the context and identification of participants**

At this point in the appraisal, the facilitating team establishes the relations with the context upon which the process will make an impact, as well as with the affected population. The intentions and scope of the appraisal are established as of the meetings held among the facilitating team, leaders, institutional stakeholders, NGOs, academicians, cooperatives and a diversity of groups involved in natural resource and water management within a watershed context. It is important to transcend the formal power structures recognized in the community, towards the identification of informal venues, where women, youngsters and elderly people gather, among other community sectors that can diversify and enhance the views and interpretations regarding the problems affecting the high, middle and low parts of the watershed (Reyna, et. al., 1999).

Considering the extension of the watershed where it is expected to make impact, it is important to make an area zoning, according to criteria that highlight the diversity of the zone. An extremely important zoning criterion is the location in the watershed (high, middle and low watershed), given the articulations and interdependence among these geographic spaces in the watershed. Likewise, this zoning criterion can be enhanced with others, such as: productive, socio-cultural and ecological aspects. In this way, various appraisals will be carried out addressing different realities within the watershed, which should be integrated in order to present a general appraisal of the zone under study. To this effect, it is essential for all appraisals to be undertaken using the same methodology (IUCN, 2000). Depending on the size and diversity of the watershed, successive approximations to their socio-environmental realities can be made, that is, a first approach highlighting specificities at a more macro scale; this would allow taking it as the starting point to visualize within an homogeneous space and from certain criteria, differences that may allow a more detailed zoning.

Example

A gender-sensitive socio-environmental appraisal was undertaken at the Reserve of the El Vizcaíno Biosphere, México, which fieldwork was carried out through successive approximations to the area under study. As the first step, a reserve zoning based on its productive specificities was made, to which effect the reserve was divided into five regions that differed from each other socially, culturally and economically, as well as in connection with the use of available natural resources, which also turns them into five natural regions.

Table 1. Regions under study at the El Vizcaíno Biosphere Reserve

<i>Regions</i>	<i>Major productive activities</i>
<i>Mining Cities: Santa Rosalía Guerrero Negro</i>	<i>Lime stone, fishing and tourism Salt, fishing and tourism</i>
<i>Sierra de San Francisco</i>	<i>Livestock and tourism</i>
<i>Valle del Vizcaíno</i>	<i>Technical and traditional agriculture</i>
<i>San Ignacio</i>	<i>Vegetable gardens, livestock and tourism</i>
<i>Pacífico Norte</i>	<i>Fishing and tourism</i>

With the exception of Santa Rosalía and Guerrero Negro, the rest of the regions were considered as the most representative places, both, on account of the size as well as productive and organizational peculiarities. The following table shows the locations studied by region.

Table 2. Representative locations by region

<i>Region</i>	<i>Representative locations</i>
<i>Valle del Vizcaíno</i>	<i>Collective land tenure: Laguneros, Díaz Ordaz and Benito Juárez</i>
<i>Sierra de San Francisco</i>	<i>San Francisco de la Sierra</i>
<i>San Ignacio</i>	<i>San Ignacio, La Laguna de San Ignacio and Ejido Guillermo V. Bonfil</i>
<i>Pacífico Norte</i>	<i>Bahía Tortugas, Bahía Asunción, La Bocana and Punta Abreojos.</i>

(Taken from: Soares, et. al., 2001)

The identification and motivation of community members, leaders, institutional and academic stakeholders, and the different stakeholders to become integrated into the appraisal process related to natural resource management, should be undertaken keeping in mind the need to have maximum representation of the different sectors of the watershed's population, in order to ascertain that the diverse interests and expectations of its dwellers will be fully represented.

It should be stressed that, in addition to the formal social representation structures, it is also necessary to recognize and integrate into the appraisal process the informal structures, as well as to identify the women within these structures and create conditions and opportunities for their participation, by establishing convenient schedules, readily accessible meeting sites, adequate summoning mechanisms, and training, to enable their access to an effective participation oriented towards decision making.

- **Definition of the information required**

The design of the appraisal does also define the information needed to develop it, identify the existing sources of secondary information, as well as the new information required, disaggregated by sex. Without overdoing the collection of unnecessary information, it is convenient to combine national, regional and local data that is not only limited to institutional reports.

The identification process regarding the information that is necessary for appraisal development purposes, may be divided into two stages: i) identification and analysis of existing secondary information found in statistics and censuses, legal and institutional framework, management plans, Geographic Information System (GIS) and investigations

carried out in the watershed and other zones, among other sources of information; and ii) definition of the additional information required to carry out the appraisal, which will be directly collected from primary sources, that is, through local populations (Hope, *et. al.*, 1992).

The team leading the process should clearly understand which information is relevant to the appraisal in order to avoid collecting unnecessary data that will not be useful to the work. The definition about the information required will be given depending on the objectives of the appraisal; that is, one has to answer the question: what do I want to evaluate, and then establish the questions and necessary data accordingly.

**Importance of
the information
disaggregated
by sex**

The relevance of having information disaggregated by sex lies on recognizing and appreciating the activities developed by men and women, planning the impact that the proposal outlined in the management plan will have on the various activities, and ensure women's participation in the projects. Furthermore, the need to generate information disaggregated by sex is supported by the fact that women's participation is underestimated in development policy planning, official statistics and regional and local investigations.

The information generated in a gender-sensitive appraisal for a given watershed should, first, allow the identification of the nature of the gender social relations in the area, and secondly, the establishment of articulations between the social and environmental realities; that is, how the gender social process that operates in the watershed influences the access, use, management, control and regulation of the environment in general and the water resources in particular. The analysis of the information obtained should also allow the design of proposals seeking to reduce existing inequity relations, as well as to promote the participation of men and women in the integral and sustainable management of the watershed's water resources.

To enable identification of the nature of the gender social relations in the watershed, it is necessary to generate information at the level of the household unit to help understand:

- Which is the explicit way in which men and women relate in their everyday interactions at a household as well as community level?
- Which are the socio-cultural structures that determine and reproduce this specific form of relation between men and women?
- Which are the consequences and challenges posed by gender relations in connection with public planning strategies involving the watershed's development processes?

As far as the articulations between the social and environmental realities is concerned, the information needed will serve to explain:

- The impact of the gender social construction in the differentiated perception men and women have about the watershed's natural resources in general and water in particular;
- The differentiated use that men and women make of the natural resources, as a result of the different generic divisions of their work, social roles and socio-cultural context;
- The differences between men and women regarding the access, control and benefit of the natural resources;
- The differentiated responsibilities of the social stakeholders in connection with the sustainable use, conservation and maintenance of the quality and quantity of water in the watershed;
- The different interests of men and women in the environmental interventions, as a result of their different interaction with the environment at a productive and reproductive level;
- The different levels of exposure of men and women to the environmental conditions and risks.

The analysis of the above two levels, that is, the nature of gender social relations in the watershed and the articulations between the social and environmental realities, should be undertaken based on the regulatory and institutional framework, as well as on the intervention policies in the watershed.

● **Selection of the methodological tools to use**

Upon establishing the type of information needed, one of the most important tasks carried out by the facilitating team is the definition of the tools to be used to collect data in a participatory manner.

- Objectives of the appraisal;
- Type of information needed to be collected in accordance with the objectives;
- The stage at which the process is;
- Degree of organization or mobilization of the watershed's communities with respect to the problem to be addressed;
- Availability of human, financial and logistic resources;
- Characteristics of the participants in the process (schooling);
- Facilitating team's experience in tool management;
- Pedagogical value of the tools and time available.

The selection of the techniques to be used in data gathering should be based on the following criteria:

It is not about the utilization of innovative techniques to make more amusing the appraisal sessions, but to encourage the group's participation, achieve a collective process of reflection, and reach clear conclusions and proposals regarding the subjects addressed. In this sense, the use of participatory techniques stimulates communities to think about and analyze their problems, to insert and relate their reality to the regional and national conditions and circumstances, as well as to share their solution proposals to the problems and jointly analyze the best options to deal with them (Lara, et. al., 1996).

Likewise, from a gender analysis point of view, a key criterion to the selection of a methodological tool is the extent to which it allows and encourages the participation of women and men in the appraisal, given the fact that they do not necessarily share perceptions, interests, needs and demands. Therefore, their concerns should be visualized in a separate manner, in order to be properly represented in the process.

From this perspective, a fundamental principle of participatory tools is the premise that all participants in the appraisal process possess a knowledge that should be taken up as a source of information for both, the analysis of problems and the design of solutions. In other words, the participants, men and women, rich and poor, with or without formal education, of different political ideologies, with or without power, deserve the same respect and should have the same possibility of expressing their concerns and points of view (Thomas-Slayter, et. al., 1993).

When selecting the most appropriate tools for appraisal development purposes, it is important to combine instruments designed to obtain different types of information, and make a balance between technical, social and ecological data. Needless to say, the technique should not be used as a recipe, but adapted, changed and innovated depending on the different local realities, yet always supporting and encouraging the involvement of men and women in community decision making as well as at a watershed level.

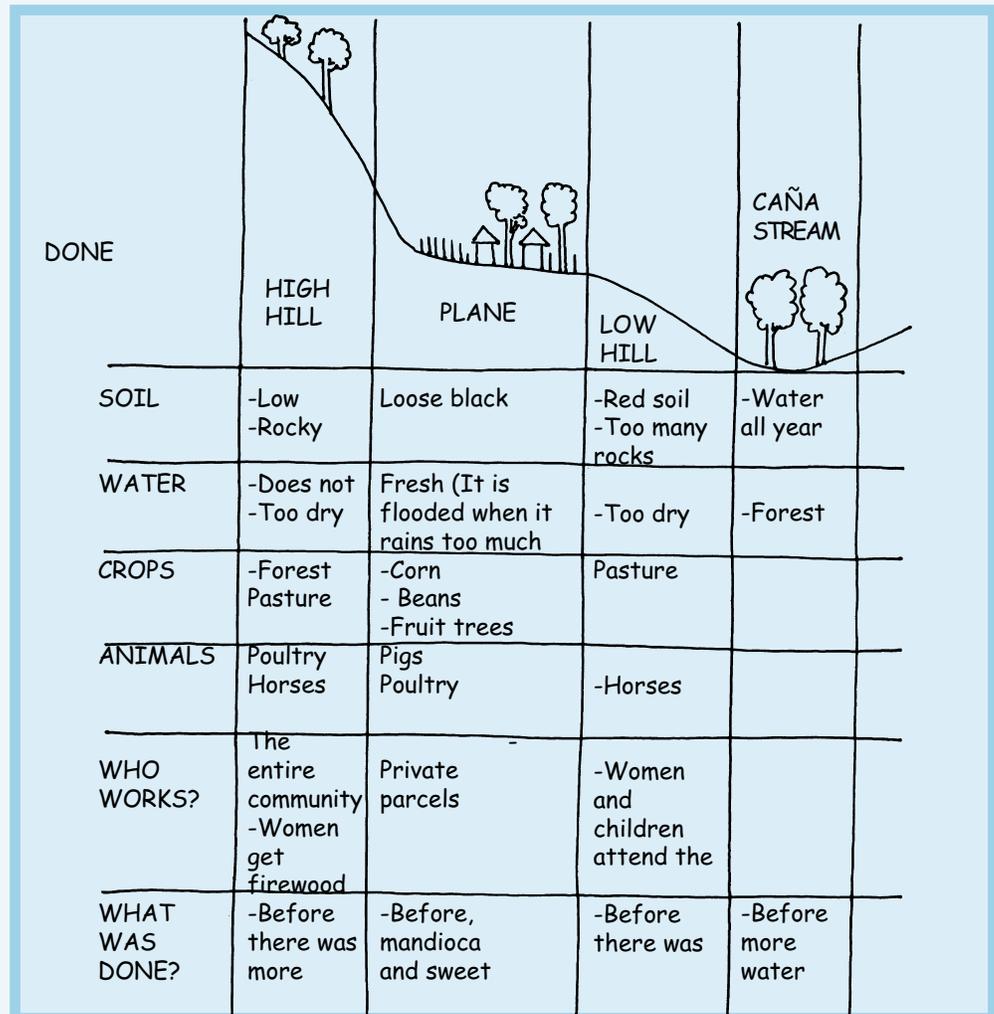
To facilitate the process for the selection of the techniques that will be used in the appraisal, these may be grouped into three broad clusters, keeping in mind that the gender approach should be mainstreamed across the process and, thus, permeate all the tools used, regardless of the group these belong to.

The groups would be:

- Techniques to gather spatial data
- Techniques to gather temporary data
- Techniques to gather social data

Through a graphic representation, the methodological tools for **spatial data** gathering allow location of the natural resources of the area under study, the trends about uses, identification of problem areas and opportunities to manage the natural resources and water in particular, and make an initial approximation of existing relations between local social groups and their natural environment. Furthermore, since these are visual tools that enable mixing of diverse information and spatial location of problems and opportunities, they are particularly useful in planning natural resource management throughout the communities of a watershed. Examples of these tools are: schematic and transect maps, land plot schemes, etc. (Group for Environmental Studies A.C., 1993).

Walking path and cross and transect section diagram



Source: Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective: Start a field discussion and structure a diagram showing the different areas within the zone under study, with the different uses, associated and potential development-related problems. This diagram may serve as the starting point to discuss alternatives and help people express what they know about their environment.

Materials: A map of the zone (preferably a participatory map), a notebook to make notes during the walk, flipchart paper and markers to draw the final diagram.

Procedure: The basic idea is to walk through the area and represent the various characteristics and changes that take place.

Step 1. Select a small group of informants/participants (men and women) and explain the exercise based on a practical example. Discuss which is

the best route that crosses the zone and goes through the greatest diversity of land uses and water courses represented in the zone.

Step 2. Start walking following the route chosen, writing down the most important characteristics and changes found, always using the terms used by the people.

Step 3. Represent on flipchart paper the information provided by the participants during the walk, drawing a diagram of the land, indicating the various zones found and their designation. Check with the participants whether they agree with the classification used (this step may be completed during or after the walk, depending on the complexity involved).

Step 4. Based on a discussion with the participants, write on the diagram vital information about the use of the natural resources, who makes use of these and the condition of the natural resources found at the region analyzed, trying to respond to the following questions:

- What is found in each zone (use of the land, water, vegetation, soil and any other relevant information)?
- Why is it specifically found in this zone?
- Who uses, manages, controls and benefits from these resources (differentiated by sex)?
- Types of changes in soil use?

While the techniques to collect spatial data present the situation existing at a given time, the techniques for **temporary data** gathering are dynamic and reveal what has happened with the communities of the watershed and their resources throughout time. Through the tools for temporary data gathering it is possible to explain change-related processes; how was community life affected by these changes, how are productive, reproductive and community activities organized throughout the year and what trends are outlined for the future. Examples of these tools: community chronology, trend lines, annual schedule of activities by sex, resource evaluation matrix, historic graphic about the production system.

Historic graphic of the Canton of Teosinte

HISTORIC GRAPHIC OF THE CANTON OF TEOSINTE

PARTICIPANTS
ARNULFO ALAS MAURILIO ORELLANA
RAFAELA GUARDADO

TOPIC \ YEAR	1988	1989	1990	1991	1992	1993	1994
PRODUCTION	—						
FARMING AREA	—	20	20	36	36	35	20
FOREST							
LIVESTOCK	—						
WATER							
WOMEN'S PARTICIPATION IN PRODUCTIVE ORGANIZATIONS	—	—	—	—			

Source:

Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective:

To represent the changes that have had an effect on the community in recent years, on various aspects of their life: natural resources, production, social organization, etc.

Materials:

A flipchart or blackboard, cards, markers, tape.

Procedure:

Step 1. Together, the facilitators and the participants should decide on the elements that will be evaluated, based on the issues the appraisal approach identified as important to the people. Prepare a matrix headed by these elements and with as many columns as the number of years involved in the period under analysis.

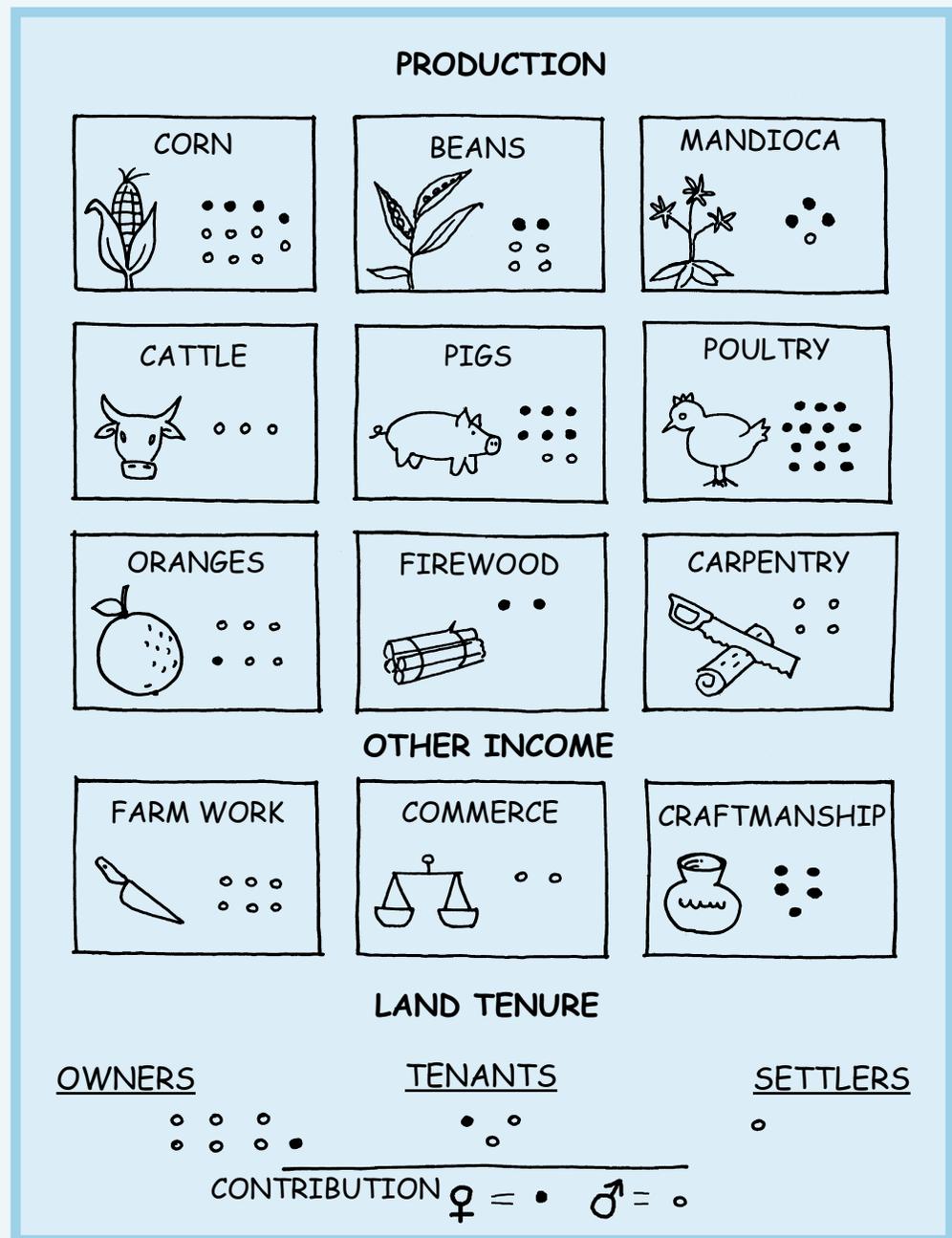
Step 2. For each one of the aspects, ask participants if they remember an exceptional year (for example, crops exceptionally low or high). This year will serve as a reference. If there are no reliable quantitative data, the matrix should be filled out in a relative form using symbols.

Step 3. Filling out of the matrix will originate considerable discussions likely to reveal lots of valuable information related to annual variations and their perception by the different members of the community that is representative of one of the watershed's sub-regions.

Step 4. Upon completing the matrix, the facilitating team could encourage a discussion to explain the most evident fluctuations and changes. Both, the discussion and the explanation, should be recorded. The matrix should also be interpreted in terms of problems and potential.

The methodological tools used for **social data** gathering allow obtaining socio-economic, productive, demographic and cultural information about the communities in the watershed and their household units, as well as recognition regarding the institutional and organizational network involved in the watershed's community spaces and their relations; locating potential conflict factors between them and disputes over land tenure, lack of youngsters to help carry out the tasks, domestic violence, alcoholism and drug addiction. Examples of these tools: family interviews, conversations with key informants, diagram of institutions, social map, map about services and opportunities.

Group profile



Source:

Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective:

Joint definition about the characteristics of the group of participants, with respect to the activities that are relevant to the appraisal. It is a quick and convenient method to broadly understand the socio-economic and productive characteristics of the group of participants, differentiated by sex.

Materials:

Flipchart, cards, tape, two different colors of markers to differentiate the participation of men and women.

Procedure:

Step 1. Explain the objective of the exercise and the methodology, indicating that men should use a marker of a color different from that used by the women to differentiate their answers.

Step 2. Start with watershed information, such as: Which are the major activities/crops undertaken here? Depending on the level of literacy of the participants, they can write each element on a card, or the facilitating team could assign to each one a symbol clearly understandable by all, and draw it on the card. Upon completing the first topic, the cards are placed on the flipchart.

Step 3. The exercise is repeated for other relevant information, for example, land tenure, use of materials, credit, etc.

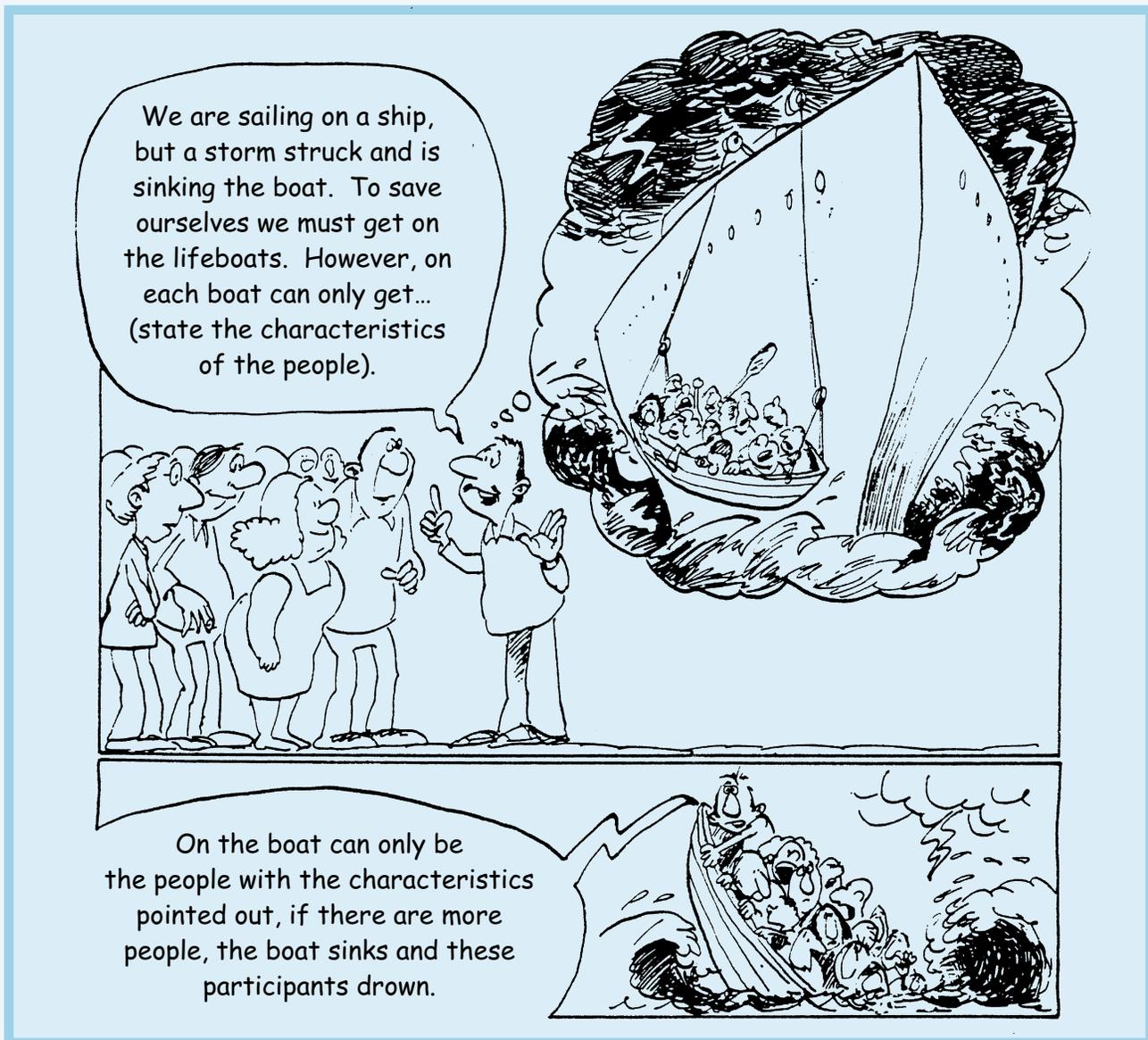
Step 4. When the group feels that all relevant topics have been exhausted, they should then proceed with the census. Each participant is asked to indicate on the flipchart the activities they carry out or the aspects that correspond to their characteristics. The men and women should use markers of different colors to differentiate their answers.

Step 5. Discuss the results with the participants, incorporating gender aspects into the debate.

In the interest of promoting a friendly and trusting environment among the participants in the appraisal, as well as to encourage the group's active participation, it is convenient to develop **presentation and animation tools** throughout the process. These instruments may be used at the beginning of the work sessions, for the purpose of integrating group participants, as well as in moments of exhaustion, for relaxation purposes. The facilitating team should have a clear understanding about the intention of animation dynamics and choose them carefully, since abuse might compromise the seriousness of the appraisal. Examples of these tools: presentation in couples, spider web, sayings, boats.

The boats

104



Source: Bustillos, G. and Vargas, L. Técnicas participativas para la educación popular. Tomo I Guadalajara: IMDEC, 1989.

Objective: To generate a friendly and trusting environment in the group and conduct a preliminary appraisal about the group's most relevant characteristics.

Materials: Flipchart, markers, tape.

Procedure: Step 1. The facilitating team requests the group to stand up, and tells them they will be told a story that has a few instructions. The people who meet the characteristics outlined in the instructions should form circles. The group is asked to do this quickly to make the dynamics agile and surprising.

Step 2. The following story is told: "We are sailing on a ship, but a storm struck and is sinking the boat. To save ourselves we must get on the lifeboats. However, on each boat can only get **(the characteristics of the people are stated)**... people.

Step 3. Upon hearing the instructions, those meeting the characteristics pointed out, should get together and quickly form a circle, as if they got on a lifeboat. On the boat can only be people with the characteristics pointed out; if there are more people, the boat sinks and these participants drown, thus, they should sit down.

Step 4. The instructions with the characteristics of the people who should get on the lifeboats are quickly given, the "drowned" people are eliminated, and so on, until a group profile has been obtained based on the characteristics the group needs to learn about. The number of people meeting the characteristics pointed out is recorded on flipchart.

Examples of group characteristics:

- women who hold or held a position in the community
- women who are household heads
- people who do not have access to pipe water
- people who have parcels registered to their name
- people who face problems regarding firewood supply

- **Elaboration of a work plan**

Once the objective of the appraisal has been defined, including the participants, the scope, and the information needed to develop the appraisal, the facilitating team undertakes the elaboration of a work plan. The plan establishes the most adequate tools for data gathering, the time invested in the various activities, the tasks undertaken by each of the persons responsible for process development, and the resources required. The plan should be presented in a simple manner to maintain the participants' interest and commitment, and it may be designed in such a manner as to respond to what to do, what for, how, where, with what, when and with whom.

The column headings of the following table seek to summarize the most relevant information that a work plan for a participatory appraisal from a gender equity perspective should include. This information responds to the following questions based on the objectives proposed in the appraisal: **What should be done? What for? How? With what? Who? Where? When?**

Table 2. Example of one stage of a work plan for a participatory appraisal from a gender equity perspective

What to do: what will be appraised	What for: objective	How: techniques	With what: materials	Who: responsible	Where: location	When: time
Conformation of the work group.	To appraise the conformation of the work group in relation to the interests and capab- ilities of men and women.	"The boats"	Flipchart, markers, tape	Jackie	Health care center	30 min.
The vision of men and women about their community.	To express the vision that men and women have about their community, situating the natural resources, problems and opportunities across time.	"Historic graphic"	Flipchart, markers, tape	Denise	Health care center	1 hour
Natural resources existing in the community.	To know and delimit the the access, use, agreements and commitments that men and women have regarding the natural resources.	"Cross and transect section diagram"	Flipchart, markers, tape	Estela	Health care center	1:45 mins
Quantity and quality of the water for community consumption and possible solutions to water-related problems.	To recognize the opportu- nities and limitations that the men and women of the community face in connection with the water resources and possible solutions.	Visits to wheel, well, a water-tank, river and land with a list of questions.	List of questions notebook, pen, tape recorder, plot, cassettes and batteries.	Jackie, Denise and Estela		2:30 hours

2.2 Step 2. Data gathering disaggregated by sex

A large portion of investigations on the rural sector has characterized water resources as an eminently male system, with little or no participation of women in productive activities, as well as a weak female presence in community venues. As a result thereof, the invisibilization of women with the resulting lack of information disaggregated by sex, constitutes a strong limiting factor with regard to the development of proposals based on a gender equity perspective.

As a matter of fact, women's participation is underestimated in official statistics, in development policy planning, and in investigations. It is the responsibility of those involved in a gender-sensitive approach to try to systematize the very little existing information disaggregated by sex, and generate new information. The collection of new information is done to complement what is needed for a better understanding about the problem. Several tools may be used, among which are matrixes, mapping, flowcharts, temporary diagrams, field interviews and observations, etc.

The following table highlights some elements that should be taken into consideration when seeking information

The information collected should make it possible to undertake an analysis about the socio-environmental, economic and productive dynamics of the region under study, as well as to explain the changes experienced by the populations and their natural environment across time. In these terms, among the important topics to identify are: characterization of the natural environment in the region, land tenure, current use of the soil, capability of use of the soil, population and migration, conflicts, household characteristics, production, employment, income levels, basic services and social organization (FAO, 1998 and 1995; CAN, 2000).

Table 3. Elements to be taken into consideration when gathering appraisal data

Socio-cultural and demographic profile	Socio-economic profile	Socio-environmental profile	Institutional action and social participation
Socio-cultural structure, distribution and growth of the population, stakeholders active population disaggregated by sex, characteristics of migration, environmental perceptions differentiated by sex and origin of the population.	Access to basic services: water, electricity, education, health, excrete disposal, access routes and communication.	Productive activities developed by the population; impact on the environment derived from such activities; social groups affected the most by the degradation of resources; differences between men and women in the control and benefits of the resources.	Appraisal of entities, strategies and involved economically in the social participation processes for the watershed's access, environmental rehabilitation (disaggregated by sex).

The following table illustrates the differences between practical and strategic needs

In view of the need to carry out several watershed appraisals based on its zonation and explaining existing relations between the high, middle and low sectors, it is important to establish relations between the watershed's contexts, that is, between the different appraisals that will integrate the watershed's general appraisal, and linking that context with the regional and national reality.

Throughout the process involving generation of new information, it is important to use tools adequate to the reality and characteristics of the participating groups. The appraisal should provide data related to male and female demands of a more structural nature, since it is essential for development proposals stemming from the diagnosed community needs to contemplate a strategic perspective, where the projects are not only directed towards the resolution of practical needs, but also to the objective of transforming social and power relations in the medium and long term.

Addressing the practical needs related to the basic demands for food, water, housing, health and economic security should be an essential strategy of development. However, this is not sufficient; efforts should be made to promote a change in the behavior, values and attitudes of the women and men that comprise the social networks, including their ideas about gender.

Table 4. Practical and strategic needs

PRACTICAL NEEDS	STRATEGIC NEEDS
Tend to be immediate, urgent.	Tend to be in the long term (process).
Characteristic of certain women and men in particular.	Are common to all women.
Related to everyday needs (condition): water, food, housing, income, health, etc.	Related to everyday needs (condition): water, food, housing, health, etc.
Easily identified.	The disadvantage is underlying and the potential for change is not always identified.
Can be met through the provision of specific items: water, food, water pumps, health care clinics.	Can be confronted through: awareness raising, increase in self-confidence, education, organizational strengthening, political mobilization, full citizenship.

(Source: Aguilar, L., et. al., 1999)

It is important to mention that the facilitating team should be sensitive to the different timeframe availabilities of the local social stakeholders participating in the appraisal process, and proceed accordingly. That is, to adapt the workshop schedules in such a manner that the attendance by one of the sectors involved is not weakened; even different work schedules could be considered for the sub-groups. Summons also plays a decisive role in the definition of who will attend the event (Electronic Conferences: Successes and failures regarding gender positioning in integrated water resource management, 2003).

This step is vital to the subsequent definition of the strategy to be followed, in the interest of promoting a sustainable management of the natural resources and water resources in particular in the watershed, as well as to promote the development of processes based on greater social and gender equity in the region, to the extent that the necessary information is generated at the moment the management plan is carried out. To strengthen it, a **data gathering guide** is provided at the end of this chapter, with a detailed description of the type of information required to elaborate gender-sensitive participatory appraisals and the most adequate data gathering tools.

2.3 Step 3. Data processing and analysis

Once the data required is gathered by the appraisal, it should be prioritized, processed and analyzed in order to understand the socio-environmental reality of the communities of the watershed under study, and move towards a more integral vision of the problem. This is an essential task; the information generated is the raw material needed to identify the problems and causes, including the social groups that are more vulnerable to the problem and the implementation of possible solutions to respond to the potentialities and needs of the communities, specifically, the women who live in the watershed.

At this stage of knowledge production, it is imperative for the facilitating team to undertake a thorough gender analysis seeking to establish the logic behind gender relations, especially in connection with the access, use, control and benefit of the watershed's natural resources in general and water resources in particular.

Data analysis is undertaken to arrange it in a coherent manner and establish the connection between the data. The analysis provides an interpretation of the information and clarification of the problems as well as information gaps, and possible strategies to fill them are outlined. In addition to making evident socio-environmental problems, the appraisal makes visible the forms of community organization, their struggles, support and opportunity channels, obviously differentiated by sex.

The work group should have the answer to these questions

In these terms, along with the identification of the problems, it is necessary to establish community resources and potentialities to overcome the problems. It is important to establish the characteristics of the local productive resources and their situation with respect to future actions, as well as to take note of the knowledge that men and women possess with respect to the sustainable use and management of the water resources, including their work and organization capabilities. Finally, a determination should be made about which resources are lacking and who are the people who will be able to participate in the solution of the problems identified.

At this stage of the appraisal, the work group should have sufficient elements to answer at least the following questions, which responses allow the qualitative characterization of the development processes and the socio-environmental structure and dynamics within the watershed's context:

- How is the local environment perceived by the men and women from the high, middle and low parts of the watershed?
- Which are the major environmental problems and conflicts revealed about land use in the high, middle and low parts of the watershed? How are these problems related to each other?
- Which are the causes of the problems experienced in the high, middle and low parts of the watershed?
- Which areas require priority attention?
- How are local populations (men and women) involved in the deterioration of the natural resources in general and water resources in particular, in the watershed?
- How does the deterioration of the watershed's resources affect the families' food security?
- Which trend has been made evident by the natural resource management process and the quality of life of the watershed's populations?
- What type of social conflicts have a negative impact, actual or potential, on the sustainable management of the natural resources in general and the water resources in particular, in the watershed?
- Which are the ecological areas most affected by the watershed's environmental deterioration process?
- Which social sectors have been or could be affected by the environmental deterioration in general and the water resources in particular, in the watershed? How does this situation affect men and women in a differentiated manner?

- Which social sectors are participating to reverse the deterioration of the natural resources? Which are their strategies and what role do women play in this process?
- What courses of action and activities should be undertaken to reverse the present trend of deterioration of the natural resources in general and water resources in particular, as well as gender inequities? Who should participate?
- Which of the activities currently being implemented to build processes involving socio-environmental sustainability and gender equity in the watershed should be strengthened?
- Which institutions or social organizations could be considered to promote interinstitutional coordination within the watershed's context?

The answers to the above questions will contribute to identify the problems experienced in the high, middle and low parts of the watershed, including their relations, magnitude, causes, consequences and the groups particularly vulnerable to resource deterioration. They will, likewise, help to formulate the appraisal's conclusions and understand and seek appropriate solutions. To this effect, it is important to keep in mind the above questions from the very beginning of the appraisal process, at the stage of "data gathering disaggregated by sex", as these may help guide data gathering.

The construction of a **baseline** may be useful in the processing and analysis of the appraisal-generated information, since it is constituted into a framework—either qualitative or quantitative—through which it is possible to analyze the impacts and changes related to the implementation of the management plan, to the extent it provides relative information on the situation that prevailed prior to the development of the corrective measures, that is, upon completing the appraisal (Faustino, 2001).

*The
baseline allows
comparing the
before and
after*

In this respect, the baseline is a tool that allows comparing the before and after the intervention process was initiated in the watershed and, therefore, its construction into the appraisal remains incomplete, because of the availability of data corresponding only to the "before". However, its construction is important to the extent that it will serve as a reference, and will contribute data that will help to monitor and follow up the process. Monitoring of the actions established in the management plan process is essential, given the fact that it allows determining the adjustments required as well as to sustain the intensity of actions in certain plan components, in order to ensure achievement of the expected results, either in terms of sustainability, increase in the levels of community participation or gender equity, in the watershed.

One of the forms most widely used to organize and manage baseline data and information is through indicator building. Throughout the baseline documentation process it is important to clarify three fundamental questions: the first one seeks to specify the surveys undertaken, answering

the question: How have the social, economic, productive and government processes been documented with respect to the use and management of the watershed's natural and water resources? The second question refers to the participation of focus groups in documenting baseline conditions, that is, who participated in baseline construction and with what levels of decision-making power. Finally, the third question: Is the baseline adequate to serve as a reference to analyze the future changes expected to be promoted? The answers to these questions help to highlight and adjust the baseline contents to the scope and objectives of the intervention process in the watershed (Olsen, S. et. al., 1999).

There is no recipe to define the thematic contents of baselines. Each should respond in a direct manner to the intention of the process carried out in a given watershed. With respect to the specific case of this book, which guiding principles are related to equity, sustainability and participation, baseline construction should consider variables related to these three categories, in order to provide indicators to enable the evaluation of the initiatives of the management plan in connection with compliance with the goals to promote equity, maximize sustainability and increase participation.

Faustino (2001) points out that baseline construction contributes the following elements, among others, to the planning process of a watershed's management plan:

- a. Making decisions on adjustments to the different strategies, methods and the application of techniques included in the management plan.
- b. Sustaining the need to intensify and strengthen certain components to ensure the results expected by the plan.
- c. Supporting the need for plan continuity based on the thresholds or indicators of the initial evaluations.
- d. Demonstrating to the social stakeholders of the watershed the importance and benefits of the activities.
- e. Providing criteria and information to formulate proposals involving the plan's continuity.
- f. Securing the interaction of other stakeholders and groups interested in the plan.
- g. Allowing recognition of the success, failure or progress made by the plan.

*The
baseline
contributes
the following
elements*

Example

The following example, taken from the "Project for Environmental Protection - Environmental Education Component, developed by the Ministry of Environment and Natural Resources of El Salvador, refers to an interview carried out before and after the implementation of an environmental education project. The baseline construction for each question suggests the changes regarding the perception and knowledge about issues involving water supply and management in the region under study.

What do you think should be done to guarantee water supply?	Baseline 1998		1999	
Save it	349	14.63%	529	14.61%
Take care of the forests, avoid fires	1024	42.95%	995	27.49%
Ration it, avoid wasting it	54	2.96%	233	6.43%
Take care of the rivers			254	7.01%
Sink more wells	62	2.60%	334	9.22%
Extend the systems	49	2.05%	492	13.59%
Improve the administration and services provided by the operators	231	9.68%	109	3.01%
Improve community organization and water boards	43	1.80%	103	2.84%
Clean water sources, take care of the water sources and avoid contaminating them	21	0.88%	158	4.36%
Paying water fees, service	14	0.58%	47	1.29%
Ensuring permanent power supply			32	0.88%
Bring the water from other places			96	2.65%
Help from other institutions	11	0.46%		
Pray to God			19	0.52%
Other	254	10.65%	76	2.10%
NA	272	11.40%	142	3.92%
Total	2384	100%	3619	100%

(Source: Ministry of Environment and Natural Resources/Project for the Protection of the Environment - Environmental Education Component, 1999)

2.4 Step 4. Socialization of the results and formulation of conclusions

A key concept of both, the participatory appraisal from a gender-sensitive approach and a participatory research, is the socialization of the results or returning of the information obtained, since from this perspective, it is not only a matter of simply "gathering data", but of recognizing the reality where the project will work, by actively involving the local social groups. Thus, returning promotes feedback and enables broadening the vision about the reality for action planning purposes, providing continuity to the work, not only at a research level, but also towards proposal-related levels.

Through the socialization of results the information obtained is shared and discussed with the communities of the watershed, through socialization events and the elaboration of educational materials, in addition to considering the need to undertake a management plan to address the problems of the watershed, thereby contributing to meet the needs of women and men and improve the quality of life of the social groups.

The information socialization process comprises two instances articulated to each other: the first instance entails trying to return the information to the social groups with which the project worked during the various appraisals conducted in the high, middle and low parts of the watershed, and the second instance is where all the information generated is integrated into one general appraisal of the watershed, and the information is returned through representatives from the various communities who participated in the first instance.

For example

If the watershed was initially divided into three sub-regions: high, middle and low watershed, and in each of the sub-regions a workshop was conducted in a community that in productive terms was representative of that sub-region, with an average of 25 participants (13 women and 12 men), then returning of the information generated in the appraisals will take place, on the one hand, through workshops attended by the same people who participated in the information generating events, and on the other hand, through a general workshop to return the information generated in all three sub-regional workshops (high, middle and low watershed), attended by an average of eight representatives from each of the previous workshops (four women and four men), for a total of 24 participants.

It is evident that the objective of the appraisal is to understand the local socio-environmental dynamics to design transforming actions. In this sense, it is not an end in itself, but an essential tool to plan a transformation strategy. Thus, its conclusions will determine the course to be followed in the subsequent action plan, that is, initiating a planning process with the elaboration of the watershed management plan.

The conclusion of the appraisal should reflect the points of view of the different community and extra-community sectors and social stakeholders explicitly or implicitly linked to or interested in the natural resources of the watershed. These interests should be included in the recommendations of the appraisal and the search for solutions to address the natural resource and water problems at the watershed's level, either as opportunities or obstacles for local development.

Returning of the appraisal-generated data to the various social sectors of the watershed may take place through a series of tools, such as the elaboration of manuals, elementary books, didactic games and posters. This material should become a negotiation tool for the communities, to which effect it is important to provide a copy to the schools, formal and informal authorities, and community leaders. Following are two models of a socialization matrix containing the information generated in the appraisal, which importance lies in crossing the environmental information with the social and economic information.

Information returning: example 1. Socio-environmental situation of representative communities from the high and low parts of a watershed

Communities	Land ownership	Economy	Services	Infra-structure	Priorities and deficiencies	Potentialities
SUB-REGION I: HIGH PART OF THE WATERSHED						
Ibitipoca	Private and community property. Land speculation exists.	Tourism services rendered by men. Male fishermen and cattle farmers at a small scale. Women carry out informal activities, mainly related to the small-scale sale of dates.	Water: salty water well, no drinking water. Health: no health center or promoter exist. Electricity and latrines: provision of solar cells and dry excreta collecting latrines. Education: no schools exist.	Road in bad condition	-Economic and safe supply of fresh water. -Land title deeds in the name of women. -Total coverage of latrine and electrification system. -Promotion of a fair and diversified market. -Regularization of land ownership. -Creation of work options for women.	-Ecotourism -Aquaculture -Craftsmanship -Recovery and expansion of date fields. *all alternatives with female and male participation.
Itutinga	Private and community property. Women are not land owners.	Male wage-earning work. Small-scale male fishing and livestock. Women collect dates for sale at the local market.	Water: salty water well, no drinking water. Health: no health center or promoter exists. Electricity and latrines: provision of solar cells and dry excreta collecting latrines. Education: no schools exist.	Road in bad condition	-Economic and safe supply of fresh water. -Promotion of a fair and diversified market. -Genetic improvement of livestock. -Land title deeds in the name of women. -Creation of work options for women.	-Ecotourism -Craftsmanship -Recovery and expansion of date fields. * all alternatives with female and male participation.
SUB-REGION II: LOW PART OF THE WATERSHED						
Diamantina		Male fishermen, traders and salt workers. Women work in the informal economy.	Water: salty water well. Desalination plant still not operating. Health: private home. acts as health center, with a health promoter. Electricity and latrines: provision of solar cells and dry excreta collecting latrines. Education: Elementary and high school.	Desalination plant not used due to lack of training on its operation. Road in bad condition.	-Economic and safe supply of fresh water. -Total coverage of latrine and electrification system. -Ice production system for fish storage. -Operation of fishing cooperatives. -Promotion of a fair and diversified market. -Genetic improvement of livestock. -Regulation of land ownership. -Land title deeds in the name of women. -Creation of work options for women.	-Ecotourism -Aquaculture -Crafts * all alternatives with female and male participation

Information returning: example 2. Environmental situation in a watershed

What is there? (natural resources)	Where are they?	How are they?	Who are present?	Social gender relations		Implications for the management plan
				women	men	
mangroves	In the low part of the watershed, Ouro Preto Community	<p>The average height of the mangrove ranges between 4.50 m. and 13.20 m. the average is 8 m.</p> <p>50% of the area has been lost over the past 5 years.</p> <p>Effects associated with water pollution due to agrochemicals used in melon production upstream.</p> <p>Important presence of mollusk at the mouth of the estuary.</p> <p>Mollusk overexploitation, including the extraction of very small sizes, that do not meet minimum commercialization standards.</p>	<p>Coal cooperative (all are men)</p> <p>Independent woodmen.</p> <p>Groups of women involved in mollusk extraction.</p> <p>Women who extract firewood for household consumption.</p>	<p>Women have restricted access to firewood extraction in the mangrove. There are no concessions in the hands of women.</p> <p>Women and children extract mollusk, middlemen acquire 100% of the product, paying only US\$ 0.50 per kilo.</p>	<p>Possess the concession for timber extraction.</p> <p>Fishing activities in the estuary.</p> <p>They are responsible for the sale of timber and coal.</p>	<p>The mangrove area needs to be recovered.</p> <p>Actions required to reduce the agrochemical pollution of mangrove waters.</p> <p>Mollusk extraction needs regulation in the zone.</p> <p>A fairer mollusk trade should be established.</p> <p>Women's participation in the access, management and benefit of the region's natural resources should be increased.</p>

3. Guide for data gathering

In the above section called *Methodological references for the elaboration of participatory appraisals from a gender equity perspective*, specifically step 1: "Appraisal design (definition of the information required and selection of the methodological tools to be used)", and step 2: "Information gathering disaggregated by sex", information collection was superficially addressed. It will now be addressed more thoroughly given its key importance in the development of any appraisal or planning process. Therefore, certain topics of interest to appraise the socio-environmental situation in a watershed and the condition of women in particular, will be addressed taking into consideration their needs, interests and capabilities.

The purpose is to propose elements and tools through which it will be possible to approach the reality to be affected from various perspectives. For operative reasons, these were divided into six topics. However, the elements contained in each topic are not only closely related to each other, but may be integrated in accordance with the needs and interests of the participatory investigation process undertaken from a gender perspective.

The approach of the tools to address each one of the topics does not expect to become a recipe for its direct application to the field, but rather a reference for the starting point and, therefore, may and should be adapted, modified and recreated by process participants and in accordance with their purposes. Each work group in possession of this material should seek to build a new approach based on this material and enhanced by the demands of the work carried out on a daily basis.

A series of questions are posed under each topic, which are not to be answered by the social stakeholders interacting in the watershed, but should be used by the appraisal coordinating team as a general guide about the type of information needed to build and recuperate each topic. Thus, the coordinating team itself would have to respond to the questions posed by each of the topics.

3.1 Topic 1. Analysis of the situation or local context

To develop this topic secondary sources of information should be consulted, particularly the statistical data of censuses, the legal and institutional framework, the management plans, the *Geographic Information System (GIS)*, the investigations carried out in the watershed and other zones, etc. It is essential to have as much qualitative or quantitative information as possible disaggregated by sex. In addition, generation of new information should take place under a setting where female participation is made visible throughout the various levels of everyday activity.

1. Environmental level:

1.1 Productive

- Which are the productive activities (formal and informal) undertaken by men, women and children in the watershed?
- Which are the agricultural and forestry products used for various purposes (food, sale, etc.)?
- How do men and women use the water in their productive and reproductive activities?
- Which are the most important local human, financial, material and natural resources available for the conservation of water resources and sustainable development?
- What advantages and disadvantages do productive activities pose for a process involving the conservation and sustainable development of water resources (technology, training, organization, income, employment, community participation, etc.)?
- How are the benefits derived from the productive activities of the watershed distributed?
- How are the benefits derived from the productive activities distributed cultural-wise?
- Which are the problems limiting the conservation and sustainable development process?
- What changes are taking place in the productive and economic process of the zone, and how do these changes affect men and women?

1.2 Ecological

- What types of ecosystems exist in the watershed?
- What is the status and condition of the natural resources (quantity and quality of the water resources, fauna and flora diversity, conservation level of the resources)?
- Presence of endangered species, regulations for their protection.
- Are the local populations involved in recuperating genetic resources?
- Which are the ecological and climatic conditions of the region (soil, physiography, hydrologic conditions, rainfall, life zones, etc.)?
- Which is the watershed's level of vulnerability and risk regarding natural disasters (hurricanes, El Niño, La Niña, cyclones, red tides, fires, and earthquakes)?

- Which are the differentiated levels of exposure of men and women to environmental conditions and risks?

1.3 Use of the natural resources

- Which natural resources (water, soil, flora, fauna) permits and concessions are granted in the zone, and to whom?
- Which are the different types of land tenure existing in the watershed?
To which lands do women have access or control?
In whose name are land title deeds issued (only men's, only women's, or both)?
Are there cultural restrictions preventing women from owning land?
- Which are the environmental perceptions of the stakeholders regarding the state of the resources, pollution and degradation of ecosystems in the watershed?
- Which are the current and projected uses of the soil in the watershed and the associated socio-environmental effects and interactions (tourist, harbor, aquaculture developments, ecological legislation and decrees about zones under a special environmental protection system, etc.)?

2. Social level:

2.1 Demographic

- How many people conform the watershed's communities?
Distribution by sex and age).
- Which are the ethnic groups present in the watershed?
- Which is the level of education, literacy and school dropout by sex, ethnic group and age?
- Which are the most important causes of morbidity and mortality disaggregated by sex, age and ethnic group?
- Which is the fertility rate?
- Which types of households exist in the communities of the watershed (women as household heads, large families, nuclear families, etc.)?
- What migration and immigration patterns exist in the zone?
- Which types of migrations take place (permanent, seasonal, regular, irregular)?

- Are some migrations caused by environmental deterioration in the watershed (water pollution, decrease in river flows, soil degradation, deforestation)?
- How does migration affect women? How does it affect men? How does it affect the rest of the family members (children, adults, elders)?
- In connection with seasonal migration cases, do women participate in the migration or do they stay in their place of origin? Which are the specific duties and problems faced by women during migration? What support do they receive when they stay in their place of origin? Is the support received by the men prior to the migration made extensive? How does the decision-making distribution affect within the household?
- Which types of immigrations take place?
- Which zones of the country or other countries do immigrations come from?
- In what type of ecosystems were immigrants used to work before?
- How do these immigrations affect the use of the watershed's resources?
- Are there any warlike conflicts, drugs traffic, or related activities in the watershed? What effect does this have on the families' everyday activities?

2.2 Health:

- Which are the community's basic services and their conditions (water, electricity, health, excrete and waste disposal)?
- How does water contamination affect the health of women and men (presence of skin, gastrointestinal diseases, etc.)?
- Is traditional medicine practiced? What type of medicine is practiced?
- Which are the health problems caused by environmental conditions?

2.3 Cultural :

- Is there any type of myth, legend, saying or cultural habits related to water resources?

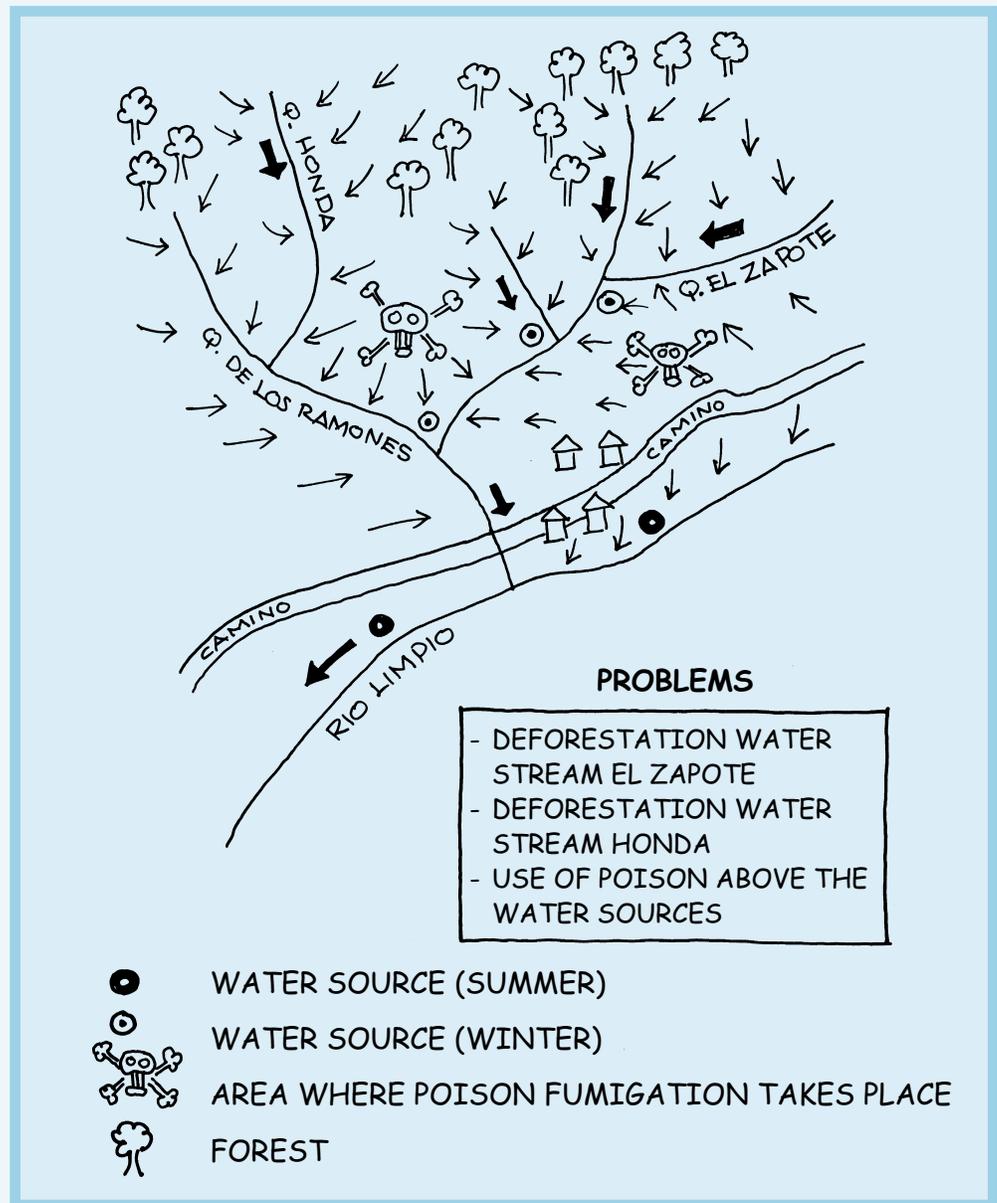
- Is there in the area a monument, symbol and/or places that constitute factors of local cultural identity? Which institution is responsible for these?
- Which are the most important recreational and amusement spaces (differentiated by sex)?
- How do communities perceive the changes in the cultural patterns caused by the installation of industries, assembly plants, tourism and others?

2.4 Political-institutional:

- What is the political history of the area?
- What is the power structure in the zone and which are the forms of community organization?
- What is the experience of stakeholders with respect to participation and their major organizational bodies?
- What is the history of local organizations?
- What is the participation of men and women in the stakeholders' organizational structures? Who makes the decisions in these venues?
- What is the relation and level of negotiation of local organizations with other entities at a regional and national level? What is the level of negotiation of the local organizations?
- Are there any legal dispositions regarding the use and exploitation of the natural resources? (For example: close seasons, endangered endemic flora and fauna, permit granting, etc.).
- Are there any conflicts among the different stakeholders located in the watershed? Define the type of conflicts and social stakeholders involved.

Following are examples of two tools to illustrate the different forms to address this first topic.

Watershed diagram



Source: Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective: Based on the community map, identify the drainage pattern and the micro-watersheds as the starting point to discuss the environmental interactions in the community's area of influence. The method is simple and is based on local knowledge.

Materials: Community map, flipchart, markers.

Procedure: Step 1. Gather a work group of men and women to explain the purpose of the exercise. Copy on flipchart the essential elements of the community's map: rivers, topography and major points of reference.

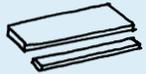
Step 2. Review and complete with the participants the existing network of rivers, streams and brooks, using arrows to indicate the direction of the drainage. Also complete the location of water sources.

Step 3. Use smaller arrows of a different color to indicate the direction rainfall drains towards the brooks and rivers. This allows the approximate delimitation of the micro-watersheds.

Step 4. Indicate with a symbol previously agreed upon with the participants, the quantity and quality of water supply in each river and source (for example: use different colors for permanent sources and sources that dry up during the dry season).

Step 5. Start the analysis by comparing the drainage map with other aspects indicated on the community's map. Try to identify relations between identified problems and/or potential problems (for example: deforestation, overgrazing of a micro-watershed, erosion, water supply, use of agrochemicals and risk of source contamination). The scheme may be used as the starting point to plan activities.

Resource evaluation matrix

RESOURCE	IS THERE ENOUGH FOR EVERYONE?	QUALITY	RESPONSIBLE PERSON FOR HOUSEHOLD SUPPLY	AFFECTED BY THE SCARCITY OR POOR QUALITY OF THE RESOURCE
Drinking water 	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••
Firewood 	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••
Timber 	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••
Pasture 	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••
Soils 	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••
Food 	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••	😊 :••••• ☹️ :•••••

VOTE ♀ = • ♂ = ◦

Adapted: Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective: To evaluate the concept the community members have regarding availability, quality, conflicts, persons responsible for the supply, and people affected by the scarcity of commonly used natural resources.

Materials: Flipchart, markers, tape.

Procedure: Step 1. Establish the parameters and criteria for the evaluation. Once agreed upon, define symbols for each criterion for illiterate participants to become better involved.

Step 2. Prepare a matrix with the different criteria, agreeing on a simple qualitative scale (for example, happy faces: adequate and sad faces: inadequate).

Step 3. The evaluation may be worked on by consensus (everyone agrees on a score) or by vote (each one writes their score). In the case of vote casting, markers of different colors should be used to differentiate the opinion of men and women. The participants should evaluate each criterion.

Step 4. Discuss the results and analyze if they are coherent with the opinions of the group. Should there be strong differences of opinion by sex, it is important to discuss the reasons.

3.2 Topic 2. Work division by sex

The concepts involving productive, reproductive and sexual division of work constitute sources of inequity between men and women through two different processes: i) the existence of a socially accepted rigid sexual division of work drives women and men to the classification of specific tasks and responsibilities, and hinders the equitable participation of men and women in development processes; ii) the underestimated value awarded at a social level to the reproductive work in comparison with the productive work, places women in a disadvantageous position in development processes.

The sexual division of work experiences strong changes as a result of the migratory processes and the socio-economic crisis experienced by developing countries. As a result thereof, women and children are increasing their participation in productive activities, by undertaking tasks that were previously carried out by the men, and are diversifying their survival strategies, by increasing participation in activities related to the informal economy and other alternative sources to complement the household income. We must be sensitive to these changes and try to reveal the regional and local specific nature of the sexual division of work at the watershed level (Saavedra, 1997).

Guide of questions

- Who does what regarding the productive and reproductive activities in the watershed?
- How is it done and how much time is devoted to it?
- Does it change according to the different seasons of the year?
- How far is the workplace?
- Does the activity generate monetary income? Do women control their activity and possible income?
- Are men or women culturally excluded from certain types of work? Which? Why?

Following are examples of two tools that illustrate the different forms to address this second topic.

Source: Balarezo, S., *Guía metodológica para incorporar la dimensión de Género en el ciclo de proyectos forestales participativos*. FAO, 1993.

Objective: To generate information regarding the division of work and the responsibilities within the household, with respect to the productive systems and management of resources.

Materials: Markers, flipchart paper.
A scheme like the one shown on the example for the group to complete the information.

Procedure: Step 1. Participants are asked to describe the activities of all members: men, women and children. To facilitate elaboration of the schedule, the analysis should be divided into: productive, reproductive and community work activities. Productive activities include: agricultural, cattle, forestry, crafts, and other activities involving the family's participation.

Step 2. Participants are asked to state the dates and time periods of their most common activities, indicating if they are:

Permanent:

those carried out all year around on a continued basis.

Sporadic:

Those carried out during certain periods of the year.

Intensive:

Those requiring the participation of all or most of the members of the household unit or eventually paid work.

Other schedule form:

With this technique it is also possible to identify the time, employment of household and external labor; it also allows making evident the critical work periods, as well as the roles. It is also used to learn about seasonal restrictions and opportunities.

The facilitators could ask the group to prepare a month-by-month schedule for each of the following aspects: climate, celebrations, agricultural tasks, cattle-related tasks, crafts, post-harvest and migration.

It should be pointed out that the time period when the activity is carried out is as important as its duration and the roles by sex and age (See graphic).

Sample of a workday

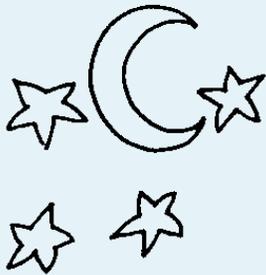
DAILY WORK

WOMEN

MEN

BOYS

GIRLS



- Source:** Aguilar, L.; et. al. En búsqueda del género perdido: Equidad en áreas protegidas. San José: UICN-ORMA. Ed. ABSOLUTO S. A., 2002.
- Objective:** To visualize the work carried out by men, women, boys and girls, and reflect on the division of work and its consequences on the projects as well as on their daily life.
- Materials:** Markers and sheets of paper.
A scheme whereby it is possible to divide the time (see example). It is important to note that communities structure time in a different manner. Therefore, they should determine the elements they use to divide the time (for instance, at sunrise, at lunch, at night, etc.).
- Procedure:**
- Step 1. Present the poster where a column has been drawn for women, men, boys and girls.
- Step 2. The group (preferably mixed and including boys and girls) is asked to indicate the work carried out any day of their life (write down activities carried out on a daily basis).
- Step 3. Subsequently, an analysis is made of each one's tasks, and time is devoted to reflect on what the work entails, how many hours men and women work, the spare time available for recreation and resting, the time to participate in projects, etc.
- Note:** It should be noted that it is hard to determine the times involved, given the fact that the rural population—women especially—frequently carry out several tasks at the same time, for which reason it is difficult to separate them in time. This should be taken into consideration.

3.3 Topic 3. Use, access and control of resources and benefits differentiated by sex

The pattern regarding use, access, control and benefits of the natural resources, differentiated by sex, refers to the diverse practices of use and mechanisms of use and control that, on account of the gender social condition, men and women make of natural resources in the watershed. On one hand, the different interaction of men and women with the productive and reproductive spheres of action differentiates the use of resources. On the other, laws and social use establish who has access to what resources and under what conditions may they have control over them. Therefore, the socio-cultural context determines the differentiated access of men and women and, quite frequently, on an inequitable basis, to the natural resources.

The contribution the gender approach makes to this instrument lies on recuperating and analyzing power relations at the household unit level, whereas traditional appraisals reveal only community and regional power structures. However, the analysis cannot stop at the level of family relations; it has to be inserted into the regional and national social dynamics. In these terms, migratory processes establish new relations both, between the social stakeholders and between these and the resources.

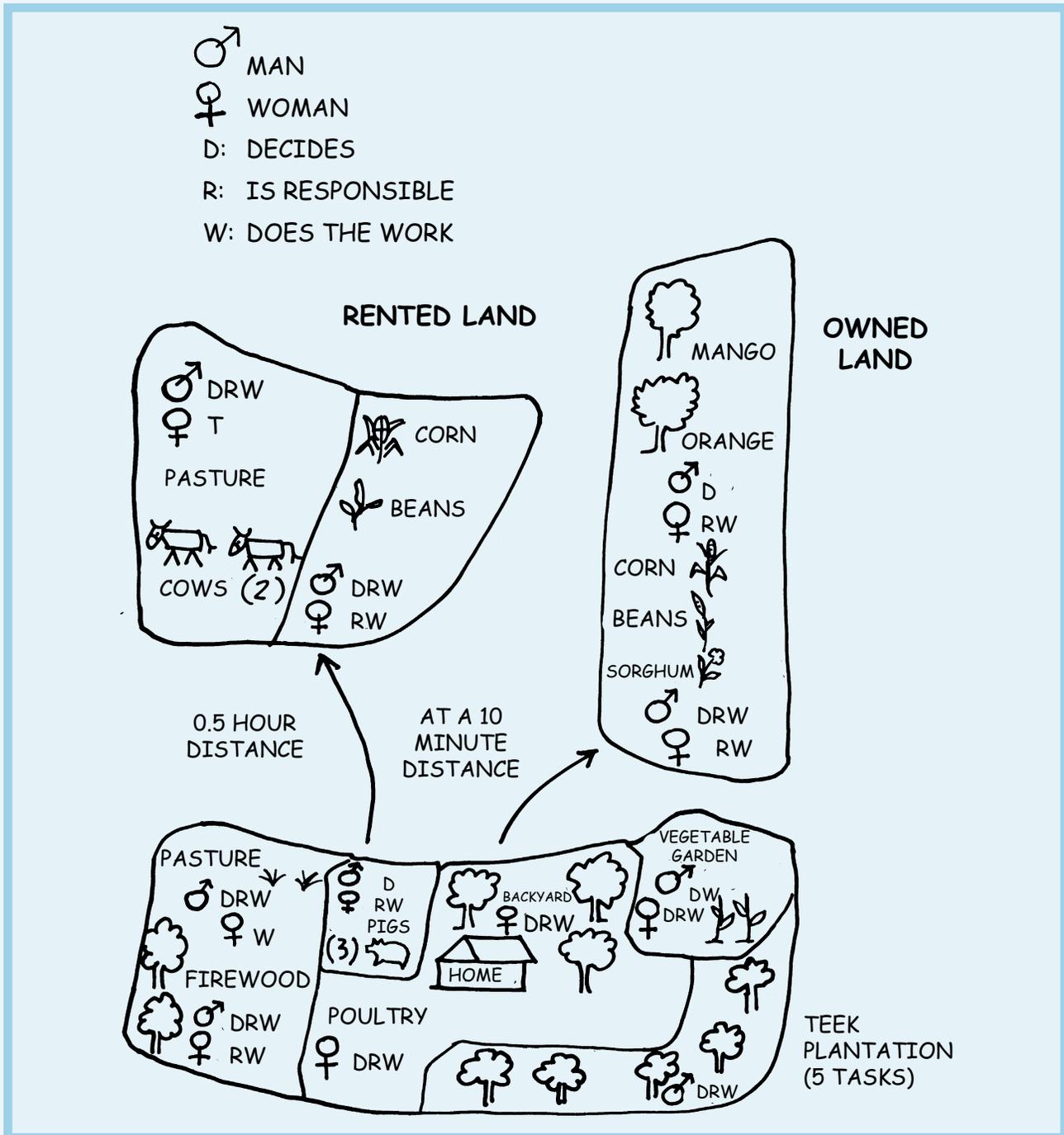
Guide of questions

- Which are the productive and political resources men and women have access to in the watershed?
- Who exercise control over the watershed's resources?
Who are the owners of the land and water rights?
Who is the owner of the implements used in production, processing, storage and commercialization (transportation)?
- Who benefits from the use of the different resources of the watershed, and how?
- Who (men and women) makes an illegal use of the natural resources: water, firewood, timber and wild life, when and where?
- Which is the destination of the illegal use of the natural resources (sale or local consumption)?
- Does the use of the natural resources involve some type of payment?
- Who decides whether or not a resource may be used?
- To what services or facilities do men and women have access?
Extension services
Training
Commercialization and marketing (price information, commercialization-related contacts)
Water and sanitation
Education
Organization
Credit

- Are there territorial rules, customs or rights limiting either sex to the use, access or control of the resources?

Following are two examples of tools that illustrate the various forms to address this third topic.

Map of a plot of land applying a gender-sensitive approach



Source:

Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective:

Based on the map of the plot of land, learn about the differentiated roles of gender regarding the use and control of the natural resources of the household plot. To undertake this exercise it is necessary to have a map of the plot of land, in which elaboration it would be preferable if the man, woman and children of the household participated.

Materials:

Map of the plot of land, flipchart, markers, tape.

Procedure:

Step 1. Explain that the map of the plot of land should be completed with information regarding who does the work, who is responsible for the various tasks, and who makes the decisions involving the natural resources. To this effect, the following criteria could be used:

- Gender:

Distinguish man, woman, boys, girls (using symbols).

- Responsibilities:

"D" Who decides?

Ask who makes the decisions regarding the use of this or that natural resource.

"R" Who is responsible?

Ask who is responsible for the provision of the products to the household.

"W" Who does the work?

Ask who is responsible for doing the work.

Step 2. Check all the areas of the plot and the productive activities indicated, to verify who decides, who is responsible, and who does the work.

Matrix about the access, control and benefit of resources from a gender-sensitive approach

Resources	Access		Control		Benefit		
	Man	Woman	Man	Woman	M	W	Family
Natural resources							
land							
water							
forests							
cattle							
Financial resources							
credit							
savings							
Power resources							
information							
education							
training							
community mobilization							
natural resource management							
financial resources							
Access: the opportunity of using something Control: capability to decide about the resource Benefit: usufruct of the products							

Source: Bejarano, M. and Soriano, R. *Metodología práctica para la incorporación de género en proyectos de desarrollo rural*. La Paz: Ministerio de Desarrollo Humano, 1997.

Objective: To determine who has the access, control and benefit of the natural, economic and power resources within the household.

Materials: Matrixes elaborated on flipchart paper, to be complemented with mixed groups. Markers.

Procedure:

- Step 1. Prepare in advance a matrix of access, control and benefits of the resources.
- Step 2. Explain to the participants the differences between access, control and benefit, stressing that these variables are affected by the gender system, because the position of subordination of many women limits their access to the resources and control thereof, as well as the equitable distribution of their benefits.
- Step 3. Complete the matrix starting from a process of discussion and reflection with the work group.

3.4 Topic 4. Environmental degradation and its impact by sex

Environmental degradation entails a series of manifestations, among which are: reduction in the quantity and quality of water resources; watershed contamination due to household, industrial, and agricultural material waste; deforestation with the consequent increase of erosive processes, loss of biodiversity and soil; soil sedimentation of water bodies; worsening of poverty-related diseases due to conditions of environmental unhealthiness; etc.

Environmental deterioration increases the women's workload as a result of the impact on the development of their reproductive and productive activities. Women are mainly responsible for the household's firewood and water supply. Thus, deforestation and contamination or the reduction in water volumes increases the women's workload, by extending the time and energy required to collect these resources from increasingly distant places. In addition, the supply of contaminated waters to the members of the household has a direct impact on their health, and again, on the women's workload, since family health is among the spheres of their reproductive tasks.

In addition to the above, the world's environmental and development crisis have caused greater impoverishment in women, conforming the process called "feminization of poverty". Throughout the world, women are the poorest of the poor as a consequence of the brunt of their reproductive and productive roles and their condition of insubordination. As a result of the loss of soil fertility and increasing under-capitalization of farming families, women face the problem of reduction of their family's subsistence. In general terms, they sacrifice some of their own and their daughter's food rations to hand them over to the men (their spouse and sons). This on top of the stress women are subjected to in their struggle to maintain the quality of life of their family, with decreasing resources and continuous pregnancies and reproductive problems, which explains the increasing health deterioration experienced by poor women.

Do the people who live in the high, middle and low part of the watershed perceive any problem with the natural resources? Which are scarcer now than before, have any habitats or species disappeared?

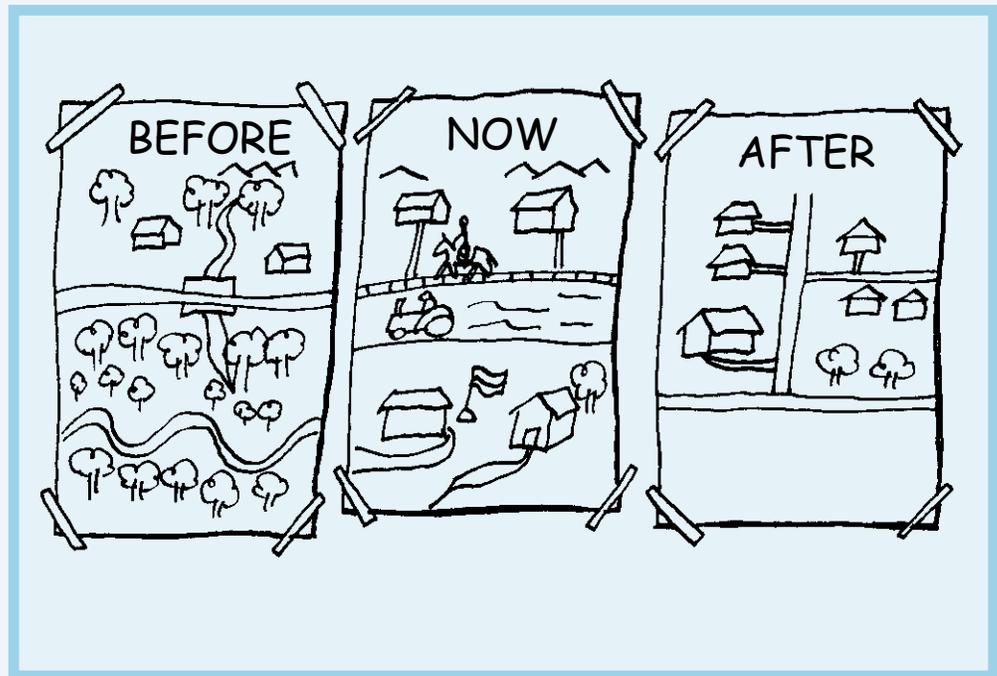
Guide of questions

- Which are the major environmental problems of the watershed, differentiated by high, middle and low watershed?
- When (date of event) did the people start noticing the environmental deterioration process in the watershed?
- According to the people, which are the underlying causes of the problems (natural disasters, poverty, migration, population increase, etc.)?

- Do the people associate the watershed's environmental deterioration with food security?
- According to the men and women of the watershed, how do poverty, environmental deterioration and food security relate to each other?
- Do local dwellers comment on the environmental deterioration problems of their region? Which are the women's major concerns? And the men's?
- What is the differentiated effect that environmental degradation has on men and women?
 - River contamination and soil sedimentation of water bodies
 - Droughts
 - Disappearance of water springs and water troughs
 - Decrease in products (timber, firewood, medicinal plants, etc.)
 - Exhaustion of pastures and low agricultural yields
 - Increase in pests
- Which activities are necessary to improve environmental conditions? Do people feel they can do something to prevent it or is it a state responsibility?
- Who are or will be responsible for the pro-environmental activities? Does this reflect an equitable distribution of costs and benefits derived from the administration of the resources?
- Which has been the impact of environmental laws and rules on the living conditions of the watershed's populations?
- Are the dwellers of the middle and low part of the watershed aware about the importance and need to preserve the high part?
- Are the dwellers of the high part of the watershed aware of the impacts caused on the low part?

Following are two examples of tools to illustrate different ways to address this fourth topic.

Before, now, after



Source: Social Area Group, IUCN.

Objective: To undertake an appraisal about the community's situation regarding the use and conservation of the natural resources (sensitive to the identification of gender differences).

Identification of the community's expectations regarding a sustainable development and conservation project.

Materials: Large flipchart sheets of paper. Markers, pencils and crayons. Tape

Procedure: Step 1. Divide the community into groups. The groups could be conformed by the women, men, youngsters, and children. Each group is handed three sheets of paper, markers, pencils and crayons.

Step 2. The group is asked to **draw the community**, first in the past (taking into account the information participants have about their community's history). On the other sheet of paper they draw the community in the present time, and on the third sheet, they should draw how they would like to live in the future.

Step 3. Depending on the interest of the appraisal, certain key elements could be prioritized and identified. In our case, we have worked with the following questions:

- What was the community like before?
- What were the natural resources, the forest, the mountains, the rivers like?
- Where was the water taken from?
- How did they carry out their work?
- Which were the major problems?

Step 4. The same questions asked for the present time.

Step 5. The same questions asked for the future.

Step 6. Subsequently, each group should tape their drawings and present them to the plenary. At the end of the presentations, the community will be able to analyze the contributions, the differences in appreciation and prioritization according to each particular group. The future presents elements of a cultural nature that deem extensive discussion.

Matrix to evaluate resources

RESOURCE	IS THERE ENOUGH FOR EVERYONE?	QUALITY	PERSON RESPONSIBLE FOR HOUSEHOLD SUPPLY	AFFECTED BY THE SCARCITY OR POOR QUALITY OF THE RESOURCE
Drinking water 	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••
Firewood 	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••
Timber 	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••
Pasture 	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••	😊 :•••• :☹️ :••••	😊 :••~•• :☹️ :••~••
Soils 	😊 :••~•• :☹️ :••~••	😊 :••~•• :☹️ :••~••	😊 :••~•• :☹️ :••~••	😊 :••~•• :☹️ :••~••
Food 	😊 :••~•• :☹️ :••~••	😊 :••~•• :☹️ :••~••	😊 :••~•• :☹️ :••~••	😊 :••~•• :☹️ :••~••

VOTE ♀ = • ♂ = ◦

Source: Adapted from Geilfus, 1997.

Objective: To evaluate the men's and women's perception about the changes experienced in connection with the availability and quality of the commonly used natural resources, as well as who are affected by their scarcity.

Materials: Flipchart, markers, tape.

Procedure: Step 1. Establish the parameters and criteria for the evaluation. Once agreed upon, define symbols for each criterion for illiterate participants to become better involved.

Step 2. Prepare a matrix with the different criteria, agreeing on a simple qualitative scale (for example, happy faces: adequate and sad faces: inadequate).

Step 3. The evaluation may be worked on by consensus (everyone agrees on a score) or by vote (each one writes their score). In the case of vote casting, markers of different colors should be used to differentiate the opinion of men and women. The participants should evaluate each criterion.

Step 4. Discuss the results and analyze the possible causes for the changes experienced in the quality and availability of the natural resources. Should there be strong differences of opinion by sex, it is important to discuss the reasons.

3.5 Topic 5. Levels of social participation

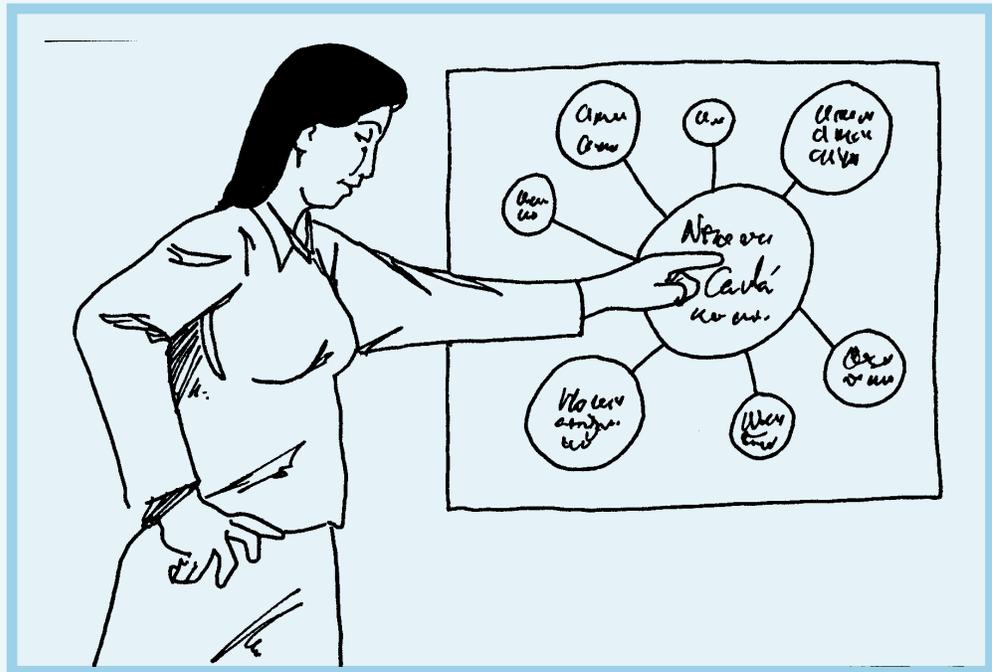
Participation is a process through which communities achieve greater levels of decision-making power and become more actively involved in development projects. The fundamental variable in a participatory process is the increase in the degree of decision making that participants acquire, whether within the community organizations or among the communities' social individuals and external agents. Therefore, to undertake an evaluation about the effective participation of the men, women and children of watershed communities, we would have to ask questions not only about the degree of participation of people in each stage of an organizational process, but also about who are making the decisions. Thus, participation is a means through which the collaboration of community social stakeholders in the development of watershed rehabilitation processes is promoted. However, it also is an end in itself, to the extent that it empowers people and communities through the acquisition of skills, knowledge and experience, leading to greater autonomy and self-determination.

Guide of questions

- How are the men and women of stockholder groups involved in the decision-making processes and natural resource planning at the watershed's household and community levels?
- What types of organizations exist in the watershed (traditional, official associations and informal organizations)? How are they conformed (by sex, age, etc.)? How do women participate in these organizations?
- Are there specific organizations or groups of stakeholders linked to the management of a natural resource? Are these local or are they recognized at a regional, national or international level?
- Are there any women's organized groups? What activities are they involved in? How have women contributed to these organizations?
- Which is the projection or impact of the activities of organized groups in the life of watershed communities?
- Are there social and mutual help networks to strengthen the communities' organizational processes? How are women and men involved in these networks? Which are their roles?
- Is there an organizational structure or organization that may facilitate negotiation processes among the different stockholder groups.
- Which participation venues exist for men and women in community organization and local and regional governments?
- Which is the level of information of men and women regarding the legal regulations that affect their rights in general, and their access and use of resources in particular?

Following are two examples of tools that illustrate the different ways of addressing this fifth topic.

Institutional diagram



Source: Plan de Acción Forestal para Guatemala, 1997. Adapted by Lorena Aguilar.

Objective: Identification of all organizations involved in community development and the importance that men and women confer to them.

Materials: Flipchart paper, markers, circles made out of paper (optional), tape.

Procedure: Step 1. Work sub-groups should be formed, asking them to name the institutions that work in the community.

Step 2. Subsequently, they are asked to arrange in order of importance the institutions that are more important to them and have done the most for the community. It is essential to recognize which institutions people feel are the most important, and which are most respected and trusted in the community. To this effect, participants could be asked to draw larger circles for the most important institutions, and in order of importance in smaller circles the rest of the institutions or organizations. Paper circles of different sizes may be handed to them. They should, subsequently, be asked to state how these institutions relate to each other, by superimposing circles to indicate a collaboration relation between them.

Step 3. If the groups have worked on the floor, the most accepted version(s) should be copied on a sheet of paper.

Matrix on decision making from a gender-sensitive approach

Who decides?	Only the woman	Only the man	Both
a. Internal decision making			
Destination of income			
What will be sowed?			
Use of the natural resources			
Who migrates?			
Who decides about small sales?			
Who drops out from school?			
b. External decision making			
Relations with institutions			
Community works			
Election of community authorities			

Source: Bejarano, M., and Soriano, R. *Metodología práctica para la incorporación de género en proyectos de desarrollo rural*. La Paz: Ministerio de Desarrollo Humano, 1997.

Objective: To determine the decision-making process between men and women at household and community level.

Materials: Matrix prepared on large flipchart paper, to be complemented with mixed groups. Markers.

Procedure: Step 1. Prepare the decision-making matrix.

Step 2. Present the decision-making topic stating that the differentiated roles of men and women in society, promotes having differentiated and inequitable opportunities and spaces to participate in decision-making processes and exercise their leadership.

Fill out the matrix based on a process of discussion and reflection with the work group.

3.6 Topic 6. Cultural or traditional conceptions

A participatory socio-environmental intervention process is based on the local social groups who share a series of rights and obligations about the use and management of the natural resources, built from the legal and formal institutional processes. But also from symbols, ideas, knowledge and beliefs that give meaning to the life of the social groups and a sense of ownership and identity.

This socio-cultural identity conditions the forms through which the environment is perceived by the different social groups, allows them to define their strategies of articulation with nature and take a stand regarding the environmental degradation processes. Therefore, it is essential to recognize cultural conceptions in any strategy pursuing a watershed's sustainable management.

On the other hand, there are a series of myths, traditions and taboos associated with the different ecosystems of a watershed, which, to a certain extent, regulate the utilization, knowledge and link of a part of the users with the resources. In this sense, a large number of myths, legends and taboos associated with the participation of women in fishing, sowing and their relation with the water, have been identified.

Some myths or taboos are the following

"Women should never board a fishing boat because they bring bad luck".

"A menstruating woman should not sow corn, and if she does, the entire crop is lost".

"If a feminine soul is thrown in a water source, there will never be water shortages".

"At the place where a young girl dies lots of water start flowing until a water spring forms".

Knowledge about the different conceptions and the gender "load" these bear with respect to the use of the natural resources, enhances a participatory appraisal from a gender-sensitive approach.

Guide of questions

- Are there traditional or customary rules and legislation with respect to the use and conservation of the natural resources in the watershed?
- Are there customary rights over the natural resources and informal agreements regulating the access to community or "open" resources?
- Which are the main traditions and celebrations of the people of the community(ies)?
- Are there or at the watershed's level local myths, sayings or legends associated with the conservation and use of the natural resources?

- How dependent are the people of the watershed on the resources in terms of social customs, cultural practices or ceremonial or religious practices?
- Which is the traditional knowledge about the climate, dynamic of the natural resources, etc.? Is it differentiated by gender?
- Is there any type of cultural restriction by gender affecting the access or control of a resource?
- Which are the rules, traditions or cultural restrictions affecting gender relations associated with productive and environmental aspects?
- How do these restrictions affect the possibilities of improving resource management in a watershed in order to increase its sustainability and equity?

Following is an example of a tool to illustrate one way of addressing this sixth topic.

Socio-dramas and representations



Source:

Aguilar, L.; et. al. En busca del género perdido.: Equidad en áreas protegidas. San José: UICN-ORMA, Ed. ABSOLUTO S. A., 2002.

Objective:

To dramatize a specific topic, in order to illustrate a situation as accurately as possible. At the end of the activity, the most important aspects represented are recorded.

Procedure:

Step 1. A socio-drama is a technique that may be used in very diverse forms.

Step 2. The topics to be dramatized are defined depending on the interest of the participants and in accordance with the objectives of the appraisal. For example:

- One day's work in the life of a woman and a man.
- Domestic violence.
- Typical situations involving women, men or both, in different surroundings: the household, the work, the market, the street, etc.

Step 3. After playing out the situations (may be done in sub-groups), the facilitating team will motivate extensive discussions over the topic represented. The following are examples of motivating questions:

- Is this situation common?
- Does it only take place in certain cases? Where? Why?
- Does it affect women, men and children in the same manner?
- How did we feel during the dramatization (male and female stakeholders, public)?

There are times when representing or playing out a situation is easier than discussing or rationalizing about certain realities, especially in connection with "difficult" situations.

*Don't forget
that...*

Some people are not prone to this type of activities. Should it occur that even after motivating participants there are some who do not participate in the dramatizations, these people could be very useful giving their opinion as spectators or supporting elements such as costumes, sound, etc.

The following table No. 5 "Explanatory text to help mainstream gender equity into appraisals", which summarizes the above-mentioned six topics, and provides support to those carrying out watershed participatory appraisals from a gender equity perspective, outlines the purpose of the topic, the importance of disaggregating by sex each one of the topics, some of the key questions that could become the central element leading to highlighting the inequity conditions experienced by women and the design of strategies to undertake affirmative actions in this respect, as well as examples of topic-related tools. It is important for each one, within their own field of action, to show sensitivity towards the topics and seek to enhance, adapt and change this "basic script" through other questions based on the specific environmental, socio-economic, ethnic and cultural characteristics of the watershed where participatory appraisals from a gender-sensitive approach are carried out.

Table No. 5 Explanatory text help mainstream gender equity into diagnostics

TOPIC	WHAT IS IT ABOUT?	WHT IS IT SO IMPORTANT TO DISAGGREGATE IT BY SEX?	TYPE OF QUESTIONS WE ASK OURSELVES	TOOLS
<p>1. Analysis of the local situation or context.</p>	<p>Learning about the economic, socio-cultural and environmental spheres of action of the watershed, in order to proceed with greater clarity.</p>	<p>To get a deeper look at the socio-economic, demographic, productive environmental and organizational situation of the region, to recognize the gender equity elements and proceed with greater clarity when building processes to contribute to improve the quality of life o the community and promote development sustainability.</p>	<ul style="list-style-type: none"> - Socio-economic profile: access to basic services: education, health, water, electricity, excrete disposal, access and communications routes. - Productive activities: description of the productive activities carried out by the local population (men and women), taking up again the diverse practices, technologies used and their incidence on the contamination and deterioration of the water resources, as well as the analysis of the social problems around the productive activities involving environmental impacts. - Institutional action and social participation: diagnostic about the entities, strategies and players involved in social participation processes seeking environmental rehabilitation at a regional and local level (disaggregated by sex). Identification of interests, needs, conflicts, perceptions and possibilities of social participation, identified by different sectors involving the sustainable management and exploitation of water. 	<p>Basin diagram, matrix for resources evaluation.</p>
	<p>It might refer to two different phenomena: the first refers to the effective distribution of tasks between men and women. The second refers to stereotyped ideological conceptions regarding what is considered as the appropriate occupation for each sex. While the stereotype is static, the distribution of tasks between the sexes undergoes a historic transformation becoming adapted 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.</p>	<p>To recognize and value the activities undertaken by men and women, to plan the impact development proposals will have on the various activities and ensure female participation in the projects.</p>	<ul style="list-style-type: none"> - Who does what? - How is it done? - How much time is invested?. - Is it a seasonal or permanent activity throughout the year? - Does it generate income? - How are household members committed to the stages of the productive process? - Annual schedule of activities disaggregated by sex, our day's work. 	<p>Annual schedule of activities disaggregated by sex; our day's work.</p>

TOPIC	WHAT IS IT ABOUT?	WHT IS IT SO IMPORTANT TO DISAGGREGATE IT BY SEX?	TYPE OF QUESTIONS WE ASK OURSELVES	TOOLS
2. Use, access and control of the resources and benefits, differentiated by sex.	The use of resources refers to the various ways they are used by the members of the household. The access is defined as a possibility for participation and utilization of the resources. Control refers to the dominion, ownership and decision-making power. Under some circumstances, women may eventually have access to the resource (that is, the possibility of using it), for example, the land and have limited control over it (cannot decide to sell or rent out). Finally, benefits are the economic, social, political, and psychological retributions derived from resource utilization. Benefits include meeting of basic and strategic needs: food, housing, education, training, political power, status, etc.	Because the women's position of subordination usually limits their access and control of certain resources and benefits, and the lack of information about it leads to misunderstandings about how women may benefit from the development initiatives.	<ul style="list-style-type: none"> - To which resources do men and women have access?¹ <ul style="list-style-type: none"> • Natural resources (land, forest, water, etc) • Financial resources (capital, credit, savings) • Power resources <ul style="list-style-type: none"> a. technical: information, training, knowledge; b. Political: capability to mobilize people. c. Administrative: capability to material and financial resources. - Who exercises the control and who benefits from the resources? - Are there cultural restrictions by gender that may have an effect on the access or control of a certain resources? - Which rules or cultural traditions affect the gender relations associated with this aspect? - To which services or facilities do men and women have access? Extension, training, marketing, water and sanitation, education, participation in organizations, recreation. 	Map of the farm applying a gender approach; matrix on the access, control and benefit of resources from a gender-sensitive perspective
3. Environmental degradation and its impact by sex.	Environmental degradation may be revealed in different ways: reduction in the quantity and quality of the water resources; basin contamination due to household and agricultural material waste, deforestation, with the consequent increase in erosive processes, unreliability of the water bodies, loss of biodiversity and soil.	Because women usually bear with most of the consequences derived from environmental degradation, having to invest more time in obtaining resources like firewood and water, suffering from the	<ul style="list-style-type: none"> - Which are the major environmental problems in the zone? - How does environmental degradation affect men and women? - Who carry out the activities seeking to improve environmental degradation, and how? - Which activities will have to be undertaken to stop and revert 	Before, now and after, matrix on resource evaluation.

1 The information regarding the access and control of the resources in their multiple scopes and not only limited to the natural resources, allows planners to analyze how women may benefit from the development projects and make up for the women's situation of disadvantage, at least project-wise. As an example regarding the importance of evaluating the condition of women with respect to the resources, it may be stated that time is a resource particularly scarce for the women, which fact may limit their possibilities to participate and benefit from development activities. In addition, and as a general rule, women have no access to credit and training activities, which in general terms, are a man's privilege.

TOPIC	WHAT IS IT ABOUT?	WHT IS IT SO IMPORTANT TO DISAGGREGATE IT BY SEX?	TYPE OF QUESTIONS WE ASK OURSELVES	TOOLS
		<p>reduction in the variety of subsistence-related food, due to resource deterioration and the lack of natural products that are used for medicinal purposes.</p>		
<p>4. Levels of social participation</p>	<p>It refers to the participation of women and men in decision making at a household, productive and community level. It also refers to the women's recognized power spheres and the informal roles they play in the communities, vs. those of men's.</p>	<p>Because by recognizing how the participation of men and women takes place it will be possible to improve and adapt the different levels of participation to meet the needs of the diversity of local payers.</p>	<ul style="list-style-type: none"> - Which are the local social organizations and which is the participation of women therein? - Do women participate in local power positions and which positions or roles do they fill? - Are there women's organizations in the zone and what are they involved in? - How does the leadership training process between men and women take place? 	<p>Institutional diagram, matrix on decision making from a gender approach.</p>
<p>5. Cultural or traditional conceptions</p>	<p>These are the elements that integrate the socialization process of the social groups, giving them a sense of ownership and identity. Intercultural relations may affect and modify cultural elements that subordinate women or those who are respectful of them.</p>	<p>Because there are many cultural restrictions that affect or prevent female participation in the tasks, opportunities and benefits of development.</p>	<ul style="list-style-type: none"> - Which are the cultural restrictions that affect the women's access or control of the natural resources? - Which rules, traditional or cultural restrictions affect the gender relations associated with the productive and environmental aspects? 	<p>Socio-drams and representations.</p>

CHAPTER IV

The watershed management plan from a gender perspective

This chapter includes the following sections:

- 1. What is the purpose of a watershed management plan from a gender equity perspective?*
- 2. Methodological proposal to elaborate the management plan from a gender equity perspective*
- 3. Ideas that promote equity*

There are different manners to implement management plans in watersheds. These variations respond to the objectives that are expected to be achieved through planning, the interests of the participants in the process and the particular manner in which knowledge about the specific reality is organized. From the point of view of community participation, the management plan should involve all the stakeholders who will have any responsibility in the implementation of

the components of the projects and activities proposed by the management plan, becoming, thus, a very important tool for community self development.

From a gender equity perspective, a watershed sustainability agenda should be based not only on production relations, but also on social reproduction relations, making visible and recognizing the inequity conditions to which women are exposed and exploring the obstacles for their transformation. From a gender approach and participatory point of view, the development of watershed management plans should incorporate in a differentiated manner the needs and priorities of the people conforming the social groups, with women and men sharing opportunities, responsibilities, decisions and benefits of the development processes, conservation and environmental restoration (Blanco and Rodríguez, 1999).

The previous chapter provided methodological guidelines for the elaboration of a participatory appraisal from a gender equity perspective. We will now specifically refer to the elaboration process of a Management Plan from a Gender Perspective (MPGP), which is a planning exercise. This proposal is based on principles of social participation, and gender equity is the ingredient providing specificity.

1. What is the purpose of a watershed management plan from a gender equity perspective?

The management plan should respond to the problems identified by the appraisal, for which reason both processes are closely related. As a matter of fact, the planning process involving the MGP does not make progress in the absence of sufficient appraisal-generated data, since the information obtained at that moment will be the basis of the management plan. Thus, the need to articulate and address them in a joint manner.

Through the MGP it is expected to position women and men in front of their socio-environmental reality to analyze the positive or negative impact it has on their daily lives and the natural resources of the watershed, and develop their vision of the present and the future, and adopt individual and community commitments towards the conservation and sustainable development of resources (Lingen, et. al., 1997).

The management plan from a gender perspective is a process that promotes management of the water, soil and natural resources in general, within a framework of social equity and gender, environmental sustainability and community participation, in order to maximize the social, environmental and economic wellbeing of the populations of the watershed. The management plan starts from an objective analysis of the socio-environmental problems and conditions of the watershed; the opportunities that may be used to promote equity and sustainability processes; the obstacles and risks that have to be dealt with; as well as the strengths and weaknesses that may support or hinder the intervention process in the watershed (Bochet, 1983).

The MGP should have the following characteristics:

Watershed management plans as well as appraisals undertaken from a gender equity approach, should present the following characteristics:

- Recognize the unequal relations established between genders, both, within the household and in the community, by incorporating gender differentiated elements into the planning and environmental management instruments, that will be taken up again in the environmental sensitization and training processes.
- Consider the differences in roles as well as regarding the access, use, control and benefit of the resources, which entail unequal participation in decision making and the impacts caused by environmental deterioration, differentiated between men and women.
- Exert influence to transcend the material and cultural conditions that restrict or prevent women from the access to and management of resources (water, land, capital, technology, credit, training, etc.).

- Maximize the flexibility of traditional roles, by revaluing the traditionally female non-remunerated tasks and promote women's participation in productive and community spheres that are predominantly dominated by men.
- Consider women in their production-related roles. Yet, consideration should also be given to the fact that they are responsible for most of the reproductive activities, for which reason care should be exercised not to overburden women with work and effort.
- Propose activities involving productive, conservation and watershed restoration projects, under the guiding principles of maximizing the abilities, interests and needs of each gender towards the improvement of their conditions and quality of life.
- Create or strengthen venues, conditions and mechanisms oriented towards the equal participation of men and women in decision-making venues involving the planning, implementation, monitoring and evaluation processes of the MPGP.

Therefore, the management plan proposal should include responses to overcome or minimize environmental and gender inequity problems, as well as causes thereof. The process and results of a watershed MPGP should reflect a balance among the objectives, interests and needs of local communities and the diverse stakeholders, and the objectives of socio-environmental sustainability and equity. In other words, the integration of the priorities and expectations of the various social stakeholders that interact in the watershed should be explored, in pursuit of equity as well as environmental, economic and social sustainability (Sheng, 1992).

2. Methodological proposal for MPGP elaboration

Watershed management plans should be developed based on an integral approach that addresses water resources as an essential part of the ecosystems. There is, in fact, a close interrelation between water and the other ecosystem components. For example, a reciprocity relation exists between water resources and the soil, since soil use depends on water availability, and in turn, the quality and volume of water of fresh water ecosystems are directly affected by the utilization of the soil. Likewise, water is closely related to the tree cover (Sarin, 1995).

A watershed's planning process should take into consideration the structure and operation of ecosystems, the various intervention levels (household, plot of land, community, microwatershed and watershed), as well as a conception about water as a limited natural resource and a social, environmental and economic asset, which quantity and quality determine the possibilities for its use.

The methodological proposal for the elaboration of a MGGP comprises the following phases:

- Phase 1. Conformation of the work group and training of facilitators.
- Phase 2. Summons for management plan elaboration.
- Phase 3. Analysis of the appraisal and regulation of the watershed's productive activities.
- Phase 4. Elaboration of the objectives of the management plan.
- Phase 5. Elaboration of expected results and indicator building.
- Phase 6. Definition of the components of the plan.
- Phase 7. Allocation of resources and schedule of activities.

All phases should be conceived as a framework for planning undertaking. This means that each phase prepares the conditions needed for the following phases while being fed back, validated and modified by them.

2.1 Phase 1. Conformation of the work group and training of facilitators

First of all, it is very important to emphasize the need for the same team that carried out the appraisal to continue the process and participate in the elaboration of the management plan from a gender approach. If this were the case, no efforts should be made to conform a new work group, in addition to strengthening the existing group by incorporating people with proven experience and capability regarding planning, conflict resolution, monitoring and evaluation processes. However, in situations where the appraisal coordination team is unavailable, then a new team would have to be conformed to undertake implementation of the management plan (Ramakrishna, 2000).

Strengthening or conformation of the work group takes place in the understanding that it will be necessary to analyze the socio-environmental problems, and causes and impacts thereof, in order to plan the measures needed to minimize and revert the processes accountable for the watershed's socio-environmental degradation. Therefore, the work team responsible for facilitating the design and implementing the MGGP, should ask questions that will be answered throughout the process, among which are:

- How can the watershed's socio-environmental degradation processes be stopped?
- How can the already degraded natural resources be recuperated?
- How can rules be established and enforced to regulate the watershed's territory, and guarantee the equitable use of community natural resources without jeopardizing its potential future use?
- How can equitable benefits be obtained for men and women through the watershed's intervention process?

- Which mechanisms could contribute to generate changes concerning the disadvantageous position of watershed-dwelling women towards greater participation in decision-making and empowerment venues?
- How should indicators be designed to measure the progress made towards equity achievement?

The work group should, furthermore, generate empathy in the community, be knowledgeable about the methodology proposed in the MPGP, and have an attitude of openness, disposition, honesty and commitment, as well as the capabilities and skills required to undertake an environmental planning process guided towards the achievement of the above-mentioned conservation and environmental sustainability objectives, gender equity and improvement of the population's quality of life.

On this basis, the team should be conformed by local people and community-base organizations deeply knowledgeable about the productive potential of the watershed's resources, its present uses and the impacts on the natural resources and the quality of life of the people, derived from the utilization and management of the resources; as well as external specialists on issues involving the conservation and sustainable management of natural resources, and gender-sensitive participatory methodologies, such as specialists from governmental agencies, universities and non-governmental organizations.

Through the integration of local and external specialists it is expected to take advantage of the diversity of knowledge and create spaces for intercultural dialogue, based on the recognition and respect towards the biodiversity, appreciation of participation and the exchange of experiences leading towards jointly building the knowledge required to identify socially and environmentally sustainable recommendations and alternatives within the watershed's context.

- The intervention process proposed in the MPGP requires the articulation of conceptual and technical instruments with an ethical component to promote equity between men and women in connection with the benefits of conservation, restoration and sustainable development in the watershed.
- Men and women should have the same opportunity to participate in the projects and programs of the MPGP and share its benefits, without restrictions originated by stereotyped behavioral patterns assigned according to the sexes.
- The creation of opportunities for women does not entail the proposal of projects at a reproductive level, such as vegetable garden management or "micro-credits", but to recognize and promote fulfillment of their agricultural, forestry, organizational, entrepreneurial and financial needs, related to their productive roles.
- There should be an equitable participation of women and men. It is necessary to support women by helping them learn to raise their

The plan's facilitating team should consider the following criteria:

proposals in public and negotiate their interests; and help men to learn to appreciate the proposals raised by the women, as both are equally valid. This process supports mutual recognition under conditions of respect, and it is essential in democratic processes undertaken to promote representative decisions.

- Watershed dwellers have different “knowledge”, which is as important as the technical knowledge. Therefore, the different points of view should be articulated in order to make decisions that will really lead to the design of an efficient and effective plan to respond to the expectations of the local population.
- There are groups or sectors with different interests and notions, for which reason negotiation venues should be favored, assistance should be provided to help the groups raise their needs and seek adequate means to meet them. These diverse interests could stem from economic, political or cultural groups that usually enjoy certain recognition, but they could also stem from women and men negotiating on an individual basis. Thereby, the need to generate negotiation capabilities and venues to address possible conflicts.

A process cannot be considered democratic when women are not recognized, are not present, do not have full participation at all levels, or when their rights or dignity as individuals is not respected.

An important recommendation is that when working with a mixed group, the MPGP process should also be facilitated by a mixed group, in order to earn the trust of men and women alike. If the group is conformed by indigenous people or if indigenous people participate, cultural differences should be taken into consideration and translation services should be provided if required.

2.2 Phase 2. Summons for management plan elaboration

To assure that the MPGP is plural and inclusive and that the diverse stakeholders are summoned, it is necessary to design mechanisms and techniques to work with all people concerned. These could vary and should be adapted to the socio-environmental characteristics of each group. It is important to value the representative nature of the groups, since it is impossible to think about the entire population during the management plan's elaboration process.

When initiating the development process of the MPGP, it is important to understand the complexity of participation promotion at a watershed level. The different forms of participation found in a watershed will be determined by many different factors, such as the size of the area, the spatial distribution, the access, socio-cultural and productive diversity, the venues and forms of social organization. In the same manner, the existence of several municipalities or states that share the watershed

makes the situation even more difficult, as there may be conflicting interests and, at times, even contrary to the sustainable, equitable and participatory development of the watershed (Abella and Fogel, 2000).

The summons for plan participation should take place at different levels to assure the presence of the largest representation of sectors holding interests in the watershed, that is, the communities represented by men and women of different ages, social classes and ethnic groups, academicians, non-governmental organizations, governmental entities, municipalities and the private sector. To this effect, the coordinating team should take on the challenge of considering several summons and through differentiated communications channels. This is because a summons published in a local newspaper will be beyond the reach of an illiterate indigenous woman; and by the same token, a poster written in náhuatí displayed at the health care center of a community from the low part of the watershed will only be accessible to the owner of the sugar mill located in the high part (Aguilar, et. al., 1999).

It is essential to take into account that the spaces to disseminate information or summon meetings should also consider that the women, the men and the various groups do not, necessarily, have access to the same places, sources or means of information. For example, to summon women, means such as the children's school notebooks could be used; with respect to youngsters, recreational spaces such as dance halls or sports fields, would be appropriate means.

Following are a few criteria that might help to reconcile the level of participation in the MPPG with the quality and representative nature of the information generated by it.

Criteria to help improve MPPG participation

- It is impossible to expect to summon the population of the entire watershed. A certain number of communities could be selected, according to their representativeness, considering their location: high, middle or low part of the watershed; their productive activities; their crop systems; the watershed municipalities under which jurisdiction they are assigned; etc.
- Upon completing the selection of the communities that will be summoned to participate in the management plan, the next step will be to identify "key informants" within these communities. This key informant selection may be based on the following criteria: development of productive and economic activities, gender and age representativeness, knowledge about the problems of the watershed; positioning within local hierarchies and local summoning power, etc.
- A very large group of participants should not be selected within each community given the number of communities that will be summoned with their own representatives. The number of people per community should be determined depending on the number of communities

selected for process participation, in order to work with “manageable” groups from a community participation point of view.

- The participation of all key informants should be actively promoted, trying to keep men from talking too much and encouraging women to express their points of view. It is necessary to discriminate personal, community and watershed interests as a whole. Participants should view the watershed as one unit and understand that all activity proposals should be equitable, sustainable and participatory.

The summons for community participation will by no means guarantee that plans will not be developed in accordance with preconceived ideas and values, seeking to legitimize such ideas with opinions of the participating populations (Mendonca and Arroyo, 1989).

There are some communities where the socio-cultural factors restrict women's participation, for which reason it is necessary to create mechanisms through which, in addition to respecting the traditions, promote greater participation equity. It is also important to respect the ethnic and religious diversity and the particular participatory mechanisms determined by these.

It should be noted that the elaboration process of the MGP will be carried out through various methods, meetings and consultations, as well as at different moments; therefore, the process and summons mechanisms are steps that will be repeated as many times as necessary.

Those summoned to the workshops should be clearly informed about the objectives, purpose and scope of their participation. Consultations should not be limited to “listening or gathering opinions” for a small group to make the decisions later. Neither is it possible to make absolutely all decisions on a collective basis. The scope of participation of the various stakeholder groups in decision-making venues should be clearly established and acceptable to all (Marinof, 2001).

Time is of the essence, particularly in the case of women, given the type of work they carry out in the household; there are many instances when they are unable to attend meetings at the same times other groups do. So, it might be convenient to establish different schedules for different work sub-groups. In addition, consideration should also be given to child care facilities, since there are many times when women cannot attend because they have no one to look after the children.

Finally, the identification of the conceptual construction of participation by the facilitating team of the MPGP is very important, to avoid processes considered as "participatory" but that do not contribute to the construction of more democratic venues for greater local decision making and community empowerment. Thus, Martínez (2002) quotes Pretty (1996) by pointing out the following types of participation, in ascending order in terms of community self management:

- **Passive:** People are informed about what will happen or did happen. Communication is unilaterally handled by the investigators. The information is shared only among external professionals.
- **To provide information:** The population answers questions asked by the investigators. People have no influence on the procedures.
- **For consultation:** The people are consulted, the external agents listen and define the problems and solutions in accordance with the people's response.
- **In material benefits:** People participate by contributing work or resources. For example, work for money or food, or loans for land experimentation activities.
- **Functional:** People set up groups to achieve pre-defined objectives through a project that may be the result of external initiatives involving social organization. People are dependent upon external implementers and facilitators, but could develop self management.
- **Interactive:** People participate in the analysis and definition of activities, conformation and/or strengthening of existing organizations. Interdisciplinary methodological perspectives to support learning processes are incorporated. The groups control local decisions and maintain structures and practices.
- **Autonomous mobilization:** People define initiatives without the interference of external institutions. They develop contact and support networks with external institutions for resource and technical assistance purposes. They may or may not confront the distribution of benefits and power.

Creation of participation mechanisms

In México, the Technical Groundwater Committees (COTAS) were created for the purpose of opening up avenues where the different water users and state authorities come together to seek solutions to the problems involving the distribution and inadequate use of water. It is also a forum through which water users and authorities establish direct communication channels. This has enabled a consensus implementation of several regulatory decisions.

2.3 Phase 3. Analysis of the appraisal and regulation of the watershed's productive activities

To initiate the MGP elaboration process, it is necessary to start from the information obtained through the appraisal. The facilitating team, together with the representatives of the community and other stakeholder groups, undertake the analysis of the information gathered for the purpose of raising and analyzing the problems of the watershed from an integral perspective. The causes and effects originated by the problems at the biophysical and socio-economic level are identified. The above sets the basis upon which the management plan will be built, but the stakeholder groups must first feed back, analyze and appropriate the information.

The facilitators should undertake a comprehensive gender analysis, without overlooking any aspect, regardless of how simple it may seem. It is important to understand the logic behind gender relations within a given environmental setting, specifically with regard to the access, use and control of resources, distribution of costs and benefits, and decisions made about existing resources.

- Establish the criteria to determine the priority of the intervention.
- Learn about the land tenure dynamics in the region.
- Learn about the history and political situation of the stakeholder groups and the communities and the implications differentiated by women and men.
- Learn about the ecological environment and highlight its present condition.
- Clear and concise expression about the situation, condition and position of gender in the watershed's communities, concerning living conditions, production of goods and services in the zone, social location, ecological, economic, productive and political aspects of the diverse social groups, the existing organizations, and the level of participation of women and men.
- Reflect the needs and demands expressed by the women and men of stakeholder groups.
- Identification of rules, patterns and laws having a differentiated effect on men and women (including national and common laws, which are based on customs and traditions).
- Present the sexual division of work within the participating groups in productive, reproductive and community tasks.
- Identification of the access, use and control of the resources, goods and services, as well as the distribution of benefits and costs by women and men.

Certain elements the appraisal analysis should show are:

- Reflect demographic trends such as: birth rates and migratory movements of men and women.
- Include quantitative and qualitative data revealing the power and subordination relations between men and women of the participating groups.
- Identify the forms of women's participation (quantity and quality) in the decision-making processes at the household, community and community organization levels.

In the interest of facilitating the analysis of the information generated by the appraisal, it should be presented in a synthesized manner, to which effect may be useful the appraisal returning techniques outlined in step 4 of the previous chapter "Socialization of the results and formulation of conclusions. It is, likewise, important at this time to develop a proposal to regulate the use of the natural resources in the watershed, based on the major problems and needs identified in the appraisal. **In other words, the information obtained in the appraisal will determine which directions the management plan will follow.**

Watershed regulation seeks to evaluate the strategies related to the use of the natural resources in the zone, taking as parameters physical, socio-cultural, economic and productive considerations, in order to propose alternatives seeking a more sustainable environmental, economic and social use of the natural resources of the region, as well as protection and restoration strategies.

Watershed regulation can take place at a macro level, that is, considering the entire watershed; addressing different regions of the watershed, i.e., high, middle or low parts of the watershed; or focusing on the specificity of a community or household plot. In any case, it should be based on the characteristics and state of conservation of the ecosystems; on socio-economic aspects, including land tenure and inequity conditions with respect to the access, control or benefit of the natural resources; and current and potential uses and exploitation of the natural resources, and impact of environmental deterioration on household units, particularly between men and women (FAO, 1998).

Participatory watershed regulation from a gender perspective considers different scales, that is, it works at a plot level, addressing the differentiated needs and interests of the men and women who depend on this production system, and placing it within a broader context of the community, micro-watershed, region, etc. The work is based on the premise that watershed management plans can only be operative if they reflect the interests and expectations of the owners and users of the watershed's resources, while conforming to the guidelines of the country's environmental and water resource policies. Thus, planning should not only be based on social participation but also on the legal and institutional framework¹.

1. There are many countries where watershed planning is of recent introduction, and thus, watershed management plans lack legal support. In this case, it is important for the technical team to take into consideration the planning instruments legally recognized in the watershed's region, trying to place the management plan within this context.

Guidelines for watershed regulation

- Acquaintance with the use of resources by gender, ethnic and economic group and age. This description should focus on current uses. Nevertheless, it should also take into account past uses and levels thereof.
- Together with watershed populations, the productive activities reflecting a negative impact should be environmentally or socially readjusted towards cleaner and more sustainable production styles.
- Joint analysis with the watershed's social groups about which types of natural resource uses, water, soils and crops are most appropriate for the different areas of the watershed, based on socio-cultural, ecological, economical and productive restrictions and opportunities.
- Establishing, together with the local populations, watershed protection zones mainly for environmental service provision, particularly aquifer recharge, protection against erosion, maintenance of biodiversity, etc. The watershed's high parts are particularly important because this is the source of the rivers feeding it. Consensus should also be established among the dwellers of the high, middle and low parts of the watershed, in order to share not only the benefits of conservation, but also its costs.
- Establishing restoration areas, according to their level of deterioration.
- Definition of areas of common use and management, according to the interests of men and women, establishing conditions regarding the equitable access, use and control of resources among local social stakeholders.
- Analyzing the limitations and opportunities by gender, ethnic and economic group and age, for the development of alternative activities in the area.
- Equitable definition of the borders, objectives, and conditions on the use and access to the various zones of the watershed.

2.4 Phase 4. Elaboration of the objectives of the management plan

Upon completing the analysis of the appraisal information, as a result of which the major problems in the watershed have been identified and the territorial regulation has been established, the objectives of the plan should be determined to address the problems identified through the appraisal. The objectives are proposed within a general framework that integrates the characteristics of the problems to be tackled and the future image envisioned for the watershed, planned by the local stakeholders themselves. It could be stated that the definition of objectives is the beginning of the planning process since the work components spring from them. In addition, the objectives define the direction of the MPPG process,

for which reason they should be formulated as concretely and clearly as possible, in order to facilitate the conception of the expected results and indicators for objective verification purposes. The more abstract and diffused objectives are, the more difficult will process orientation and indicator creation be (DANIDA, 1990).

As proposed by "Alice in wonderland": if a person lacks a clear vision about where they want to go, it is quite possible they will not make the right choice nor will they know if they have reached their final destination". Because of the enormous importance of a clear definition of MPPG objectives, there are some aspects worth clarifying regarding what it is meant to be said and how it should be worded. In the first place, there are two types of objectives: general and specific.

General objective

A general objective encompasses a broader purpose and scope; it provides orientation to the entire MPPG. The general objective defines the changes expected towards equity, sustainability and participation increase with respect to the different realities of the watershed and the situation expected to be achieved as a result of the series of projects and activities promoted by the management plan. In this respect, the general objective is of a global synthesis nature and proposes an ideal state expected to be achieved by tackling specific problem situations through a guided intervention during a specific period of time.

It should not be ignored that the management plan's specificity is the gender approach, for which reason it should be present in the objective and guide the direction of projects and activities. That is, careful consideration should be given to gender differences in the watershed, and actions should aim at overcoming inequalities and inequities and making a positive impact not only on the natural or economic environment, but on the social and cultural, as well.

Following are a few basic criteria that should be taken into consideration at the time of formulating the MPPG's general objective:

Criteria to guide formulation of the general objective

- The relevance and priority extent of the proposed objective with respect to the populations of the watershed, considering that these are integrated by men and women of distinctly different ages, social classes and ethnic groups.
- A balance between the ecologic interests of restoration, conservation and sustainability of productive processes and those affecting the quality of life of the men and women dwelling in the watershed.
- The real possibilities of reaching the objective as of the resource base, the functioning capability of the process' facilitating team and the institutional coordination, that is, the partnerships and networks that should be established with groups, institutions and organizations to achieve the objective.

- Expressing the equity-directed changes that will be promoted by the management plan.

It is also important to delimit the formulation of the general objective based on certain pre-determined aspects, such as: a) timeframe available to undertake the management plan in the watershed; b) resources and negotiation capabilities of the process' coordinating team; c) local populations' participation and contribution to the plan; d) sluggishness of the watershed's socio-environmental processes along with an analysis of the potential for change; and e) effects of favorable and unfavorable conditions affecting these processes (Aguilar and Castañeda, 2002).

Formulation of the general objective should allow the enunciation of the specific objectives, as well as verification of the MGP's global impact. The following example of a general objective takes up the principles of sustainability and equity that will permeate the management plan. However, for the watershed's intervention to fully take in its purposes, consideration should be given to general objectives built around principles of sustainability, equity and participation. In this connection, the plan may formulate as many general objectives as necessary, only making sure to cover all the changes expected to take place in the watershed.

General objective

To guarantee the supply of water in the amounts required by the ecosystems of the watershed and in a satisfactory quality in order to be equitably used by the women and men who dwell in the watershed.

Specific objectives

These are the achievements expected as a result of the activities to be undertaken by the watershed's management plan. It could be said that they are disaggregated sections of the general objective, are contained in it and, therefore, the set of specific objectives should be equivalent to the contents of the general objective. Thus, the specific objectives constitute the parts and the general objective the synthesis, and it should be ascertained that the specific objectives fully comprise the intent of the general objective.

The specific objectives express the various components to be implemented in order to achieve the general objective. Specific objective formulation constitutes a link whereby the situation expected is tied in to the activities that may be developed to reach it. The specific objectives should clearly identify gender equity mainstreaming through both, the language used (including women and men) as well as the contents. Furthermore, the objectives are not static, but can change and adapt in time, when further information becomes available on the state of things and the real potential for change (Pérez, 1994).

The formulation of specific objectives considers three basic purposes:

- The activities to be undertaken to achieve the objectives are determined based on the specific objectives.
- The specific objectives constitute the framework upon which are based indicator building, conception of project control mechanisms and actions, and the evaluation of results.
- The specific objectives establish an image of the ideal situation to be achieved through the MPPG, which may be compared to the actual results obtained through the intervention. That is, they allow evaluating the progress made vs. the idealized situation prior to the plan's implementation.

It is at this stage of MPPG formulation that a clear identification should be made about the elements of change involving equity, sustainability and participation increase, each of which may be expressed in a specific objective as realistic as possible. The number of objectives formulated will depend on action capability, resources available to the watershed's intervention, and diversity of actions to be undertaken.

It would be advisable to define certain specific objectives that take into consideration existing gaps in terms of rights and opportunities between genders, in order to guarantee equity and thus, increase sustainability. Therefore, the specific objectives to reduce gender inequity are directed towards:

- Proposing the changes and transformations towards equity that are expected to be achieved in the relations between women and men.
- Definition about the conditions leading to women's empowerment regarding the access and control of resources and the equitable distribution of the benefits.
- Orientation towards reducing poverty levels of women and men, and seeking profitable and ecologically viable productive alternatives for both.
- Promotion of women's organization and their real participation in decision-making venues, thus contributing to the democratization of power in the watershed.

At the time of elaboration of the MPPG's objectives, it is very important for the women and men of the various stakeholder groups to agree on the objectives they wish to include, ensuring these make explicit reference to both sexes in order to avoid the invisibilization of women from the plan's approach.

Don't forget that

It is equally important to make sure the objectives are based on the three basic principles:

- Equity is an essential condition for development sustainability.
- Watershed management provides opportunities to promote equity.
- Community participation is an essential requirement to build sustainability and equity processes in the watershed.

Considering the example shown in the formulation of the general objective, the specific objectives derived from such example could be:

Specific objectives

1. *Develop activities related to agriculture, forestry, fish-farming, environmental education, and micro-enterprises where women and men participate in an equitable manner.*
2. *Promote the use of environmental-friendly productive and reproductive practices between the men and women who live in the watershed.*
3. *Guarantee that water provision for the different uses is equitably available to the men and women who live in the watershed.*

2.5 Phase 5. Elaboration of expected results and indicator building

The expected results constitute situations that are expected to be achieved through the MPPG, making evident compliance with the specific objectives. Such results should reflect the principles on which equity, sustainability and social participation are based. In other words, the expected results are a description of different aspects of the watershed's reality that are expected to be achieved by the end of the intervention. Therefore, this stage involves an imagination exercise that allows fine-tuning of specific objective formulation; that is, to enunciate them in terms of the results through which achievements will be made evident. The formulation of expected results contributes to arrive at indicator building without any problems (Soares, 1998).

In other words, the expected results of a specific objective constitute disaggregated parts of this objective, that is, its enunciation in terms of the partial realities conforming it. Thus, the formulation procedure is based on breaking down the various aspects of the reality expected following compliance with the specific objective. In the first place, the areas of greater relevance of the intervention are raised by posing the following question: regarding the aspect involving the watershed's reality, which is the situation we expect to achieve upon compliance with the specific objective and how is compliance with such objective made evident?

As the question raised is answered for the various reality aspects of the zone where the plan will be implemented, the question is changed to: should any other aspect of the reality be explained further? Finally, a verification is conducted in terms of coincidence at two levels: a) whether the formulated expected results are consistent with each other; and b) whether the expected results are consistent with the corresponding specific objective.

Thus, the formulation of expected results considers three basic purposes:

- Contribute to the formulation of a specific objective with greater clarity and specificity.
- Build the base for the elaboration of MPGP indicators.
- Constitute the base for the conception of projects and activities through which the changes expected to be achieved will be implemented.

Continuing with the example used to illustrate the elaboration of the general objective and the specific objectives, the formulation of the results expected could be:

Expected results

- 1. The men and women living in the watershed adopt less contaminating agricultural practices for land quality improvement purposes, resulting in increased crop productivity.*
- 2. The populations of the watershed recycle the water used in certain household uses.*
- 3. The priority regarding water use in any watershed community is established by consensus between men and women.*
- 4. The men and women are able to make use of water in sufficient quantity and quality to meet their needs for productive and/or reproductive activities.*

Indicator building

Indicators are tools formulated to make evident the actual changes produced as a result of the projects and activities undertaken through the management plan implemented in the watershed from a gender perspective. The specific objectives define an intention that should be expressed in concrete actions, while the indicators will allow verification of objective compliance. The indicators make evident the results of the intervention process on the socio-environmental dynamics over a certain period of time and space.

The basic role of the indicators is to verify compliance with each of the specific objectives. Within a MPGP monitoring process, indicator building is a sine qua non condition, since it allows an objective evaluation of the impact caused by the watershed's management plan.

The indicator formulation procedure is based on the analysis of expected results, extracting the essential components of change, which characterize the indicators. It should be noted that the criteria guiding both, the formulation of objectives as well as the results and indicators, are set on the principles of equity, sustainability and participation. For this reason, the indicators should assess the progress made in these areas of the watershed's reality. A well-monitored and timely- evaluated MPGP allows feedback and adjustment of programs and projects to the objectives established (Esteva, and Reyes, 1998).

Indicator formulation within the planning process performs the following functions:

- To enable conducting more objective evaluations and monitoring.
- To guide the adjustment process of the actions to be undertaken to comply with the specific objectives.
- To enable the determination of variables to be assessed through the MPGP's monitoring process.

In connection with the functions to be performed by the indicators, consideration should be given to the fact that these monitoring tools should have the following characteristics:

- **Specificity:** should be directly related to the objective under verification;
- **Reliability:** should accurately reflect the situation assessed;
- **Viability:** should be based on data easily obtainable;
- **Efficiency:** should make up for the resources and time invested in obtaining them;
- **Effectiveness:** should monitor critical aspects of the reality, that is, vital processes that limit or strengthen the building capacity of gender equity, sustainability and social participation strengthening at the watershed's level.

Indicator building may be undertaken from quantitative as well as qualitative criteria. Should it be determined that the indicators should be developed based on quantitative data, it is essential to record the total percentages or amounts intended to change with respect to the initial situation. That is, if an expected result of the management plan is the increase the number of women and men living in the watershed who use organic fertilizers, then the percentage propped up should be clarified, so that the wording of the indicators follows the following logic: increase by 25% in the number of men and women living in the watershed who use organic fertilizers on their plots of land.

Continuing with the example developed throughout this chapter, indicator building could be as follows:

Indicators

1. *Increase in the number of men and women living in the watershed who use organic fertilizers in their plots/increase in crop productivity.*
2. *Number of families who adopted recycling practices for household use water.*
3. *Increase in the number of women who have access and control over the uses of water.*
4. *Increase in the watershed's female and male population having access to the required quantities and quality of water.*

The following format illustrates the close relation that exists between the general objective, the specific objectives, the expected results and the indicators.

General Objective	Specific objectives	Expected results	Indicators	Sources of verification/who is responsible for record keeping	Frequency of measurement/ when will the first measurement take place
To guarantee water availability in the quantity and quality needed to meet the needs of the population and ecosystems of the watershed.	To promote between the men & women who live in the watershed the use of environmentally-friendly productive practices.	That men and women adopt less contaminating agricultural practices.	Increase in the number of men and women who use organic fertilizers on their plots.	Interviews/provide training to female school students of the communities for record keeping purposes.	Every 6 months/July, 2003
		That watershed populations recycle water in certain household uses.	No. of families who adopt water recycling practices in household use.	Interviews/provide training to female school students of the communities for record keeping purposes.	
	To guarantee that the water supply for the different uses is equitable between the men and women of the watershed.	That water use priority in any watershed community is mutually agreed upon by the men and women of the watershed.	Increase in the number of women who have access and control of water uses.	Interviews/provide training to female school students of the communities for record keeping purposes.	
		That men and women may have adequate quantities and quality of the water to meet their needs regarding productive or reproductive activities.	Increase of the male and female population of the watershed who have access to the required quantities and quality of water.	Interviews/provide training to female school students of the communities for record keeping purposes. Methodological training guides.	

Chapter V will address the indicator building process in greater detail.

2.6 Phase 6. Definition of the components of the plan

Upon defining and delimiting the zones to be regulated, a joint definition should be made to establish the uses promoted, allowed, restricted and forbidden throughout the diverse areas of the watershed, as well as the objectives of the intervention and the results expected to be achieved, along with the indicators to assess the progress made, following which a process should be undertaken to implement a series of strategies to achieve the objectives planned.

This process is undertaken by defining the components of the plan (courses of action) where the broad thematic areas to be addressed are included. Examples are: **environmental education and training, organization, investigation, technological transference, productive projects, social wellbeing promotion, environmental community administration, infrastructure, ecosystem conservation, among others**. Because of their link to the objectives, these courses of action may vary depending on the characteristics of each watershed. In addition, these courses of action may be interconnected and converge towards a greater objective, that is, convergence is based on the interest shown by the social group to organize around their common interests and needs and undergo training for the adoption of sustainable natural resource management technologies, so that this new course of action may have a positive impact on the conditions and quality of life of the men and women of the watershed.

Specific programs and activities are derived from the courses of action. The programs describe the entire organization system, where technical, methodological, operational and administrative aspects are integrated, as well as the conditions necessary for MPPG execution. It is at this stage of the MPPG when the management plan's work strategies are defined by responding to the question: What will be done and how will the work be carried out? In addition, the forms of participation of the various stakeholder groups and people are also defined.

*It should
be recalled
that*

- One way to guarantee mainstreaming of the gender equity perspective across the programs is by establishing equity achievement responsibilities, defined within the functions of their permanent staff, allocating the implementation resources required. In this manner, certainty will exist that all programs include activities seeking to develop the women's potential and establish equitable relations between genders.
- It is important to secure the technical and financial resources required for activity development, in addition to establishing the mechanisms to guarantee the participation and visibilization of women in environmental, productive and social processes.

- As part of the resources needed for program execution should be promoted the access to the technical resources and methodologies that facilitate mainstreaming of the gender equity approach. For example, systems to obtain data disaggregated by sex, indicators to estimate and assess the presence of a gender equity approach throughout the different programs, etc.
- The selected technologies, schedules, meeting sites, and message transmission means should be convenient and adequate for women. This will enable the MGP to have a strategy whereby women's participation will be assured, rather than limiting it as a result of the socialization process.
- Program implementation does necessarily require at least one full-time person responsible for gender-related issues, bearing authority and decision-making power, as well as resources to provide technical assistance, monitoring, follow up and evaluation of the gender scope. This does in no way contradict the fact that the entire MGP implementation team bears responsibility over mainstreaming and application of the gender approach.
- Setting up of a gender unit conformed by the person in charge and those identified within each program as liaison between this and the gender responsible person.
- It is essential to design gender sensitization and training processes for all personnel as part of a permanent effort throughout MGP implementation.

Upon defining the programs, the form through which they will be implemented should be further elaborated on. This is usually done through project programming with specific actions or activities. It is very important to identify actions that may be carried out through local resources and skills, to expedite plan development, because if planning is limited to medium- and long-term activities and involve external resource negotiations, people might wear out, which fact could—in turn—lead to lack of credibility regarding the achievement of the objectives of the management plan.

Furthermore, to avoid encouraging despair within the populations of the watershed with respect to the lack of effectiveness of management plans, it is essential **to define what can be done at a local level**. One way to foster community confidence is by separating the activities to be undertaken through the management plan into three different groups: a) activities we can carry out without external support; b) medium- and long-term activities that require external resources; and c) far-reaching work carried out with the political sector (this could consist on negotiating with politicians changes to a specific legislation that does not respond to their realities).

At this stage it is of the essence to undertake an exercise to prioritize and select projects based on the promotion of equity, sustainability and social participation in development-related activities. One way to conduct this exercise is through the following two techniques:

Example of techniques that help prioritize alternatives to solve the problems of the watershed.

Matrix to evaluate solutions

ACTION PROPOSED	Community nurseries to reforest the high part of the watershed	Soil conservation practices implemented on the most eroded parts of the watershed
CRITERIA		
Equitable benefit		
Increases income		
Technical and social feasibility		
Waiting time		
Local resources		
Sustainability		
Promotes participation		
Risks or threats		
Score obtained	11	13
Order of Priority	Less advisable	Most advisable
 (0 points): when it is a poor solution with respect to the criterion assessed.  (1 point): when it is a fair solution with respect to the criterion.  (2 points): when it is a good solution.		

Source: Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective: Identification and prioritization of possible proposals of action or projects, through a feasibility analysis of such proposals, using a series of references based on the general principles of promoting sustainability, equity and social participation in the watershed.

Materials: Flipcharts, masking tape, markers of two different colors to differentiate the participation of men and women.

Procedure: Step 1. After defining the courses of action and programs, participants should then identify the possible proposals for courses of action or activities. Through this exercise the action proposals are expected to meet two requirements: First, to provide answers to the problems identified, and secondly, that the solutions proposed promote equity, sustainability and social participation.

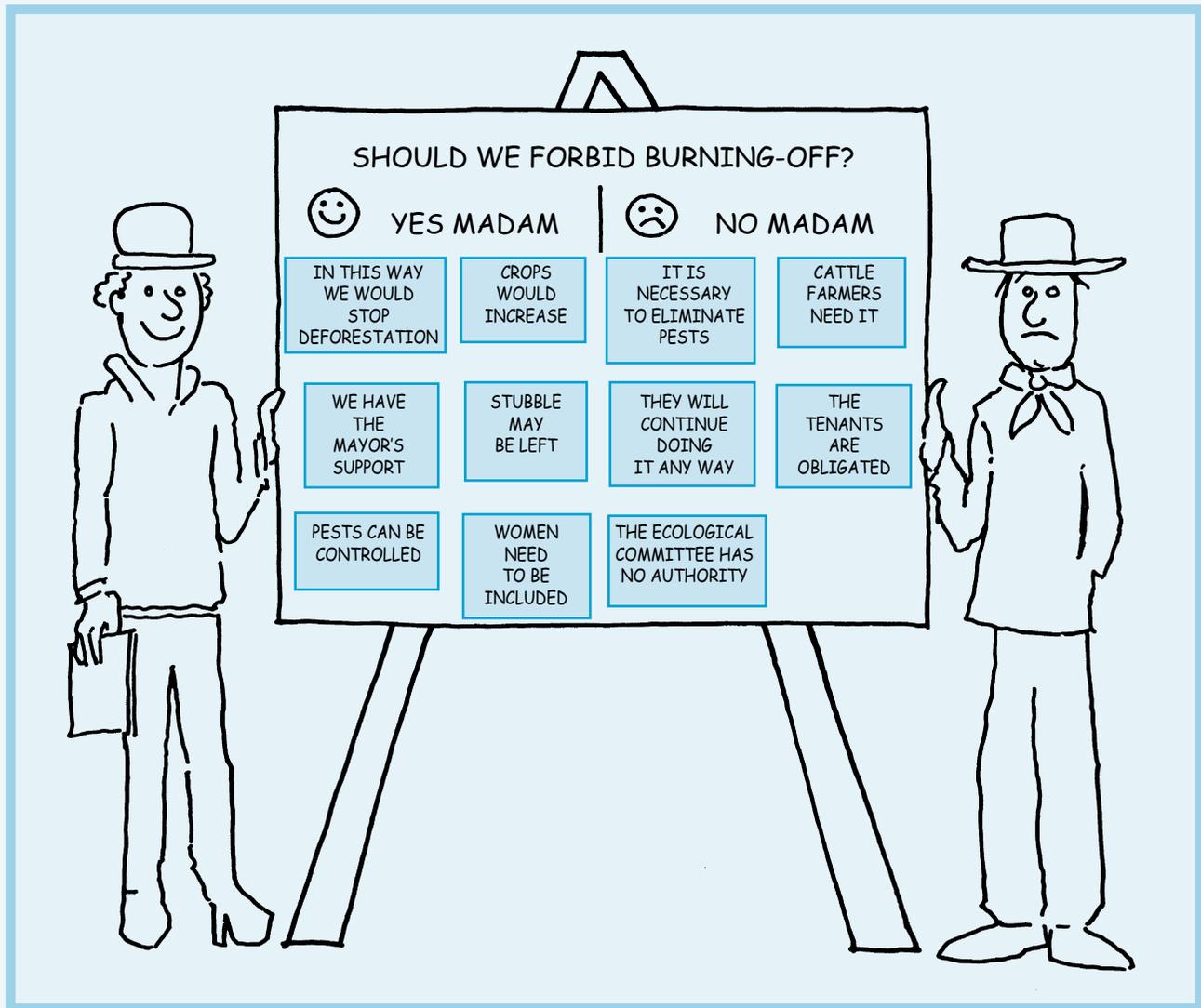
Step 2. Upon defining the action proposals, a matrix should be prepared; the headings correspond to the evaluation criteria and the columns to the different solutions. Below are some evaluation criteria that may be changed depending on the nature of the alternative proposed.

- **Equitable benefit.**
Will men and women benefit equitably from the alternative?
- **Increases income.**
Does it improve the quality of life of women and men?
- **Technical and social feasibility.**
Is the solution adequate to the community's context and is its implementation technically viable?
- **Waiting time.**
When will we start sensing the benefits?
- **Local resources.**
Are human, natural and material resources available in the area to solve it?
If not, where will they come from?
- **Sustainability.**
Does its impact on natural resources contribute to their conservation?
Will this impact be extended?
Could the stakeholders do it with little external assistance and continue doing it after the end of the project?
- **Participation.**
Does it involve a large portion of the population or at least a significant percentage of women?
Does it promote public appreciation of the women's contribution to community development, placing them in a social position similar to that of the men in the community?
Does it promote democratic power practices within and between the groups of women and men?
- **Risks or threats.**
Will the alternative promote changes that might have a negative impact on the dwellers of the watershed?

Step 3. Coordination regarding the method to evaluate the options proposed by the participants. It could be either of the following: a) by consensus, in which case the facilitator completes the matrix; or b) by vote, where each participant will cast a vote on the matrix, placing a symbol next to the "face" that best represents their assessment of the alternative. In this alternative each criterion could have all three "faces", and the total score would be determined by adding up the number of votes corresponding to each criterion, next to which should be recorded the points equivalent to the votes cast for the different "faces".

Step 4. After completing the matrix, a prioritization of the different alternatives should be undertaken; the most convenient are the alternatives obtaining the most points, as these are closer to fulfillment of the assigned criteria.

Analysis about pros and cons: game about “yes madam, no madam”



Source: Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective: Identification and prioritization of possible action proposals or projects to be carried out in the watershed through an analysis about the pros and cons of the project.

Materials: Flipcharts, cards, masking tape, markers of two different colors to differentiate the participation of men and women.

Procedure: Step 1. Definition of the proposal of action or project expected to be promoted. Several proposals can be assessed through this technique, though each one separately, without comparing it to the others. At the end of the exercise a comparison may be made about the best options based on the number of cards favoring the option “yes madam”.

Step 2. Selection of two volunteers among the participants: the optimistic "yes madam": who will try to highlight all of the positive aspects of the proposal, that is, all the good reasons to adopt the proposals. The pessimistic "no madam" should do the same with all the negative aspects (all the problems and difficulties that may result from development of the proposal). The facilitators could participate as one character or the other.

Step 3. Both should try to get maximum intervention of participants on their side by increasing their arguments. Each idea is visualized on a card and placed on the blackboard, next to "yes madam" or "no madam". To add interest to the discussion, the game could be viewed as a competition, to see which option will obtain more ideas.

Step 4. Analysis: when all ideas and arguments have been exhausted, the pros and cons of the proposal are analyzed, by arranging and prioritizing the cards.

Variation:

Instead of using volunteers to represent "yes madam" and "no madam", participants are asked to divide into two groups, for each group to work in favor or against the proposal. After each team has completed the debate, both groups stand in front of each other, and one presents their ideas and the other responds.

Following the definition of the projects, the next phase is the identification of the activities needed to implement each project. When the activities and projects to be promoted for MPGP implementation have been clearly determined, the next step consists on analyzing each of the activities derived from the project based on the generation of processes involving greater equity, sustainability and community participation in the watershed.

It is important to note that the gender equity, participation and sustainability categories lead the planning process, for which reason they should be considered as mainstreamed axis across all of the plan's components. That is, there will not be a specific component on equity, participation or sustainability. However, each of the components of the management plan should reflect in projects and activities the intention seeking gender equity, promoting the participation of community men and women in the decision-making processes, as well as promoting processes aiming at greater environmental sustainability.

In the following example, adapted from Feyerabend and Taghi Farvar (2001), the components of a management plan are subdivided into specific actions to be implemented.

Example

Strategic component No. 1: Governability and coordination among institutions

- To commit all men and women towards watershed development (maintain a general discussion/negotiation forum open to the public on the problems and opportunities of the watershed).
- To prevent conflicts and mediate in any conflicts that may arise during strategy application (creation of a commission conformed by men and women bearing summoning power at local and regional levels, who will act as advisers and mediators).
- Reactivation of traditional rules regarding the protection of holy natural spaces—such as the forests and water springs—and forest management in general, including regulations about hunting (attain the participation of the elders council and other forms of local social representation).
- Improvement of the watershed communities' personal and material security (hold regular meetings between the watershed's formal and informal powers, and establish groups of mutual help among the neighbors).

Strategic component No. 2: Management of community-owned natural resources

- Protection and preservation of holy forests and/or forests intended for the provision of environmental services to the watershed, preventing timber exploitation, hunting and plant extraction (managing to succeed in achieving the forestry authorities' declaration over a protected area in the forestry communities of the watershed, appoint a park ranger).

- Management of community property forests seeking the communities' sustainable benefit (making sure the associations of forest users regulate hunting, keep watch over medicinal plants, maintain tree diversity and exploit useful and non-useful wood products in a sustainable and equitable manner).
- Management of water resources in an equitable and sensible manner (ensuring enforcement of clear regulations to share the water among the different sectors dwelling in the watershed).

**Strategic component No. 3:
Management of household-owned natural resources**

- Ensuring the access of men and women to cultivable lands (establish a legal land registry or a preliminary de facto land registry).
- Prevent flood-related damages (farmers' groups should clarify the behavior patterns of the waters in the zone and build terraces, waterways and water retention structures, in order to avoid soil erosion and destruction of sowing fields).
- Prevention of the excessive and damaging use of pesticides (farmers' groups should share their knowledge about adapted crop methods, seed varieties and biological pest control).

**Strategic component No. 4:
Local economy and organization**

- Strengthening of local organizations through training activities and the creation of community development funds.
- Providing support to local productive enterprises (creation of a community research fund through the initial assistance of donor organizations or in cooperation with governmental institutions; conformation of a local commission to be responsible for the fund, ensuring strong female participation).
- Promotion of local agriculture (through farmers groups' purchases and sales and through the assistance of administrators to sell the local products at a national level).
- Promotion of the local industry (improving the transportation infrastructure and granting tax incentives to the zone).
- Reviving of local craftsmanship with commercial potential and activation of craft commercialization networks.
- Making sure communications work efficiently and reliably.

Strategic component No. 5: Health and society

- Improvement of public health (through a system to improve and regularly control the quality of the water, supply of running water at collective supply sources, eventually extending it to all households, vaccination campaigns, public and private sanitation services, regular and efficient waste collection and disposal service, community groups for specific initiatives, epidemiological studies in the area, initiatives for traffic accident prevention).
- Improvement of the women's social situation in the community (training women on a number of subjects, including commercial and administrative tasks).
- Designation of a plot of community land for recreational and sports activities (cooperation of sports clubs, community authorities and the population).
- Establishing services to promote the employment of young people and tending to the elderly.

Strategic component No. 6: Environmental education

- Revival of traditional ceremonies and celebrations related to the natural resources (obtain the cooperation of the council of elders and provide assistance to them).
- Involve children in activities that value and preserve the local culture and traditions (improve pre-school and elementary education programs, provide training to teachers on the value of the traditions related to the conservation of natural resources: holy forests and water springs, etc.).
- Inclusion in the educational curriculum of the topic involving the sustainable and equitable management of natural resources.
- Promote ecological groups conformed by teenagers.

Strategic component No. 7: Public infrastructure

- Improve the access routes that communicate watershed communities and these with the outside.
- Build and maintain drinking water and irrigation systems for watershed populations.
- Establish sanitation plans for watershed communities, including effective drainage systems.

2.7 Phase 7. Allocation of resources and schedule of activities

This is the part of the plan where financing arrangements are established. Upon completing the definition of activities, then the human and financial resources, as well as the schedule of activities, on either a quarterly or semi-annual basis, should also be defined. In a management plan where the gender equity approach has been mainstreamed, the schedule of activities becomes an essential instrument to verify the activities carried out by each component and establish the necessary coordination to follow up the activities undertaken.

This section focuses on how important it is for the institution the allocation of human and financial resources from an equity-building point of view, as well as the necessary conditions for resource definition:

*It should
be ascertained
that*

- The female and male staff is equitably distributed throughout the most important areas involved in the execution of the management plan.
- The staff selection policy considers gender-related criteria and assigns priorities to gender-sensitive and knowledgeable people.
- All personnel undergo permanent training on gender equity topics.
- At least 30% of the budget is allocated to activities explicitly oriented towards gender equity.
- Resource allocation should contemplate criteria regarding rationality, contingency precaution, and implementation of coherent and coordinated activities for plan execution.
- Plan evaluation could be an instrument whereby resources could be reallocated where necessary.

The following technique illustrates in a simple manner the joint elaboration with local populations of an action plan defining the projects, activities, resources required, people responsible and schedule of activities.

Matrix of the action plan

ESTABLISHING THE NURSERY	ACTIVITY	SUB-ACTIVITY	RESPONSIBLE DATE								
			J	F	M	A	M	J	J	A	
				① Preparation of the land and fencing in	-Nursery committee: Juan, Ignacio, José, Arnoldo, Elsa, Diego	■					
② Preparation of seed boxes	-Nursery committee and Youth club	■									
③ Bag filling and Youth club	-Nursery committee		■								
④ Sowing	-Nursery committee and Youth club		■								
⑤ Watering, cleaning, and fumigating	-Nursery committee			■	■	■	■	■	■	■	■
⑥ Preparation of sowing	-Nursery committee plot and Youth club					■					
⑦ Planting	-Nursery committee and Youth club								■		
⑧ Training on grafting	-Nursery committee and NGO			■							
⑨ Information meetings with forestry official	Juan		■			■				■	

Source:

Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective:

To establish in a participatory manner what is needed to develop each of the projects defined in the management plan. After the tasks or activities have been defined, participants should move on to specifying the resources needed, responsible persons and implementation dates.

Materials:

Flipcharts, masking tape, markers.

Procedure:

Step 1. Present and agree on the working methodology. Agreement should be reached on the format of the matrix, the symbols to be used to represent the projects and activities and the time units to be used.

Step 2. Complete the matrix based on the information generated and agreed upon by the group.

Step 3. At the end of the exercise it would be convenient to check it together with the group and briefly discuss it. The action plan is very important, as it guides the implementation and monitoring of each of the management plan's projects. Since it is usually elaborated with a small group, the proposed matrix should be checked and discussed by the stakeholders involved prior to its approval.

Example

In case the management plan of the watershed has already been elaborated and in the event this planning instrument has not considered the gender equity approach, and there is no availability of human or financial resources to undertake a complete revision of the plan, it would be advisable to prepare an addendum to the management plan bearing the same legal status. The addendum should clearly state the commitment to promote gender equity and an action plan should be prepared to this end, so the document should explain the actions and measures to be taken, the timeframes involved, people responsible and resources for implementation purposes.

Addendum

"Commitments and action plan to mainstream the gender perspective into the Watershed Management Plan"

- **Objectives.** *General and specific. Short-, medium-, and long-term.*
- **Strategies or programmatic courses to mainstream the gender equity perspective.** *For example: setting up of a gender information system; increase in the number of women who participate in decision making; implementation of institutional procedures and entities to promote the gender equity perspective in the watershed; elaboration of conservation projects for women.*
- **Activities.** *To each strategy or programmatic course should correspond one or more activities. For example, to set up an information system, the activities planned could be: bibliographical revision of gender-sensitive information systems; training courses for the staff of the management agency and the stakeholders, and design of tools to collect gender information (questionnaires, surveys, interviews, focus groups).*
- **Responsible people, resources and schedule of activities.** *There will be one person responsible for each action, who will possess the means to carry out the new activities and determine the time period required for each one. Care should be exercised not to assign the activities to women based only on the premise that simply because they are women they are capable of taking on the tasks. It is just as important to make sure the activities do not overburden the workload of one person or a group of people.*
- **Resources.** *Based on the premise that the gender equity perspective was not mainstreamed into the Watershed Management Plan, it is quite likely that no financial, human and material resources will be available for these new activities. It will be necessary for each area to reassign part of its resources for this purpose, while immediately starting to seek financing. The resource search may be part of the action plan.*

3. Ideas to promote equity

The development of the management plan through its components, projects and specific activities, may offer a wide range of alternatives to the people of watershed communities. This is an opportunity to promote equity if the participation of women, older people and youngsters is encouraged and prioritized. Following are a few examples of activity proposals to illustrate the promotion of a management plan:

a) Studies, scientific research and resource monitoring

In the communities there always are people, usually older women and men who possess great knowledge about the resources existing in the area. Through previous training, they could be excellent specimen collectors, could participate in inventory taking, in water quality surveys, recovery of knowledge about the qualities of medicinal plants, etc. Into this last activity could be incorporated the traditional shamans or simply the women who regularly use these plants. In connection with monitoring and surveys, there is a large number of systems and tests to monitor the quality of water, soil or air, which could be carried out by the women of the communities, through prior training, and without having to resort to highly specialized laboratories (for example: the test to determine the absence or presence of contamination in the water or paper strip test (P-A), hydrogen sulphide (H_2S)²).

b) Management of natural populations

Management of species in danger of extinction or that have lost their habitat, as well as certain projects that constitute an alternative source of income for human populations, open opportunities to incorporate women and older people into the benefits derived from these projects. There are some countries where the successful management of species like deer, crocodiles, butterflies, camels, elephants, fish, turtles, llamas and alpacas, has derived not only economic but also ecological benefits.

c) Protection, vigilance and administration

The women, children and elderly people conform groups that, in general terms, have greater permanence in the rural zones. This characteristic allows them to participate in watching over close seasons control, restrictions and quotas. The incorporation of young children into conservation initiatives is advisable, given the long recovery and restoration cycles of the ecosystems, as a result of which, during their teen years they will most likely take responsibility for them.

2. For additional information on these tests, please refer to "Guidance Document for Sample Collection and the Use of Commercial Presence-Absence (P-A) Tests for the Bacteriological Analysis of Drinking Water". Ontario: Laboratory Services Branch, Ministry of Environment and Energy, 1997.

There are some administrative functions that can be carried out by female technicians and professionals. Through training, women may also develop skills such as accounting control, information management and systematization, resource negotiations or relations with local authorities, etc.

In Brazil, the Bahía de Sol women's association has undergone training in all steps involving IBAMA (governmental environmental agency) registration. This knowledge enables them to help the fishermen to obtain the permits required for all rural people engaged in fishing activities (Manshy, taken from Yemayá, 1999).

d) Payment for equity-promoting environmental services

One of the topics of international debate is the payment for environmental services. One strategy consists on having the consumers (at a local, national and even international level) pay for the services provided by forest zones. Among these services is the carbon fixation or capture and payment for resources like water, that are produced in the forests.

Under this concept, the challenge consists on carrying out actions to promote equity with respect to the benefits derived from the payment for these services. For example, a commercialization strategy in payment for environmental services could ensure allocating a percentage to indigenous and farming women as direct beneficiaries of this type of initiatives.

The Government of Costa Rica has promoted compensation for carbon fixation with a few developed countries. The payment obtained for these environmental services is transferred to the communities in accordance with the area of forests preserved, planted or recuperated. During the period 1996-2000, the Ministry of Environment, in coordination with that institution's gender office, established that part of the funds obtained for environmental services should be allocated to equity promotion activities in beneficiary communities.

e) Women's participation in fire prevention and reduction

Forest fire prevention and control of agricultural field burning are prevention activities particularly applicable to watershed management. Women may also promote the substitution of agricultural field burning for other types of practices: participation in zone mapping to control forest fires and agricultural field burning.

f) Women's participation in coordination venues

The conformation of coordination venues in the watersheds is essential to reach agreements among the different social stakeholders, given the fact that their interests, demands, needs and expectations are not only different, but may also constitute a reason for conflict. Therefore, women's representation in watershed committees, underground water boards, drinking water committees, etc., on an equal footing with men is essential to build more equitable processes in the watershed, as this enables women to be taken into account in the decision-making processes undertaken in connection with resource management purposes.

g) Environmental training and education

Most of the management plans include the environmental education component. The gender equity approach may be included in this component in two ways. First, by including in the environmental education programs a reflection about how a MPGP may be an opportunity for gender equity promotion, and secondly, by incorporating women into the activities derived from this component. In connection with training, women should be taken into consideration as training subjects in order to enable them to participate in the watershed's negotiation processes as well as in the monitoring and evaluation activities of the management plan.

h) Appropriate and efficient technologies that help reduce the women's workload

Much of the women's working hours are spent on activities where impact could be made to reduce the amount of time and resources invested. Some of the actions could be directed towards the water, firewood, medical services (doctors' visits to the communities), childcare facilities, etc.

i) Credit

The access to credit is extremely important for female activities where the lack of, insufficient or inappropriate credit, poses a limitation to their development as well as the profitability and income obtained. However, consideration should be given to the fact that, because of their gender condition, women usually have no assets to their name, which excludes them from credit facilities. Thus, one possible alternative is to include in credit portfolios non-traditional guarantees or pledges such as stoves, jewelry, sewing machines, smocks, etc.

j) Non-traditional activities

The ideas and beliefs about what is and should be masculine and feminine are also evident in the assigning of certain activities to the men and the women. It is common for professions and activities such as nursing, cooking or secretarial work to be assigned to the women, whereas others like engineering and mechanics are considered masculine activities. These stereotypes hinder modifying opportunity inequalities between women and men.

The participation of women in trades commonly assigned to the men is known as non-traditional activities. Some of these are very appropriate for the rural zones. For example, the tourism sector could very well be an innovative field for non-traditional occupations, by training women as submarine guides, ecotourist path drivers, or boats and kayaks in coastal zones, parking lot concessionaires, and other tourism-related services such as animals used as transportation means, restaurants, information modules, tourist shops, lodge administrators, mechanics for boat, car and other vehicle repair.

There are other options derived from projects linked to the productive use of resources without affecting the ecosystems, such as plant gathering for medical or commercial production, like the Bach flowers, potpourri, or aromatic herbs, the production of natural dyes, sale of ferns or other plants, fibers and skins of marine species for craft production.

k) Recycling and organic production enterprises

There are successful experiences regarding recycling enterprises operated by women who are collecting, processing and selling products such as paper, aluminum and plastic.

An elephant park in Thailand is determined to further exploit the resources and is raising funds by making paper using elephant manure. The project was granted to a group of women from the Ayutthaya park, located 80 kilometers North of Bangkok, who extract fibers from the animals' excrement to dry them and make them into paper, using the remaining nutrients as fertilizer. Women call this the "golden excrement" because of the income they have obtained from paper sales.

Organic crops have gained popularity over the past few years, but a certification is required to add market value. Women could be trained on and work inspecting farms and the processes involving the production of organic products: learning, developing and promoting new practices to improve soil fertility through the production of organic fertilizers or the use of green fertilizers; installation of women's enterprises for the

production of organic materials such as insecticides, fungicides, or their incorporation into biological pest control practices. Women-managed cooperatives for the commercialization of organic products and organic food restaurants are other possible options.

l) Concessions, permits, land tenure and inheritance to women

There are very few groups of women or individual women who are considered as concessionaires of forestry or coastal marine resources. Processing of this type of benefits is vital to enable women to participate in equal opportunities. The same applies to land tenure or inheritance (property is bequeath to the older sons), for which reason it is extremely important to establish mechanisms to reduce these inequalities and pursue legal modification.

Women should be consulted and taken into consideration regarding the relocation of productive lands or housing zones. Mechanisms should also be established to guarantee that indemnification payments are equitably reported within the households, which should include the women who are household heads or who are responsible for the land (even if they are not owners) in the absence of the formal owner.

Permits, concessions and listings involving the legal use of resources and geographic zones should explicitly recognize the activities conducted by the women, whether for collection or self-consumption purposes.

m) Development of literacy campaigns

These are important in combination with training on rights, legislation, gender, sexuality and topics related to the appropriate and sustainable use of the resources.

Literacy guides are designed in a strategic manner, so that the messages used to learn how to read and write are related to the rights of the women, the non-traditional roles, domestic violence prevention, possibility of access to resources, minimum sizes for the collection of certain species, fragility of the marine ecosystems, the role of the mangroves in the food and reproductive chain, and reproductive health.

n) Other equity promotion activities

It should be recalled that gender relations are expressed at individual as well as group levels. When these relations are modified, very important changes take place in peoples' lives: at the level of task distribution within the household, arrangements between couples, relations with daughters, sons and other relatives; access to monetary income, social recognition, personal appreciation and self-esteem.

The incorporation of a woman into a conservation project that will bring her income and require her to spend some time working outside of the household might entail a real revolution within her household, including conflicts or additional work burdens. Therefore, it is important that,

simultaneously with the above-mentioned participation and training activities, actions are included to help prevent and mitigate the conflicts arising from any situation of change. To this effect, meetings, workshops and reflection campaigns should be conducted to address topics such as intra-household violence, reproductive health, the rights of women and men, the forms of rearing and educating boys and girls, and the equitable distribution of household work.

CHAPTER V

Gender-sensitive monitoring and evaluation system for a watershed management plan

This chapter includes the following sections:

- 1. Monitoring and evaluation systems in watershed management projects*
- 2. How should a gender-sensitive monitoring and evaluation system be established?*

It is necessary to respond questions like: What progress, achievements and impacts derive from the actions, strategies and processes established in the watershed's management plan? What weaknesses have been found throughout its implementation? What benefits and costs have been perceived by the women and men who dwell in the watershed? What progress has been

made regarding gender equity? This could help the organizations, municipalities or communities responsible for the implementation of watershed management plans to learn how much progress has been made towards the achievement of the objectives and goals established, as well as to measure the effectiveness of their operation.

The search for answers to the above questions is no easy task. It requires the design and inclusion of a monitoring and evaluation system. This is of the utmost importance given the complexity and the different levels of intervention of the management plan's actions, and planning of the monitoring and evaluation system as a dynamic and participatory process that is an integral part of the plan since its formulation stage. Monitoring and evaluation are mechanisms involving information, follow up and control about the activities and results of the management plan. The difference lies on the timeframe. While monitoring is a regular, continuous process system, evaluation is a precise activity that takes place either in the middle or at the end of the process. It may be said that monitoring is a regular activity within the execution of the management plan, while evaluation is an activity for the management plan of the watershed (Espejo and Van der Pol, 1994).

Monitoring helps to learn about what is happening and allows identification of the changes achieved with respect to equity, participation and sustainability.

Evaluation consists on determining the benefits obtained and the identification of the problems, limitations and barriers that have made difficult the achievement of the objectives. The evaluation allows quantification of the extent of the change, as well as a comparison against the projections. It also allows visualization and interpretation of the reasons explaining whether or not the management plan's objectives were achieved and why (Hernández, 1993).

In this chapter a methodological proposal will be developed to measure the scope or promotion of gender equity throughout the activities promoted in management plans, particularly related to activities dealing with water resources and sustainability. Annex 2 shows a list of indicators that may be used to measure the progress made by the other components of the management plan.

1. Monitoring and evaluation systems in watershed management projects

In watershed management, the most important elements that traditionally define the monitoring and evaluation system refer mainly to following up the achievements of watershed regulation and management projects. These systems have been classified in accordance with several criteria: **the objective**, where the validity, implementation efficiency, and achievement of project objectives is evaluated; **the level of participation** of the population, whether traditional or participatory; **the stage of the project** where monitoring is applied: initial, intermediate or continuous, terminal or post-terminal; **the location of measurement**: at the spring or at the mouth of the watershed and, finally, according to the **area** covering the monitoring system: farms, communities, micro-watersheds, watersheds, state, province or country.

Experience has shown that certain monitoring and evaluation systems have failed due to lack of motivation and interest on the part of either the people responsible for field data generation, or those who transmit or use it. They have also failed due to poor organization and training of the people involved in procedure application. To avoid these problems, it is necessary to consider the design of monitoring and evaluation as a broader process incorporating the open participation of all people and institutions involved in the watershed.

Principles

This book is based on three basic principles:

- Watershed management provides opportunities to promote equity.
- Equity is an essential condition to achieve development sustainability.
- Community participation invigorates the construction of sustainability and equity processes in watersheds.

Thus, the objectives, components and operation of the management plan will not be exclusively focused on biological aspects, but also on the integration of social and gender-related aspects. Therefore, the management plan's monitoring and evaluation system should not only evaluate the effectiveness of its impact on the conservation of the watershed's resources, but should also be able to provide information on the progress and achievement of goals such as quality of life, promotion of participation, equity and the development of local capabilities.

To this effect, we should be aware of the fact that in the various watershed conservation initiatives, the efforts made towards gender equity mainstreaming are weakened or lost due to the unavailability of a monitoring and evaluation system that highlights the achievements and guides the construction process towards equity. Fear emerges about the possibility of not doing things well, which often times results in restricting the actions to the numeric incorporation of women.

If, on the contrary, the process is planned in terms of specific periods of time and goals, with a monitoring and evaluation system that guarantees compliance, then the people working within the organizational body, committee or structure responsible for plan coordination or execution and the various stakeholder groups, become strengthened and empowered.

The results, activities, criteria and indicators are the point of reference for the monitoring and evaluation system. These should be formulated in a participatory manner, and the data collected should be **disaggregated by sex**. The participation of both, women and men, will not depend only on the awareness and will of the team responsible for plan management execution, but will also be integrated into the objectives and strategies of the management plan.

The design of a gender-sensitive monitoring and evaluation system should be included in the initial planning stages of the management plan and the baseline studies because of the following reasons:

Reasons

- It is established from the start of the management plan in the objectives, goals, activities and components.
- Monitoring and evaluation costs are included in the budget.
- The monitoring and evaluation system should be constant, permanent and systematic.

At the beginning the system feeds on the baseline study and the appraisal, which results could be called "**analysis of the initial situation or context**"¹, as it offers a reference about the status of gender relations within the different stakeholders and about the organization of resource administration in the watershed when the process initiated. As the various stages for plan management elaboration are carried out, the monitoring

1. Chapter III of this book includes the items to be considered in the appraisal.

and evaluation system is shaped up and informed. Therefore, the system is not conceived merely as a part or section within the cycle of plan elaboration, but rather as a mainstreamed element that will be present throughout all the stages.

Obstacles

- *The efforts undertaken towards structuring gender-sensitive monitoring and evaluation systems in conservation initiatives, have confronted a series of theoretical-methodological distortions and obstacles, like for example:*
- *A prevailing notion that making evaluations from a gender perspective is complex, that they should be carried out by specialists, that it is hard to make approximations and it is impossible to change the power relations system.*
- *The qualitative aspects are rather unscientific and hard to measure and, thus, it is not possible to elaborate follow-up instruments.*
- *The lack of starting points. Monitoring and evaluation systems are expected to be created without gender-related indicators, criteria or elements to analyze the aspects where impact is expected. In the absence of indicators to measure the changes expected on gender identities, roles or relations, it becomes harder to measure such changes, which, in general terms, end up as poorly supported assessments.*
- *The lack of anticipation of measurement elements with respect to the men's positive or negative changes.*
- *It is believed that the inclusion of gender poses a threat to the culture and customs of a region or community, disregarding the fact that any initiative or project offers options to change attitudes and abilities.*

(Source: Rodríguez, et. al., 1999)

2. How should a gender-sensitive monitoring and evaluation system be established?

According to Rodríguez, et. al. (1999), the design and implementation of a gender-sensitive monitoring and evaluation system requires taking into consideration the following basic steps, which should be adapted to the conditions and needs of each particular watershed.

- Definition of objectives and commitments.
- Selection of participants.
- Indicator building:
 - Scale of performance
 - Gender indicators
- Data gathering tools.

- Data analysis, report elaboration and data returning.

Following is a detailed description of each of the steps involved and examples will be provided to allow understanding how the monitoring and evaluation system would be established.

Definition of the objectives and commitments of the system

As mentioned in the previous chapter, the monitoring and evaluation system is established ever since the plan is under elaboration. The definition of the objectives of the monitoring and evaluation system should take into consideration whether the system will clearly evaluate and measure the validity, efficiency or goal achievement with respect to aspects such as equity, participation and sustainability. The institutions or bodies created to implement the plan must be committed to the monitoring and evaluation process, since its development entails making decisions that might affect the planning, the focus of the actions, the relocation of human resources and budget allocations.

Selection of participants

The participation of people varies according to the system to be used.

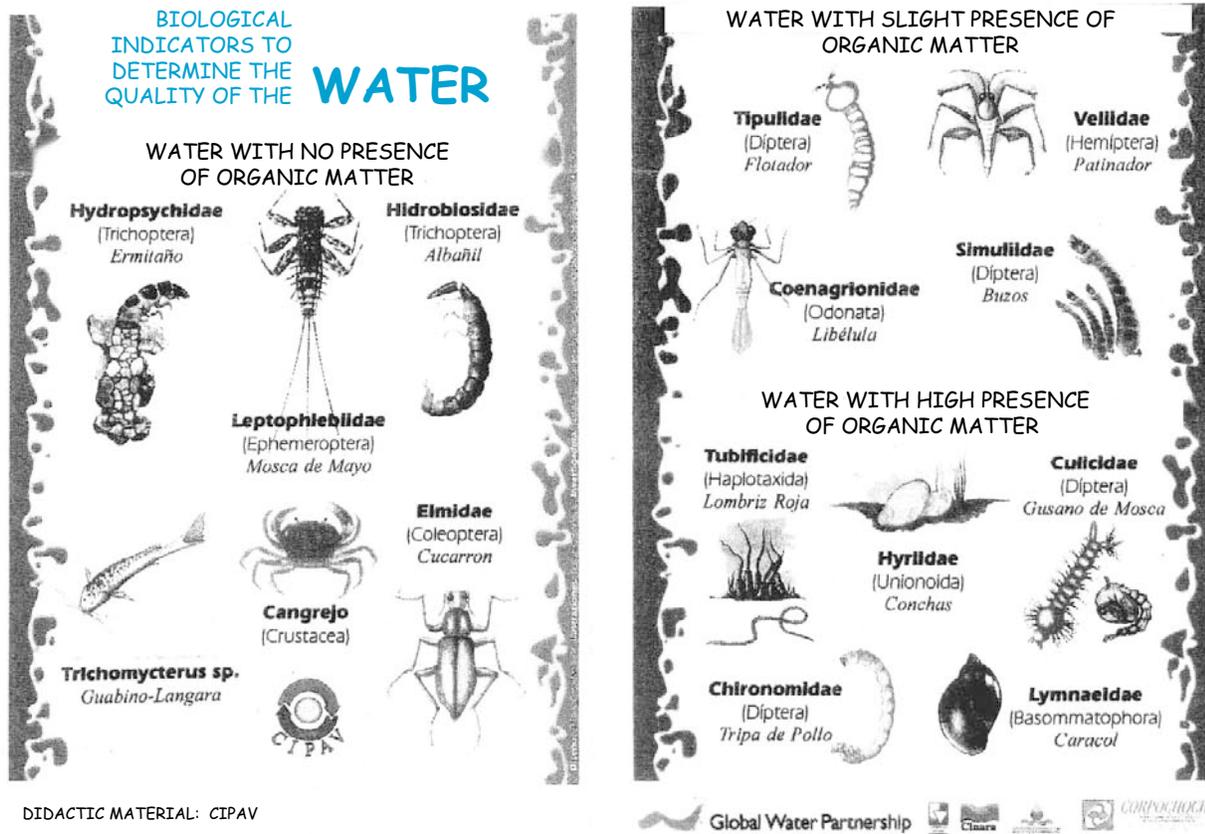
For example:

If the system is to be built in a participatory manner, the participating groups should be identified in accordance with the objectives of the management plan. In this sense, the means used for group summons are also important, since participants are summoned to a workshop that will be conducted to build a monitoring system, and this could have an adverse effect on the group, on account of their ignorance on the subject. It is advisable to present the session as a way to learn about the progress and relate it to activity follow up.

Likewise, if community members are expected to participate in data gathering, they should be trained accordingly and easily handled monitoring mechanisms should be established. Following is a simple example about biological indicators to determine water quality:

INTEGRATED OPERATION ABOUT THE WATER QUALITY OF THE EL CHOCHO MICRO-WATERSHED

BIOLOGICAL INDICATORS TO DETERMINE THE QUALITY OF THE WATER



If, on the other hand, a watershed committee or staff of the implementing unit of the management plan designs the system, alone or with the help of community representatives, it is necessary to accurately identify those who will be summoned to design the monitoring system and, subsequently, who will participate in data gathering. There are times when a tendency exists to call upon the same people of the community, at the risk of strengthening the concentration of power and "traditional leadership". It should be recalled that most women have no participation in decision making and do not hold formal power positions in the communities, though they hold informal power venues linked to the school or the church.

It is essential to keep always in mind the general objectives of the management plan, in order to select the best way of establishing the system and the participants. Consideration should also be given to the active involvement of women in the definition of the variables and indicators to be monitored, as well as on data gathering. The water and sanitation projects implemented through watershed management plans, where women have been assigned to these activities, have generated processes whereby their autonomy and personal power have been strengthened with very important results regarding the impact achieved in the communities.

Building of gender indicators

Gender equity indicators are constant signals or reminders throughout all phases and levels, about the progress being achieved towards equity and equality between women and men, as well as how a policy, program or a specific project contributes to such progress or decline. They measure the achievement of objectives and policies, programs or projects. They also serve as instruments to analyze weaknesses and strengths throughout the planning process, execution, evaluation, and follow up of policies, programs or projects (Escalante, et. al., 2002).

A successful monitoring should be precise and limited to the essential

When defining the indicators, it is essential to refer them to the priorities established by the initiative. For a successful operation, monitoring should be global, precise and limited to the **essential**. Monitoring could encompass all plan components: objectives, results, activities, procedures and means. However, maintaining such a complex system will require large amounts of time, for which reason it is necessary to assign a priority order to a reasonable number of variables to be monitored. There are certain instances where the system will require establishing the location of measurements like, for instance, at the basin, farms, micro-watersheds or the lower part of the watershed; or it will include variables to monitor watershed committees and community water management.

Undertaking an excessively quantitative monitoring where priority is assigned to the figures, could lead to a "data cemetery" in terms of having figures for most of the activities and expected results, but without having the opportunity or capability to analyze and interpret them. Therefore, the indicators selected for the monitoring system are closely linked to the objective expected to be achieved. Thus, the system should select the activities that better reflect the progress. It is also necessary to take into account the fact that the system may be applied at different points in time (beginning, intermediate or continuous, terminal or post-terminal) or at intervals; for example, certain indicators may be selected for the first semester, while others are added in the second semester. Thus, the evaluation has vital information to measure the progress made regarding equity relations and sustainability.

The rhythm of the monitoring system should be in keeping with the needs of the plan. If it is too slow, the end result will be that the data will not be readily available when needed for decision-making purposes. A vital principle is to focus on the essential and establish **clear priorities**. "More or less exact and quickly is better than accurate and too late". Attention should be paid not only to quantity, but also to quality and participation.

To this date, watershed monitoring and evaluation methodologies have mainly focused on providing information, primarily about biological, biophysical, economic and social aspects. Yet, no instruments are available to evaluate the effectiveness of the actions undertaken by the management plans towards making visible the process involving equity and equality building between women and men.

Aware of this reality, we have focused on proposing a series of gender equity indicators and criteria that may be considered by those responsible for and involved in the elaboration and operation of watershed management plans.

It is also important to build indicators suitable for each one of the phases. The elaboration and operation of management plans for watersheds should, for example, consider the active participation of the diversity of social stakeholders in indicator follow up and evaluation (Escalante, et. al., 2002).

To select appropriate indicators to evaluate and follow up a gender equity and equality approach in processes involving elaboration and operation of watershed management plans as well as management of water resources, the authors propose the following criteria²:



Criteria

Effectiveness

Effectiveness refers to optimum, hygienic and consistent use of the facilities related to the water resources in watersheds, to take maximum advantage of the benefits and minimize the long-term negative consequences. This criterion conforms to the following variables:

Optimum use

Refers to the use of facilities to maximize the economic benefits, avoiding negative short- and long-term effects on the environment.

Hygienic use

For water systems, hygienic use is the maintenance or improvement in the quality of drinking water after it has been taken out of its source.

Consistent use

Refers to the use of facilities, through daily or seasonal cycles, during their useful life, even if the use may not be the most convenient.

2. Naravan, Deepa. *Goal and Indicators*. New York: UNDP, 1989.

Sustainability

Sustainability is the ability to maintain efforts and derive benefits both, at a community as well as institutional level, avoiding the negative effects on the environment, even after the management, financial and technical assistance phase out.

The programs or projects, especially those strongly dependent upon an interaction dynamics with the communities and other social and governmental stakeholders, are not static. It is very difficult to anticipate the special characteristics of each specific community context and plan the adaptation to all possible major or minor changes in the future. Therefore, the key to sustainability achievement is **planning for the change** or evolve in accordance to changing circumstances: changes in financial resources, natural resources, policies, interests, demands and capabilities. Thus, sustainability may be achieved by strengthening the capacity of the communities or partner institutions to evolve together with the changing environments. **Participatory** approaches and methodologies, where the women and men of the communities become actively engaged in **decision-making** processes, are vital to the sustainability of programs or projects and improve **governability**.

Sustainability cannot be achieved if efforts are not made towards building technical capacity and the trust of people in the communities and institutions in connection with tasks involving negotiation and knowledge generation. This process becomes easier if we follow a negotiation strategy that turns into a process of **continuous learning**. This type of process is characterized by promoting a **transforming leadership**, having a shared vision, applying dynamic methodologies for knowledge generation, having the capacity to generate their own resources or establishing strategic alliances and using appropriate techniques for conflict resolution. Water is a limited resource that should be used and managed wisely.

Since sustainability is a dynamic concept, it will be necessary to resort to **dynamic indicators** that specify or point out that sustainability can be maintained in a changing environment, in combination with **static indicators** whereby it will be possible to measure if, at any given time, sustainability has been achieved.

Gender-sensitive indicators

The proposed criteria and variables come from a process undertaken with different communities over the past few years. The objective has been to elaborate gender equity indicators for the environmental sector from the perspective and expectations of the men and women of the communities.

For a more detailed list of indicators and the elaboration process, please refer to the Module 6 of the Towards Equity Series: "Eyes that see... hearts that feel".

These **criteria** should be considered as a **reference** rather than as a recipe. They may be **adapted and modified** according to the realities of each watershed and to the needs and concerns of the different stakeholders. Ideally, the monitoring and evaluation system, together with its criteria and indicators, should have the participation of the diverse stakeholder groups. The indicators and criteria proposed herein have been conceived to evaluate the progress being made towards equity in watershed management. The methodological proposal is open and dynamic. It allows the inclusion, exclusion or modification of indicators and criteria according to the specific characteristics of each watershed.

Following is a list of indicators proposed from a gender equity perspective in connection with the water component and sustainability. Emphasis is placed on aspects related to water infrastructure, empowerment, participation, organization, resource conservation and inter-organizational collaboration. Usefulness lies on the possibility of consulting at which level the experience is, in cases where the criterion or indicator is adequate to the situation of the watershed.

Effectiveness indicators

Optimum use

- Increase in the percentage of female users of the water resource (with respect to the total number of users)
- Equitable amount of water used by women and men for household purposes (quantity of water used by women versus the quantity of water used by men)
- Equitable amount of water used by women and men for productive purposes (quantity of water used by women versus the quantity of water used by men)
- Increase in the time women spend making use of the facilities (with respect to the previous situation)
- Decrease in the women's work shift as a result of easier access to the water (percentage increase of the time spent on recreation, resting, creative activities, etc., with respect to the time devoted to traditional household work)

Hygienic use

- Increase in the women's and men's knowledge and application of practices to improve the quality of the water (both, women and men, know and apply practices related to water quality improvement)
- Increase in the knowledge of men and women (including boys and girls) about household and community hygiene (waste and sewage waters)

- Increase in the knowledge of men and women (including boys and girls) about personal hygiene (body cleanliness, feces manipulation)
- An integral strategy exists to improve health conditions (water, latrines, environmental sanitation, waste management, nutrition) in the watershed
- Reduction in water-borne diseases in men and women (including boys and girls)

Consistent use

- Change in the patterns of daily consumption of water of women and men: from differentiated (unequal) to equitable
- Change in the patterns of seasonal water consumption of women and men: from differentiated (unequal) to equitable
- Increase in the knowledge of women and men (including boys and girls) about the importance of the appropriate use of the water resource

Sustainability indicators

Systems installed and in operation

- Increase in the percentage of women who participate in community decision making during the system's implementation process (with respect to the total number of participants)
- Increase in the percentage of women who participate in the processes of operation and maintenance of the system's facilities (aqueducts, water wells, irrigation waterways, etc.) (with respect to the total number of participants)
- Increase in the percentage of women who participate in water resource management (with respect to the total number of participants in management)
- Increase in the percentage of women who participate in the discussion and approval of water supply fees
- Equitable percentage of women and men who participate in decisions involving water use

Competent and reliable people (community)

- Equitable percentage of community women and men possessing capabilities (skills) regarding system management, decision making and execution
- Equitable knowledge and capabilities between the men and women of the communities (more men with knowledge and capabilities to undertake traditionally female tasks and vice versa)
- Increase in the self confidence of the women and men of the communities
- Equitable percentage of women and men who benefit from credit programs
- Watershed work has enabled women to become owners or co-owners of equipment and tools for production, processing, commercialization and services associated to the natural resources
- Both, women and men, are aware of and apply the international agreements and national legislation related to equity and water use.

Formal organization (community)

- Increase in the political autonomy of women (who participate, discuss and make decisions)
- Women are active members of local management organizations or groups (attend their meetings and participate in decision making)
- Increase in the percentage of women in leadership positions in local management organizations or groups
- Increase in the number of organized women's groups undertaking productive activities in the watershed
- Increase in the groups of women legally constituted for the administration of aqueduct and irrigation systems
- Changes in the leadership styles exercised by men and women in local management organizations (more democratic)
- Greater knowledge of women and men about conflict resolution techniques
- Greater knowledge of women and men about political incidence strategies
- Equitable percentage of women and men participating in consultation/management processes involving public policies related to watershed resource management
- Most women feel as participants in decision-making processes involving the access and control of the natural resources of watersheds
- Increase in the percentage of women who participate and operate water and irrigation committees
- Increase in the percentage of women who participate and operate natural disaster committees
- Both, the women and men of the communities, are involved in scientific investigations
- Local knowledge and experience is valued while conducting appraisals and investigations
- Traditional cultural knowledge and resource management practices of the women and men of the communities are documented, fully known and used in the management plan

Conservation of the environment

- Equitable participation of women and men in environmental activities and natural resource management
- Equitable participation of women and men in natural resource management
- Women benefit in an equitable manner from the concession of water resources in the watershed
- Equitable percentage of women and men who benefit from environmental services payment
- Equitable percentage of women and men who participate in conservation and development activities
- The management plan has a strategy whereby the men and women of the watershed's communities are allowed to manage their own natural resources
- Equitable participation of women (at least 40%) and men in training on economic, technical and productive topics and issues

- Equitable participation of women (at least 40%) and men in training workshops to negotiate and manage productive processes
- Equitable participation of women (at least 40%) and men in conservation and community development workshops
- Equitable participation of women (at least 40%) and men in environmental education training programs
- Men and women receive equal support (information, assistance), on natural resource management, both, at a household as well as community level
- The men and women of the communities have equal access to information on legislation and environmental regulations.
- The ancestral (customary) rights of the indigenous people over land, water, forests and minerals ownership in the watershed, among others, are known and respected
- International agreements and national legislation on equity and water issues are known and applied by men and women
- The conservation initiatives promoted by the plan include a strategy to promote recognition of legal rights over natural resources

Inter-organizational collaboration

- Specific measures have been taken to inform women's group organizations about the implementation of projects promoted by the management plan
- Specific measures have been taken to promote the participation of women's organizations or groups in planning and decision-making processes of the management plan
- Measures have been taken to take advantage of the information provided by women's organizations or groups to modify projects or programs promoted by the management plan
- Women and men are equitably taken into consideration in actions seeking to improve the quality of the water used in the watershed
- Women and men are equitably taken into consideration in decisions involving infrastructure construction or maintenance
- Actions are coordinated with gender-sensitive organizations working in the watershed
- The organizations or institutions responsible for plan execution have a strategy or guideline to promote and apply gender equity and equality

Scales of performance

One of the most common criticisms among the projects implemented through management plans is the form and criteria used by the evaluators to measure progress and achievements. This situation becomes even more difficult when the projects have been evaluated in terms of gender equity, due to unreal and hard to achieve goals established.

Quite frequently, complains are raised about the impact indicators used, which do not reflect the reality the project was inserted into. In this sense, definition of the indicator's performance scale should be adapted to and reflect the specific reality being affected.

Another important aspect is what we call the **breakeven point**. For example, when a community is considered where there are no women participating in a community aqueduct committee, a large amount of time and resources (training, negotiations) will have to be invested to have a woman accepted in the group. The breakeven point entails an initial investment and greater value added, as it makes the difference and establishes a precedent towards more equitable relations. Therefore, it is essential to clearly explain and highlight this type of situations in evaluation reports, since there are times when it is thought that going from a 0% to a 5% is too low when, in fact, that 5% has a greater value added for being the breakeven point.

"When we came to this community, there were a series of taboos and restrictions for the women to participate in community aqueducts; in fact, there was not a single woman involved in this type of community structure. Through the project's support, strong efforts were made to modify this conduct, and by the end of one year, we have succeeded in having two women involved in the aqueducts' board of directors. When the project underwent its external evaluation, the evaluators used as indicator 40% of women's participation in power positions. Obviously, the project obtained a poor evaluation" (Aguilar, et. al., 2002).

Performance scales are created to avoid this type of situation. A scale is built as of a certain number of equal parts, in proportion to the units that will be used. It is necessary to define the performance scale to measure the progress made towards objective achievement. In this case, the indicator proposed is placed on one row with three or four possible valuations established by the group, in order to measure how close equity achievement is. Each experience will verify the current level of the indicator in order to determine the actions needed to correct and increase its effectiveness from a gender equity perspective. This makes possible the creation of a reference number about its situation to be compared across time or with other management plans.

A scale for this indicator could be defined as follows:

For example:

**Increase in the percentage of female users of the water resource
(with respect to the total number of users)**

More than 60%	-	Excellent
From 40% to 60%	-	Good
From 20% to 40%	-	Fair
From 0% to 20%	-	Poor

The advantage of the performance scales is that these are built taking into consideration the realities surrounding the environment. This is of the utmost importance in the case of gender relations as it avoids using standard indicators or indicators created in countries that have made considerable progress in connection with the construction of more equitable relations.

A performance scale allows obtaining the most appropriate measurement. Income and value added are measured in terms of money. But health is measured based on illness and mortality rates, occupation is measured through employment, the diversity of species through species in danger, and so on. A definition is subsequently made about the levels of good and bad income, mortality rates, unemployment rates, percentages of threatened species, etc. The result is a series of performance measurements based on the same scale, for which reason it is possible to use them together and combined (IDRC-UICN, 1997).

For each indicator selected, a performance scale must be set or built. This entails defining the best and worst value.

The best values are necessarily the goals. A community where drinking water is supplied to 30% of the population should establish the best value at 45%, because an international objective is to increase by 50% the supply of drinking water by the year 2015 at a worldwide level. Therefore, it is preferable to define the best value at 50%, setting the goal at 15%.

When qualitative indicators or criteria are used, these categories could be replaced by adjectives such as:

- Hardly-a few times-generally
- Low-average-high
- Never-sometimes-always

example:

1	2	3
Women and men (including boys and girls) HAVE A LOW LEVEL of knowledge about the importance of the appropriate use of the water resource.	Women and men (including boys and girls) HAVE AN AVERAGE LEVEL of knowledge about the importance of the appropriate use of the water resource.	Women and men (including boys and girls) HAVE A HIGH LEVEL of knowledge about the importance of the appropriate use of the water resource.
In community organizations women NEVER participate in decision making.	In community organizations women SOMETIMES participate in decision making.	In community organizations women ALWAYS participate in decision making.

For criteria where the indicator can only be measured according to its compliance or lack thereof, the intermediate level does not apply.

example:

The organizations or institutions responsible for the implementation of the plan have or do not have a strategy or guideline to promote and apply gender equity and equality.

The proposed system does—by no means—expect to be comprehensive. The fundamental objective is to contribute ideas and suggestions from the gender equity perspective to analyze the reality and understand its changes³. Therefore, the staff responsible for the execution of the management plan should revise the proposal from a critical point of view, to allow them to:

1. Understand the feasibility of integrating indicators to measure gender equity into their monitoring and evaluation system.
2. Adapt work mechanisms and formats to integrate the gender equity perspective.
3. Make a selection of the indicators that are best suited for the specific situation.
4. Design special indicators, considering the above examples, to better reflect and report the changes applicable to their specific situation.
5. Prioritize the indicators. A monitoring and evaluation system should basically be agile, practical and integrated as part of the plan's monitoring and evaluation system.

3. The physical or biological criteria or indicators for watersheds have been elaborated by organizations like FAO and EPA but have not been included to avoid repeating or making unnecessarily extensive this section; those elaborated by FAO may be looked over in Annex 2, regarding which the gender equity approach has been incorporated for additional information purposes. To this effect, the reader should complement the latter, which could correspond to different components of a watershed management plan, with those included in the methodological proposal of this book. Thus, the effectiveness and sustainability monitoring and evaluation system will be based on balanced biophysical, administrative, social and equity criteria and indicators.

Data gathering tools

The selection of data gathering mechanisms and instruments is largely dependent upon the indicators selected, the areas of the system, time availability, the skills of the work team and the resources and technology available. To gather data of better quality and usefulness, it is important to identify at which point the data may be recuperated.

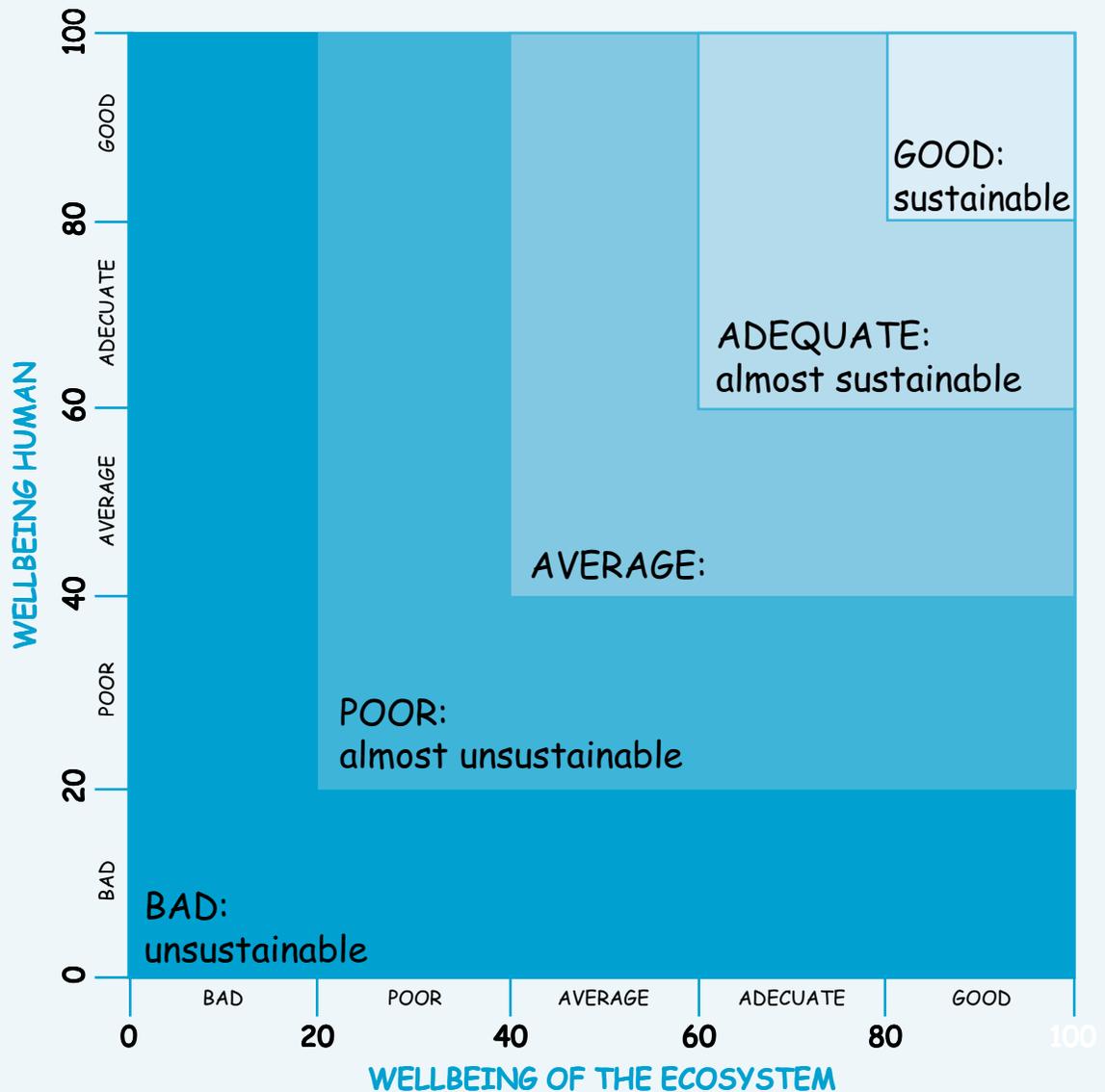
Example of monitoring based on gender indicators for water projects

Monitoring areas	General mechanisms or instruments	Specific gender indicators
Work execution	Minutes of community meetings Wage control sheets, material reception, initial payments, etc. Reports from the works' and supervisor or community promoter.	-Technical training of men and women -Facilities for female household heads regarding wages and contributions -Acceptance by men and women regarding the design and level of service -Appropriate information (content channels) to men and women.
Community management	Revision of minutes book Treasury control, warehouse control Water boards training	-% of women and men who attend meetings -% of women and men according to positions held in the committee -% of women and men in training events -Payment capability according to female and male household heads -Women's and men's responsibility in administrative tasks
Operation and maintenance	Control sheets on the system's technical and operational issues Operators' reports Meetings dealing with the system's operation	-% of women and men (plumbers) -% of women and men who are pleased with the service level of the system (complaints) -Actual hauling time of women and men
Water use	Household observations Portable laboratory equipment Measurement about the degree of contamination Community meetings	-% of women and men who accept and like the quality of the water -% of women and men informed about the the contamination risk involved in water storage -Also the water hauling and distribution indicators by sex

(Source: Espejo andy Van der Pol, 1994)

Two data gathering techniques are shown below:

Sustainability barometer



Source:

IDCR-UICN, 1997. Un enfoque para la evaluación del proceso hacia la sostenibilidad. Serie herramientas y experiencias de campo. Gland: IUCN Publications Service Unit, 1997.

Objective:

The objective of this tool is to enable a project participating population to analyze their quality of life at a personal as well as environmental level. It seeks to strengthen the idea of working in a parallel manner the human wellbeing and the ecosystem's.

Materials:

Markers, flipchart paper and tape.

Procedure:

The idea about the barometer is presented at a community meeting, drawing a vertical axis and explaining that the axis represents all the people that conform the community, women and men of all ages.

Divide the line into five sectors from the bottom on up, and name each sector with a category of a quality of life, for example, from bad (placed at the bottom) to good (at the top), using words contributed by the participants. Allow the group to discuss and analyze each category to make sure a similar interpretation exists about the meaning.

Then, draw the horizontal axis, explaining that it represents the ecosystem. Divide the line into five sectors from left to right, identifying, again, each sector with a category, only that now it should relate to the wellbeing of the ecosystem, from bad (left) to good (right), using the words contributed by the population. An analysis should also be conducted about each category.

Ask the participants: Where are they located on the human development scale? Consideration should be given to elements about the condition of life, fulfillment of basic needs, both for women and men, access and ownership of housing, access roads, access to drinking water, health, work, land tenure, as well as social and organizational aspects like democracy, full citizenship, equitable political participation, expressions against intra-household violence, local government representativeness, partnership capability, coordination with other groups, etc.

Gender differences might be expressed when attempting to specify in which category the community situates itself. Should there be no consensus, point out the different categories proposed by each one of the groups.

Repeat the same process to identify the condition of the environment or ecosystem where the participants live. The community's initial location is the point where both lines meet, as shown on the following example.

The exercise could be repeated thinking about the past, and specifying a certain period of time (one year, five years, ten years) to analyze development trends. The future could also be analyzed, by identifying the direction towards which the efforts of the people and the community are directed.

A method that could be used at a community level is the planning, monitoring and evaluation matrix.

Monitoring and evaluation planning matrix

Activity Sub-activity	Indicators	Verification means	Responsible	Timetable
Aqueduct Construction				
1. Location of construction of the well	Number women participating in the construction Number men participating in the construction	Wage control sheets	Construction committee	May

Source: Geilfus, Frans. 80 herramientas para el desarrollo participativo. San Salvador: PROCHALATE-IICA, 1997.

Objective: To establish a planning matrix for the participatory monitoring and evaluation process. This process should be repeated at given intervals. The matrix should summarize the actions to be undertaken, the people responsible and the timetable.

Duration: Two to three hours.

Materials: Blackboard, paper, markers, cards, tape.

Methodology: A session is conducted with project participants. During the session a matrix will be established indicating the different activities and expected results, how will this be measured (indicators), who will measure (responsibilities), how will it be presented (products) and when will it take place (timetable).

1. Analysis about the participants and the group's situation: "what do we know about the different stakeholders of the project and their responsibilities?" Participants may work in groups or in the plenary using cards to write down the opinions of each participant.

2. Analysis about the expectations and fears regarding planned activities: "Which are our expectations (expected results) and our fears (potential problems) about the project? This allows broadening the vision and enhancing indicator search. Stimulating guides may be used.

3. Indicator analysis: "How can we observe the progress made and the impact on the activities?"

4. Analysis of monitoring responsibilities: "Who would have to watch over the different indicators?" At that level should a decision be made as to whether a follow-up committee will be conformed and who will be the members?

5. Analysis of monitoring tasks: "When will monitoring and evaluation take place, and what results are expected?"

Work reports

One of the work forms most frequently utilized by projects is the elaboration of field trip reports, reports on visits to groups, or work reports. Any mechanism utilized by the organization or project should provide the information disaggregated by sex, thus contributing to the monitoring system.

Following is an example of a report used by the projects:

Monthly report													
AREA:			RESPONSIBLE:			DATE:							
Objective	Goal	Unit	Prog.	Exec.	%	Analysis of results							
						Context for women and men		Effect on women and men		Measures for women and men		Projection second semester	
						♀	♂	♀	♂	♀	♂	♀	♂

Information processing and analysis, report elaboration and data returning

The channels through which information is collected and processed should be well defined. The selection of the processing method depends directly on the type of indicator used, the measurement technique utilized, and the person who conducts the monitoring. For example, the indicators related to the improvement of run-off and sediment require laboratory processing through standardized hydrology techniques. If the women and men of the communities wish to measure the quality of the water, they could be trained to measure turbidity through biological quality indicators, identify the changes in taste and smell of the water, or measure the reduction or increase in illnesses associated with the water of their communities.

Monitoring system data may be quantitative or qualitative

A few examples:

The data obtained by the monitoring system may be quantitative or qualitative. Both types of information show facts and events of relevant importance in the execution of the management plan. There are several methods in watershed management that are extremely useful to quantify the change in the magnitude of the indicators across time. Selection of the method will often times depend, among other factors, on the economic and time justification.

- a) Community workshops to evaluate the achievements and extent of adoption of sustainable management practices and progress made towards equity (ground photographs may be used in these activities-before and after the proposed actions-videos, etc.).
- b) Community evaluation on the social and environmental impact caused by the activities promoted by the management plan.
- c) Observation and measurement of certain elements that may be easily quantified in the field (reforestation, erosion decrease, increase in the number of women in boards of directors).
- d) Geographical information systems (GIS).
- e) Plots for demonstration or investigation.

With respect to the monitoring and evaluation system from a gender perspective, the analysis of indicators is elaborated in the communities together with the other organizations operating in the watershed. Each indicator is measured across time in order to verify the progress made in accordance with the performance scale established.

If the community participates in the system, it will be necessary to design the manner in which this information will feed the system and how it will be "matched" with technical data for analysis and interpretation purposes.

It should be recalled that the information contained in the reports produced based on the monitoring system, should be legible, simple, convincing, and should be submitted on a timely basis for decision making and the adoption of necessary changes and corrections.

It is also important to design how the information related to the progress made by the process will be shared with the communities. It is advisable to use simple and clear forms and procedures. When well managed and planned, this type of opportunities constitutes an essential point to define new directions or reaffirm actions. The presentation of the report should include, for instance, graphics such as tables, maps, diagrams, photographs, drawings, etc.

Listening to the change

In 1986, during the conference on drought and desertification, two satellite photos of Africa were shown, which had been taken one year apart, had cost thousands of dollars and showed the advance of the Sahara. A few weeks earlier, at the Taragma community, in Sudan, an older man coming out of his home and pointing towards the desert where a bush is occasionally seen, was telling the staff of a development agency: over there, he said, 40 years ago one could not cross riding on a donkey on the way to the market without being scratched by the bushes.

Satellite images and verbal testimonies are part of how we see ourselves and understand environmental changes. The people on the land located several kilometers below the satellite-covered area, are perfectly aware about what has happened in their community; they may be surprised by the satellite image, but this image will not tell them anything they do not already know. They have been taking mental photos all of their lives (Abbot and Guijt, 1998).

Because the management plan proposes a series of actions regarding the elaboration of specific participatory projects or implementation thereof in ecosystems like coastal marine zones or protected areas, it is advisable for those responsible for the elaboration of monitoring and evaluation systems for these activities in particular, to resort to the methodological series "Towards equity", "In search of the lost gender: equity in protected areas", or "About fishermen, fisherwomen, oceans and tides: a gender perspective in marine-coastal zones", where details may be found about the implementation of gender-sensitive monitoring and evaluation systems.

As stated at the beginning of this chapter, the monitoring and evaluation system is a mechanism of information, follow up and control over the activities and results of the management plan to help decision making. The information generated by the monitoring and evaluation system should be used to verify whether the achievements involving equity, participation and sustainability are taking place. If the results show that the plan is not on the right track, it will be necessary to undertake consultation and participatory work to make an analysis of the strategies, activities, components, budgets and other fields of action of the management plan, in order to adjust or reorient the different actions carried out up to that moment. All of the above is for the purpose of modifying whatever needs to be done towards the achievement of a sound management of the natural resources in the watershed.

ANNEX 1

International commitments with reference to women's empowerment, gender equity, poverty eradication, water and sanitation¹

Conference	International Commitments with reference to Women's Empowerment, Gender Equity, Poverty Eradication, and Water and Sanitation
<p>Committee on Economic, Social and Cultural Rights 29th session, November 2002, General Comment www.citizen.org/documents/therightowater.pdf</p>	<p>The human right to water entitles everyone to sufficient, affordable, physically accessible, safe and acceptable water for personal and domestic uses.</p>
<p>World Summit on Sustainable Development Johannesburg September 2002, Political Declaration and Plan of Implementation www.johannesburgsummit.org</p>	<p>Political Declaration Principle 18: We are committed to ensure that women's empowerment and emancipation and gender equality are integrated in all the activities encompassed within Agenda 21, the Millennium Development Goals and the Plan of Implementation of the Summit</p> <p>II Poverty Eradication 6. (d) Promote women's equal access to and full participation, on the basis of equality with men, in decision-making at all levels, mainstreaming gender perspectives in all policies and strategies, eliminating all forms of violence and discrimination against women, and improving the status, health and economic welfare of women and girls through full and equal access to economic opportunity, land, credit, education and health care services.</p> <p>10. By 2020 achieve a significant improvement in the lives of at least 100 million slum dwellers...</p> <p>(a) Improve access to land and property, to adequate shelter and to basic services for the urban and rural poor, with special attention to female heads of households.</p>

1. Fuente: Prabha, K., Pearl, R. Untapped Connections: Gender, Poverty and Water. WEDO. New York. 2003.

IV. Protecting and managing the natural resource base of economic and social development.

24. ...achieve the millennium development goal of safe **drinking water** and basic sanitation.

(a) Mobilize international and domestic financial resources at all levels, transfer technology, promote best practice and support capacity-building for **water** and sanitation infrastructure and services development, ensuring that such infrastructure and services meet the needs of the poor and are gender-sensitive.

(b) Facilitate access to public information and participation, including by **women**, at all levels in support of policy and decision-making related to **water resources** management and project implementation.

VI. Health and sustainable development.

47. Strengthen the capacity of health-care systems to deliver **basic health services** to all... and to reduce environmental health threats, in conformity with **human rights** and fundamental freedoms and consistent with national laws and cultural and religious values...

(l) Transfer and disseminate... technologies for safe **water, sanitation** and waste management... taking into account country-specific conditions and **gender** equality including specific technology needs of **women**.

VIII. Sustainable Development of Africa.

61. Achieve significantly improved sustainable agricultural productivity...

(b) Promote and support efforts and initiatives to secure equitable access to **land tenure** and clarify resource rights and responsibilities, through **land** and tenure reform processes which respect to the role of law... and enable **women** producers to become decision makers and owners in the sector, including the right to inherit **land**.

International Conference on Freshwater
Bonn, December 2001
Ministerial Declaration and Bonn Recommendations for Action
<http://www.water-2001.de/documents/conferences.asp>

Ministerial Declaration: *Gender*

Water resources management should be based on a participatory approach. Both, men and **women**, should be involved and have an equal voice in managing the sustainable use of **water** resources and sharing of benefits. The role of **women** in water-related areas needs to be strengthened and their participation broadened.

Bonn Recommendations for Action - Action in the Field of Governance

3. Promote **gender** equity.

- **Water** management policies should distinguish between water users by **gender** and should allow men and **women** equitable access to water resources, including safe **drinking water** and sanitation.
- **Water resources** management should be based on a participatory approach. Men and **women** should be equally involved in managing the sustainable use of **water resources** and sharing of benefits. To achieve equity, in many parts of the world the role of women in water management needs to be strengthened and their participation broadened.

Conference

International Commitments with reference to Women's Empowerment, Gender Equity, Poverty Eradication, and Water and Sanitation

-**Water** experts and policy makers should be trained to work in a **gender**-inclusive manner. In many places, specific support is also needed to empower **women** to take up leadership and managerial roles in water resources policies and management.

-**Water** policies and **water** management systems should be **gender**-sensitive. They should reflect the division of roles and labor - paid and unpaid - between men and **women** in all settings related to water. Data relating to water should be disaggregated by gender.

2nd World Water Forum
The Hague, March 2000,
Ministerial Declaration of The Hague on Water Security in the 21st Century
www.worldwaterforum.net/

3. The Main Challenges:
Meeting Basic Needs: to recognize that access to safe and sufficient **water** and sanitation are basic human needs and are essential to health and wellbeing, and to empower people, especially **women**, through a participatory process of water management.

5. The Actions
The actions advocated here are based on integrated **water resources** management... special attention should be paid to the poor, to the roles, skills and needs of **women**...

Securing the Food Supply

- The important role of **women** in food production, the storage and preparation of food and improvements to the nutritional value of food.
- The key role of governments in empowering communities and fostering the involvement of different stakeholders, especially **women**, in policy-development, and implementation in rural areas, thereby enhancing the transparency and accountability of institutions that are involved in the development and implementation of those policies.
- The need to secure equal access for all farmers, especially **women**, to productive resources, such as **water**, land, propagating material, technology and the result of applied research.

Protecting Ecosystems

- The best approach is integrated and water use planning, at the **watershed** level, within a broader ecosystem context, in which all sectors assume their responsibility, and all stakeholders, especially **women**, who bear the brunt of poor **water** management, are involved...

Managing Risks

- Consultation with the public should take place at all stages. Raising public awareness is essential in taking management decisions, as is the involvement of local communities, with men and **women** on an equal footing.
- **Women** and children are usually the most vulnerable to **water**-related disasters.

Governing Water Wisely

- The participation of all stakeholders at all levels of IWRM, with special attention to **gender** and youth.
- More involvement of **women** in water management as important stakeholders, especially in developing countries.
- The formation of an inter-ministerial committee on **gender**. The reallocation of budgets in water projects and representation of **women** was discussed.

Meeting the Challenge: The Ways Forward - it is recommended that:

- The important role of **women in water** management is recognized and that an international ministerial committee to develop practical proposal for addressing gender issues at the 3rd World Water Forum in 2003 is formed.

Millennium Summit
General Assembly
55th
Session, New York,
September 2000,
Millennium
Declaration
[www.un.org/
millennium/](http://www.un.org/millennium/)

**Millennium Development Goal 1:
Eradicate extreme poverty and hunger****Target 1:**

Halve, between 1990 and 2015, the proportion of people whose income is less than US\$1/day.

Target 2:

Halve, between 1990 and 2015, the proportion of people who suffer hunger.

Indicator 1:

Proportion of population below US\$1/day.

Indicator 2:

Poverty gap ratio (incidence x depth of poverty).

Indicator 4:

Prevalence of underweight children (under 5 years of age).

Millennium Development Goal 3:**Promote gender equality and empower women**

Target 3: Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels of education by 2015.

Millennium Development Goal 4:**Reduce child mortality.****Millennium Development Goal 5:****Improve maternal health.****Millennium Development Goal 6:****Combat HIV/AIDS, malaria and other diseases.****Millennium Development Goal 7:****Ensure environmental sustainability.**

Target 10: Halve the proportion of people without sustainable access to safe drinking water.

Conference

International Commitments with reference to Women's Empowerment, Gender Equity, Poverty Eradication, and Water and Sanitation

<p>Beijing+5 23rd Special Session of the General Assembly, New York, June 2000 www.un.org/womenwatch/daw/followup/as2310rev1.pdf</p>	<p>Further actions and initiatives to implement the Beijing Declaration and Platform for Action</p> <p>Actions to be taken by governments at the national level</p> <p>72. (e) Ensure universal and equal access for women and men throughout the life-cycle, to social services related to health care, including education, clean water and safe sanitation, nutrition, food security and health education programs.</p>
<p>ICPD+5 21st Special Session of the General Assembly, New York, July 1999 www.un.org/popin/unpopcom/32ndsess/gass/215a1e.pdf</p>	<p>II. Population and development concerns</p> <p>A. Population, economic development and the environment</p> <p>18. (a) Continue to support declines in infant and child mortality rates by strengthening infant and child health programs that emphasize... clean water sources... and improvements in household sanitation...</p> <p>C. International migration</p> <p>29. In planning and implementing refugee assistance activities, special attention should be given to the specific needs of refugee women, children, and elderly refugees. Adequate and sufficient international support should be extended to meet the basic needs of refugee populations, including the provision of access to... clean water, sanitation...</p>
<p>Commission on Sustainable Development 6th session, New York, April 1998, Strategic Approaches to Freshwater Management www.un.org/esa/sustdev/csd.htm</p>	<p>CSD 1998. Decision 6/1: Strategic Approaches to Freshwater Management.</p> <p>10. (a) The CSD urges: Governments to ...(x) mobilization of financial resources and mainstreaming of gender issues into all aspects of water resources management.</p> <p>11. ... Because women have a particular role in utilizing and conserving water resources on a daily basis, their knowledge and experience should be considered as a component of any sustainable water management program.</p> <p>13. ... It is particularly important to broaden women's participation and integrate gender analysis in water planning.</p>
<p>Habitat II, Istanbul, June 1996, Habitat Agenda www.unchs.org/unchs/english/hagenda/</p>	<p>Chapter III. Commitments: D. Gender equality</p> <p>46. We commit ourselves to the goal of gender equality in human settlements development.</p> <p>(c) Collecting, analyzing and disseminating gender-disaggregated data and information on human settlements issues, including statistical means that recognize and make visible the unremunerated work of women, for use in policy and program planning and implementation.</p> <p>(d) Integrating a gender perspective in the design and implementation of environmentally sound and sustainable resource management mechanisms, production techniques and infrastructure development in rural and urban areas.</p>

(e) Formulating and strengthening policies and practices to promote the full and equal participation of women in human settlements planning and decision-making.

Fourth World Conference on Women
Beijing, September 1995,
Beijing Platform of Action
www.un.org/womenwatch/daw/beijing/platform/

Strategic objective K.2.
Integrate gender concerns and perspectives in policies and programs for sustainable development.
Actions to be taken.
256. By Governments:
(f) Promote knowledge of and sponsor research on the role of women, particularly rural and indigenous **women**, in ... **irrigation, watershed management, sanitation...** focusing particularly on indigenous women's knowledge and experience.
(k) Support the development of **women's** equal access to... **safe water...** through participatory needs assessments... and policy formulation at the local and national levels.
(l) Ensure that clean water is available and accessible to all by the year 2000 and that environmental protection and conservation plans are designed and implemented to restore polluted **water** systems and rebuild damaged **watersheds**.

Strategic objective K.3.
Strengthen or establish mechanisms at the national, regional and international levels to assess the impact of development and environmental policies on **women**.

Actions to be taken.
258. By Governments, regional and international organizations and non-governmental organizations, as appropriate:
(a) Provide technical assistance to **women**, particularly in developing countries, in the sectors of... fisheries... to ensure... the development of environmentally sound technologies and of **women's** entrepreneurship.
(b) Develop gender-sensitive databases, information and monitoring systems and participatory action-oriented research, methodologies and policy analyses, with the collaboration of academic institutions and local women **researchers**, on the following:

- (i) Knowledge and experience on the part of **women** concerning the management and conservation of **natural resources** for incorporation in the databases and information systems for sustainable development.
- (ii) The impact on **women** of environmental and natural resource degradation, deriving from, inter alia... **drought, poor quality water... desertification...**
- (iii) Analysis of the structural links between **gender** relations, environment and development, with special emphasis on particular sectors, such as... **fisheries... water resources and sanitation.**

**International Commitments with reference
to Women's Empowerment, Gender Equity, Poverty Eradication,
and Water and Sanitation**

Conference	
<p>World Summit for Social Development Copenhagen, March 1995 www.un.org/esa/socdev/docs/summit.pdf</p>	<p>C. Commitment 2. We commit ourselves to the goal of eradicating poverty in the world... (b) ...efforts should include ...safe drinking water and sanitation... Special priority will be given to the needs and rights of women and children, who often bear the greatest burden of poverty, and to the needs of vulnerable and disadvantaged groups and persons.</p> <p>Chapter II - Eradication of Poverty - Basis for action and objectives. 19. ... Women bear a disproportionate burden of poverty... Absolute poverty is a condition characterized by severe deprivation of basic human needs, including... safe drinking water, sanitation facilities...</p> <p>21. Urban poverty is rapidly increasing... It is a growing phenomenon in all countries and regions, and often poses special problems, such as... contaminated water and bad sanitation... An increasing number of low-income urban households are female-maintained.</p> <p>32. Rural poverty should be addressed by: (b) Promoting fair wages and improving the conditions of agricultural labor, and increasing the access of small farmers to water..., including for women... on the basis of equality.</p>
<p>International Conference on Population and Development Cairo, September 1994 www.un.org/popin/icpd/conference/offeng/poa.html</p>	<p>Principle 2 Human beings are at the center of concerns for sustainable development... They have the right to an adequate standard of living for themselves and their families, including... water and sanitation.</p> <p>3.13. Widespread poverty remains the major challenge to development efforts. Poverty is often accompanied by ... low status of women... All these factors contribute to high levels of fertility, morbidity and mortality... Poverty is also closely related to... unsustainable use and inequitable distribution of such natural resources as land and water...</p> <p>4.11. ... Greater investments should be made in appropriate measures to lessen the daily burden of domestic responsibilities, the greatest share of which falls on women. Greater attention should be paid to the ways in which environmental degradation and changes in land use adversely affect the allocation of women's time. Women's domestic working environments should not adversely affect their health.</p> <p>8.2. ... large segments of many populations continue to lack access to clean water and sanitation facilities... Large numbers of people remain at continued risk of infectious, parasitic and water-borne diseases, such as tuberculosis, malaria and schistosomiasis...</p> <p>8.10. All countries should give priority to measures that improve the quality of life and health by ensuring a safe and sanitary living environment for all population groups through measures aimed at... ensuring access to clean water and sanitation...</p>

**UN Convention to
Combat
Desertification**

in Countries
Experiencing Serious
Drought and/or
Desertification,
particularly in Africa

Paris, June 1994
[http://
www.unccd.int/
main.php](http://www.unccd.int/main.php)

Prologue:

Stressing the important role played by women in regions affected by **desertification and/or drought**, particularly in rural areas of developing countries, and the importance of ensuring the full participation of both, men and **women**, at all levels in programs to combat desertification and mitigate the effects of **drought**...

Part II: General Provisions - Article 5

(d) promote awareness and facilitate the participation of local populations, particularly **women** and youth, with the support of non-governmental organizations, in efforts to combat **desertification** and mitigate the effects of **drought**; and

Part III, Section 1: Action programs - Article 10

(f)... provide for effective participation at the local, national and regional levels of non-governmental organizations and local populations, both, **women** and men, particularly resource users, including farmers and pastoralists and their representative organizations, in policy planning, decision-making, and implementation and review of national actions programs...

Part III. Section 3: Supporting measures - Article 19

Capacity building, education and public awareness

1. The Parties recognize the significance of capacity building - that is to say, institution building, training and development of relevant local and national capacities—in efforts to combat **desertification** and mitigate the effects of **drought**. They shall promote, as appropriate, capacity building:

(a) through the full participation at all levels of local people, particularly at the local level, especially **women** and youth, with the cooperation of non-governmental and local organizations.

3. ...to promote understanding of the causes and effects of **desertification and drought** and of the importance of meeting the objective of this Convention. To that end, they shall:

(e) assess educational needs in affected areas, elaborate appropriate school curricula and expand, as needed, educational and adult literacy programs and opportunities for all, in particular for **girls** and **women**, on the identification, conservation and sustainable use and management of the natural resources of affected areas...

**Commission on
Sustainable
Development**

2nd session, New
York, April 1994
[www.un.org/esa/
sustdev/csd.htm](http://www.un.org/esa/sustdev/csd.htm)

CSD 1994: Chapter ID: Health, Human Settlements, Freshwater.

The Commission recommends that countries give priority attention to the integrated management, mobilization and use of **water resources** in a holistic manner, while stressing the importance of the involvement of local communities, in particular **women**.

UN Conference on Environmental and Development Political Declaration and Agenda 21
Rio de Janeiro,
June 1992
www.un.org/esa/sustdev/agenda21text.htm

Political Declaration - Principle 20

Women have a vital role in environmental management and development. Their full participation is, therefore, essential to achieve sustainable development.

Agenda 21

Chapter 3 - Combating Poverty

Program area: enabling the poor to achieve sustainable livelihoods

38 (p) Provide the poor with access to fresh **water** and **sanitation**.

Chapter 18 - Protection of the quality and supply of **freshwater resources**:
Application of integrated approaches to the development, management and use of **water resources**.

Program Area A: Integrated **water resources** development and management.
18.9. ... To design, implement and evaluate projects and programs that are both, economically efficient and socially appropriate within clearly defined strategies, based on an approach of full public participation, including that of **women**... in water management policy making and decision making;

18.12. ... Development of public participatory techniques and their implementation in decision making, particularly the enhancement of the role of **women in water resources** planning and management;

18.19. The delegation of water resources management to the lowest appropriate level necessitates educating and training water management staff at all levels and ensuring that **women** participate equally in the education and training programs. Particular emphasis has to be placed on the introduction of public participatory techniques, including enhancement of the role of **women**...

(d) Capacity building

18.22. ... International agencies and donors have an important role to play in providing support to developing countries in creating the required enabling environment for integrated **water resources** management. This should include, as appropriate, donor support to local levels in developing countries, including community-based institutions, non-governmental organizations and **women's** groups.

Program Area B. **Water resources** assessment

(c) Human resource development

18.33. ...Establishing and strengthening education and training programs on **water**-related topics, within an environmental and developmental context, for all categories of staff involved in **water resources** assessment activities, using advanced educational technology, where appropriate, and involving both, men and **women**;

(d) Capacity building

18.34. ... Strengthening of the managerial capabilities of **water** user groups, including **women**... to improve **water** use efficiency at the local level.

Program Area C: Protection of **water resources**, **water** quality and aquatic ecosystems

(c) Human resource development

18.45. ...establishment of ... education/training courses on **water resources** protection and conservation for laboratory and field technicians, **women** and other **water** user groups.

Program Area D: **Drinking water** supply and **sanitation**

18.48. The New Delhi Statement ... Institutional reforms promoting an integrated approach and including changes in procedures, attitudes and behavior, and the full participation of **women** at all levels in sector institutions;

Activities

18.50. b. People and institutions:

-Human resource development at all levels, including special programs for **women**;

-National and community management:

ii. Encouragement of the local population, especially **women**, youth, indigenous people and local communities, in **water** management;

(c) Human resource development

18.53. ...countries provide adequate training for **women** in the sustainable maintenance of equipment, **water resources** management and environmental **sanitation**.

(d) Capacity building

18.54. The implementation of **water** supply and **sanitation** programs is a national responsibility... a high degree of community participation, involving **women**, in the conception, planning, decision making, implementation and evaluation connected with projects for domestic **water** supply and **sanitation**.

Program Area E: **Water** and sustainable urban development

Activities

18.59. f. Provision of enhanced access to sanitary services:

iv. Mobilization and facilitation of the active involvement of women in **water** management teams;

Means of implementation

(c) Human resource development

18.62. ...Special provision should be made for mobilizing and facilitating the active participation of **women**... in water management teams and for supporting the development of **water** associations and **water** committees... Special education and training programs for **women** should be launched with regard to the protection of **water resources** and **water** quality within urban areas.

Program Area F: Water for sustainable food production and rural development

Objectives

18.68. The key strategic principles for holistic and integrated environmentally sound management of water resources in the rural context may be set forth as follows:

International Commitments with reference to Women's Empowerment, Gender Equity, Poverty Eradication, and Water and Sanitation

	<p>b. Local communities must participate in all phases of water management, ensuring the full involvement of women in view of their crucial role in the practical day-to-day supply, management and use of water;</p> <p>d. It is necessary to recognize and actively support the role of rural populations, with particular emphasis on women.</p> <p>Means of implementation - (c) Human resource development 18.80 d. Train staff at all levels, including farmers, fishermen and members of local communities, with particular reference to women;</p> <p>CHAPTER 24 - Global Action for Women Towards Sustainable and Equitable Development 24.3. Governments should take active steps to implement the following: d. Programs to promote the reduction of the heavy workload of women and girl children at home and outside... and to promote the provision of environmentally sound technologies which have been designed, developed and improved in consultation with women, accessible and clean water, an efficient fuel supply and adequate sanitation facilities.</p>
<p>International Conference on Water and Environment, Dublin, January 1992, Dublin Statement and Principles on Water and Sustainable Development www.wmo.ch/web/homs/documents/English/icwedece.html</p>	<p>Principle 3 Women play a central part in the provision, management and safeguarding of water.</p> <p>This pivotal role of women as providers and users of water and guardians of the living environment has seldom been reflected in institutional arrangements for the development and management of water resources. Acceptance and implementation of this principle requires positive policies to address women's specific needs and to equip and empower women to participate at all levels in water resources programs, including decision making and implementation, in ways defined by them.</p>
<p>CEDAW Convention on the Elimination of All Forms of Discrimination Against Women, December 1979, www.un.org/womenwatch/daw/cedaw/</p>	<p>Article 14 (2). ...eliminate discrimination against women in rural areas in order to ensure, on a basis of equality of men and women, that they participate in and benefit from rural development and, in particular, shall ensure to such women the right:</p> <p>(h) To enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply, transport and communications.</p>

ANNEX 2

Indicators

Institutional development indicators

- Presence in the watershed of rural development institutions that have a gender policy
- Inter-institutional coordination with groups of women, institutes or programs that provide support to women
- Managerial capacity to facilitate solving the environmental conflicts of the community and the watershed.
- Number of regional soil conservation and watershed management centers working from a gender perspective
- Number of trained professional women and men assigned to the project
- Number of extension and environmental education programs having an equitable participation of women and men
- Financial contribution from the private sector to fund the project (\$/year)
- Agricultural area using extension services (Ha./year)
- Number of women and men trained on soil conservation
- Number of women and men leading and promoting conservation development
- Number of community female and male leaders working in the project
- Percentage of women and men who favorably adopted an appropriate technology to increase agricultural production.
- Watershed area under management and vigilance (Ha./year)
- Watershed area under irrigation (Ha./year) owned by women and men

Economic and social indicators

- Net income per household (per year, contributed by each of the members of the household)
- Number of jobs or wages per year for women and men
- Number of women and men who receive conservation incentives

- Number of women actively participating in community-base organizations
- Number of youngsters actively participating in community-base organizations
- Time invested searching for water (hrs./month, hrs./year) by the members of the household
- Annual number of technical assistance requests for women and men
- Annual number of women and men participating in the project
- Current value of the land (\$/Ha.)
- Annual number of farmers (women and men) who commercialize their production
- Percentage of women and men below the poverty line and extreme poverty
- Annual percentage of homes with electricity
- Annual percentage of homes with drinking water
- Annual number of schools in operation
- Annual number of health centers in operation
- Average daily school attendance by boys and girls
- Literacy rate of women and men
- Number of households/year receiving medical attention
- Annual rate of mortality and morbidity
- Number of households/year with acceptable housing conditions
- Existence of organized groups of women and men who commercialize agricultural and forestry products using organic materials
- Kilometers of year-round passable roads and narrow paths
- Firewood availability (m³/year) in project established forests
- Number of women and men carrying out economic activities involving ecotourism or agroindustry

Natural resource exploitation indicators

- Agricultural productivity of various items (Kg./Ha./year)
- Milk production (liters/Ha./year)
- Pasture productivity (Kg./Ha./year)
- Fodder productivity (Kg./Ha./year)
- Productivity of forestry plantations (m³/Ha./year)
- Area with managed agroforestry systems (Ha./year)
- Area with community forestry plots of land for firewood use (Ha./year)
- Reforested area under management (Ha./year)

- Non-productive agricultural area (Ha./year)
- Unproductive cattle area (Ha./year)
- Unused area with productive agrological forestry capacity (Ha./year)
- Number of women and men involved in agroforestry, grazing and fishing activities

Environmental improvement indicators

- Area showing over-utilization (Ha./year)
- Area showing severe erosion (Ha./year)
- Area not well managed by itinerant agriculture (Ha./year)
- Area showing over-grazing (Ha./year)
- Area of burned-off forests (Ha./year)
- Area with stabilized slopes (Ha./year)
- Area with terraces (Ha./year)
- Area showing land sub-utilization (Ha./year)
- Micro-watershed area under management (Ha./year)
- Area of treated gullies (Ha./year)
- Number and depth of gullies
- Average duration of fallow or under rest (years)
- Soil loss due to slope erosion (tons/Ha./year)
- Population sectors most affected by soil erosion
- Soil fertility (cationic exchange capacity and percentage of base saturation)
- Percentage of organic soil matter
- Length of torrents recuperated or protected (Hm./year, Km./year)
- Length of improved irrigation waterways (Hm./year, Km./year)
- Length of water course with riverside forests (Hm./year, Km./year)
- Length of windbreakers (Hm./year, Km./year)
- Number of farms with agricultural and cattle diversification
- Hydrological improvement indicators, measured at the end of the watershed
- Recuperation of endemic varieties and species
- Annual volume of low water (m³/sec.)
- Maximum annual instantaneous volumes (m³/sec.)
- Frequency of maximum annual flows

- Sediment concentration (tons/Km²/year)
- Average turbidity (standard units)
- Average concentration of fixed solids (mg./l)
- Sediment yield (ton/Km²/year)
- Average concentration of volatile solids (mg./l)
- Average concentration of total solids (mg./l)
- Average conductivity (u.mhos/cm)
- Average water temperature
- Normal Ph value
- Normal value of dissolved oxygen
- Normal value of total hardness
- Average concentration of nitrates (N O₃⁻) (mg/l)
- Average concentration of nitrites (N O₂⁻) (mg/l)
- Average concentration of ammonia (N H₃⁻) (mg/l)
- Average concentration of chlorides (mg/l)
- Average concentration of potassium (mg/l)
- Average concentration of heavy metals (mg/l)
- Chemical demand of oxygen (mg/l)
- Average concentration of phosphorus (mg/l)
- Average concentration of oils and fat (mg/l)
- Biochemical demand of oxygen (mg/l)
- Average concentration of aerobic mesofhylos bacteria (pt/ml)
- Average concentration of fecal choliforms (pt/ml)
- Average concentration of enterococcus (pt/ml)
- Average concentration of pesticides (ug/l)
- Number of women and men with pesticide-related health problems

Indicators related to the decrease in economic damages downstream

- Sedimentation at the dam (m³/year) (m³/km²/year)
- Annual cost of maintenance and replacement of equipment damaged due to sedimentation (\$/year)
- Annual cost of water purification (\$/year)
- Annual cost of maintenance of roads damaged due to river floods (\$/year)

- Length of river course section recuperated "downstream" (Hm/year, km/year)
- Value of the land "downstream" and on the banks under the direct influence of the river treated (\$/year)
- Irrigated area "downstream" of the dam (ha/year)
- Area protected against torrential floods (ha/year)
- Economic production "downstream" of the dam (\$/year)
- Number of dwellers who are serviced by the aqueduct

Environmental education

- Educational texts and materials used in formal and informal education are gender sensitive and promote the culture of water
- Formal and informal environmental education programs promote equity, participation, and the sustainable use of the natural resources
- Number of teachers and facilitators trained on gender equity sensitization
- Number of schools participating in environmental education programs

Adapted from:

Becerra, E.

Monitoreo y Evaluación de logros en proyectos de ordenamiento de cuencas hidrográficas. Venezuela: Guía FAO Conservación 24. 1993.

ANNEX 3

A gender equity policy-building proposal

When we decided to participate in the formulation of gender equity policies for the environmental sector in Mesoamerica, an investigation process was initiated to analyze the schemes or guidelines involved in policy formulation. To our surprise, no guides or parameters existed.

We revised a large number of policies, declaration documents and action plans from international development agencies such as: the Swedish International Development Agency (SIDA); the German Agency for Development (GTZ); the Canadian Agency for International Development (CAID); the Danish International Development Agency (DANIDA); the Norwegian Agency for Development (NORAD); the Dutch Cooperation Agency; as well as the following documents: the Gender Policy of the Agronomic Center for Research and Education (CATIE); the Declaration on Environment and Development (1992); the Declaration on Population (1994); the Fourth World Conference on Women (1995); and the Convention to Combat Desertification (1997); and policy proposals from the agricultural sector in Central America. A study was simultaneously conducted about the process involved in the legalization or formalization of policies throughout the Central American region.

The following conclusions were reached based on this revision:

- That great confusion exists about the meaning of a policy, a plan of action and a strategy. This explains why a large number of documents called «policy», include only one section of objectives, goals, actions and a series of technical criteria that are characteristic of an action plan.
- This is the reason explaining why for such extensive and complex documents, the legalization process becomes slower and cumbersome. In some cases, the documents are not well received by the institutions, given the amount of points and sections that different departments or offices have to agree upon and endorse.
- A clear distinction should be made between a policy or policy declaration and a plan of action. The first should be a short and simple document, stating the intention and commitment of the institution about certain topic (in our case, the gender equity perspective in environmental management). Given its concise nature, internal analysis and discussion takes place at a faster pace and more specifically. This policy or declaration should be legalized or formalized in accordance with the procedures of each country (example: executive or ministerial decree).

Characteristics of a policy declaration

What is a policy declaration?

- It is not an extensive document.
- The number of pages ranges between 3 and 10.
- It states the intention and commitment of the institution towards gender equity mainstreaming.
- It should be accompanied by an action plan where the policy is put into practice.
- Specific action plans by department or topic could follow the action plan.
- A policy declaration should be «legalized» according to the procedure established by each institution.

Unlike the policy declaration, the action plan should be a technical document through which the policy declaration could be made operational and dynamized. It is elaborated after the policy declaration has been legalized within the institution. To this effect, the participation of all departments, sectors or heads that conform the institution is advisable. The action plan will stem from the needs or limitations of the institution, to carry out the commitments included in the declaration. In addition, it will propose specific actions that should be executed within each structure.

Characteristics of an action plan

What is an action plan and what does it hold?

- It is a document that makes operational the policy declaration.
- Takes up the theoretical and basic essentials expressed in the policy.
- A strategy outlining how the policy commitments will be achieved.
- Key goals or objectives including short-, medium- and long-term activities that should be measurable.
- It may be translated into more specific activities through annual plans according to the department, unit or topic.

Both documents are based on a distinctly different structure, despite the fact that they complement each other. As of the analysis and comparison of the documents studied, we propose the following guides to elaborate both documents.

Guide for the elaboration of a policy declaration

Which aspects does a policy declaration hold?

- An introduction with a brief summary of the policies and their intent.
- Title of the declaration.
- The long-term mission or objective of the institution (raison d'être).
- Theoretical foundation where the institution recognizes:
 - Its mandate resulting from international declarations and agreements. (for example: Summit of the Earth-Agenda 21, IV Conference on Women).
 - What is understood as gender?
 - The relation between gender equity and the natural resources, expressed in the use, management, access and conservation thereof.
 - The relation between equality and gender equity as human rights.

- Management of equality of opportunities within the institution (to be defined by the institution whether it will be part of the declaration).
- Gender equity mainstreaming within the institution.
- Brief explanation about how it will be mainstreamed (methodology).
- Priorities (if considered pertinent by the institution).

Which aspects does an action plan hold?

- An introduction taking up:
 - The mission of the institution.
 - Origin of the action plan.
 - How is it inserted into the institution's history.
- Theoretical foundation (taken from the policy):
 - Its mandate resulting from Río (Agenda 21) and Beijing.
 - What is understood as gender?
 - The relation between gender equity and the use, management and conservation of the natural resources.
 - Recognition about the relation between equality and gender equity as essential elements to human rights.
- How the action plan will be developed.
 - Express the situation leading to that objective.
 - Specific activities by objective.
- Structure of the entities responsible for executing and monitoring the action plan.
 - Gender units.
 - Person in charge.
 - Role of the offices for women's affairs in the country.
 - Institutional changes required for plan execution.
- Necessary resources.
 - What does the institution contribute?
 - What external support is required (financial, human, materials)?

To illustrate the construction of a policy declaration, we will take the Gender Policy Declaration of the Ministry of Environment and Natural Resources of El Salvador. The text of the declaration includes most all of the above-mentioned components, though not necessarily in the order shown on the suggested guide. We should recall that the scheme provided should be considered as the starting point. What is important is to rescue the intent of the policy, as well as its clarity and commitment.

Ministry of Environment and Natural Resources (MARN)
Gender Policy Declaration
El Salvador

Foreword

This policy declaration calls for equity and equality promotion as a crucial factor for environmental sustainability and an integral part of conservation efforts. It presents the equity and equality goals and objectives within the context of the mission of the MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES, and provides a brief conceptual framework and the basis for the consideration of equity issues in environmental actions. Furthermore, it calls for an effective integration strategy within the National Environmental Policy, programs, plans and projects of the Ministry.

**INTEGRATION OF THE GENDER PERSPECTIVE
INTO THE MINISTRY OF ENVIRONMENT.
A POLICY DECLARATION**

The mission of the MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES (MARN) is to recuperate and guarantee the quality of the environment and the country's natural resources as part of the sustainable development of El Salvador.

What is gender?

MARN understands gender as the attributes and opportunities associated with being a man or a woman and the socio-cultural relations between men and women. Such attributes, opportunities and relations are socially built and learned through socialization processes. They are specific to the context and changing in nature. Differences and inequalities exist in our society between men and women with respect to the activities undertaken, access and control of the resources and decision-making opportunities. Gender is part of a broader socio-cultural context, taking into consideration factors such as class, race, economic situation, ethnic group and age.

Therefore, MARN is aware of the fact that the adoption of a gender equity perspective entails focusing on women as well as men, and the relations between each other and the natural resources, promoting gender co-responsibility.

This means working from an integral perspective that allows and values national and regional diversity. MARN assumes that mainstreaming of the gender perspective entails creating a working environment that facilitates application of the approach, promotes sensitization and training of existing personnel and considers it an essential element for new hires, and values human resource education as an additional contribution to the achievement of its objectives.

Why is gender equity essential to the sustainable use, management and conservation of the natural resources?

Based on the 1994-1999 Government Plan of Action, and in compliance with the National Policy on Women's Affairs, as well as in recognition and attention to the commitments acquired by the Government of El Salvador in international fora such as: the Convention Against All Forms of Discrimination Against Women (1984), the United Nations Conference on Environment and Development (1992), the Fourth World Conference on Women (1995), and the United Nations Convention to Combat Desertification (1997), and in accordance with the stipulations established at a national level in Clause IV of the Environment Law.

Based on the above, MARN recognizes that gender equity and equality are essential elements of human rights and social justice, as well as a pre-condition for sustainable development and the achievement of its mission. In the use, management and conservation of natural resources there are differentiated roles and responsibilities for men and women. Frequently, the women's contribution to their families, the community and society takes place based on an unequal access to the use, control and benefits of the natural resources. Quite often, this inequality exists within a context of discrimination and unequal power relations.

Therefore, MARN believes that gender relations and the environment deserve a comprehensive analysis and understanding about the different roles and responsibilities, relations, needs and visions of men and women from rural and urban areas. In addition, working from a gender perspective does also entail going beyond the mere recognition of gender differences; it should promote the necessary changes to achieve more equitable relations between women and men regarding the use and benefit of the natural resources, including the decisions made about them. MARN's commitment towards gender equity and equality constitutes an integral part of all its policies, programs, plans and projects, as well as the regulatory and governing activities involving national environmental activities.

Gender mainstreaming throughout the Ministry of Environment and Natural Resources

As the guiding and regulating entity of environmental activities, the Ministry defines the gender component as the mainstreamed axis of its activities through the Environmental Management System (SINAMA), as established by article 6 of the Environment Law.

MARN recognizes that the pursuit of understanding and agreements among the diverse sectors of the Salvadorean population, may only be achieved through the equal participation of men and women, to guarantee the implementation of environmental protection and recuperation activities. To this end the Ministry created the Gender, Environment and Development Unit.

MARN understands that mainstreaming of a gender perspective is achieved through a process of evaluation of the implications for women and men of any action planned, including policies or programs and projects in any area and at all levels. This process incorporates the concerns and experiences of women and men into an integral dimension of the design, implementation, monitoring and evaluation of policies, programs, plans and projects in all environmental fields (economic, social and natural resource policies), so that women and men may benefit on an equal and equitable basis, thus avoiding the perpetuation of injustices and inequalities.

As the guiding and regulating entity of environmental activities, MARN considers that this policy declaration should be part of the foundation or principles of the National Environmental Policy and thus, mainstreamed into all its components.

Within the Environmental Management System (SINAMA), the implementation of this policy entails implications regarding the priorities and administration of management systems, particularly:

- a. To establish environmental management mechanisms throughout the public sector's entities and institutions, to implement the environmental policy from a gender perspective in all development efforts undertaken in the country.
- b. To establish throughout the public sector's entities and institutions the structural and functional organization of environmental management from a gender perspective.

- c. To establish the procedures to generate, systematize, record and provide disaggregated data about environmental management and the condition of the environment, as the basis for the elaboration of environmental plans and programs to evaluate the environmental impacts of sectoral policies as well as the environmental management performance of the members of the National Environmental Management System.
- d. To include among the responsibilities of the top management offices of the public sector's entities or institutions the implementation, execution and follow up of environmental management from a gender perspective.
- e. To establish the participation and coordination regulations between SINAMA and the Ministry.

Along with the adoption of this policy declaration for gender equity mainstreaming, a gender mainstreaming action plan will be incorporated into MARN's activities. The ministers will assume full responsibility for its implementation through the Gender, Environment and Development Unit constituted to this effect. MARN does also understand that the total implementation of the Policy and a Work Strategy or Action Plan requires the participation and commitment of both, this Ministry's staff and the population in general.

ANNEX 4

Guide for the elaboration of a plan for public policy incidence

*How should an incidence plan be elaborated?
"The 'key' that opens the 'door' to modify or
influence public policy is called INCIDENCE"*

(Arias Foundation for Peace and Human Progress, 2000)

Learning about the objectives of this topic...

- To define what is an incidence plan and its major components.
- To provide a guide with the essential components to design incidence plans, oriented towards mainstreaming gender equity into public policy actions.

Aiming at helping the organizations to design their own incidence plans, we provide a guide with the essential components required to design incidence plans seeking to mainstream the gender equity perspective into public policy actions both, at local as well as national levels.

Definition and concepts of an incidence plan

What is an incidence plan?

An incidence plan is a guide to take actions, it is a written document that outlines the actions, mechanisms and human as well as financial resources needed to successfully achieve the purpose of undertaking an incidence process.

Thus, an incidence plan¹ helps us to:

- Guide the actions and lessen the risks and threats posed by a possible failure.
- Focus the strength and avoid dispersion and short-term vision.
- Have an instrument to facilitate the integral understanding of the achievements planned and how these are expected to be achieved.
- Lay the foundations of political and organizational cohesion of the team that designs and executes the plan.
- To take maximum advantage of available resources.
- To determine which resources are available, who is available, in whose presence and how should the activities be undertaken.

Through an incidence plan we consolidate our strengths and try to decrease to the maximum extent possible the impact of our weaknesses.

1. Taken from : Memoria del Taller Regional de Capacitación en Incidencia. San José: Fundación Arias para la paz el Desarrollo y el Progreso y Comunidad Europea, 1997.

Components of an incidence plan

An incidence plan entails five basic steps needed to prioritize the incidence strategy and undertake a campaign. It is important to point out that these basic steps constitute a methodological action guide, and that each organization may incorporate other steps or activities according to the process being carried out.

1. Problem analysis and selection
2. Proposal definition and fine tuning
3. Power analysis
 - a. Analysis of decision-making venues
 - b. Power map
 - c. Self-analysis
4. Definition of strategies and activities
 - a. Schedule of activities
 - b. Division of work/people responsible
 - c. Human and material resources
5. Evaluations

Description of the steps

Problem analysis and selection

The analysis of a problem involves investigating its causes, implications and manifestations. It entails gathering and analyzing information about the stakeholders involved in the problem.

In general terms, the problems that affect the population of our countries and are the cause for our main concerns have a structural origin.

Thus, they usually are very complex, global and general in nature. To deal with this type of problems, it will be necessary to work out each of the components which, in turn, will entail undertaking multiple and diverse actions and consider extensive terms. To assure greater effectiveness and accuracy in the activities undertaken through such a long process, it is recommended to address or resolve the major components. To deal with each component, an incidence campaign needs to be developed. Therefore, a selection should be made of the problem component with the greatest potential for a viable solution.

Consideration should be given to the fact that the incidence objective within the context of the regional project «Policy Incidence Processes to Mainstream the Gender Equity Perspective in the Central American Environmental and Agricultural Sectors», is the development of public policies for the environmental and agricultural sectors pursuing equity and equality between men and women. Thus, the selection of the topic should be based and ethically defined in this direction.

Therefore, it is convenient to ask a few questions about, for instance, whether national or international legislation exists involving advocacy of gender equity issues, or whether there are governmental organizations advocating gender equity issues.

Proposal definition and fine-tuning

The proposal is, in the first place, the purpose; what it is expected to be achieved in order to deal with the problem component selected. The definition of a proposal means defining what we want.

A
proposal should
be:

The proposal should be outlined in a brief document. The document should clearly express what we want to change, who or which institution(s) should undertake this change, how we suggest it be carried out, and when should it be done. A proposal should clearly express the arguments justifying the change, which should, in addition, anticipate counter-arguments to refute arguments resisting and/or opposing the change.

- Specific and detailed, while brief and clear; quantifiable and measurable.
- Understandable to all.
- Technically and politically feasible.
- Viable within a reasonable timeframe.
- Generate public opinion.
- Motivating and a unifying force for its organization.

The proposal should be revised after completion of the power analysis and whenever deemed necessary to fill existing information gaps.

An incidence proposal from a gender equity perspective allows a gender balance among those participating in the proposal definition, including strict controls about the incorporation of the gender approach into the process for proposal definition and fine-tuning, and undertaking a gender-sensitive reading and analysis of the proposal and its process.

Power analysis

It is the identification and study of stakeholders (people and institutions) involved in the decisions made about the proposal. These stakeholders are usually called "target groups". Power analysis does also entail understanding how and where decisions are made.

It is important to recognize those who stand in the way of the process, which in this particular case would be the institutions and people opposing gender equity and our proposal. The gender-related power dynamics among institutions should also be understood.

Power analysis also involves the identification and study of possible opponents, undecided people and allies. It also entails the study of our own strengths and weaknesses. It is the analysis of the correlation of forces revolving around the proposal.

The study should include knowledge about and consideration to the arguments, positions, strengths and weaknesses of the "target groups" and allies, stakeholders and their allies, the undecided and the opponents.

The "target groups"

These are the stakeholders who make the ultimate decision about our proposal. They are called «target groups» because that is where our attention should be focused on; we should not be distracted, this is the main objective, even if multiple alliances are established, as both, alliances and strategies, should be aimed at the target.

We should take into consideration all the people who may have an effect on the target, including at a personal relation level.

The allies

The allies help us to exercise influence on the target. The strategies may be coordinated through them.

When seeking allies, an objective analysis should be made about the tactical and operating support they might be able to contribute to influence the target. Alliances should not be established based on considerations of ideological affinity or friendship, but rather on the operating, objective, material, and human support they may be able to provide.

Alliances should also serve for work division purposes, thus avoiding concentration and centralization.

The opponents

The opponents are the other side of the coin. They are allies of the target and support them. It is important to identify and study the opponents.

Just as important is to be realistic about the number of opponents we face; for instance, if the target and the most powerful stakeholders are opponents and hard to convince, it might be necessary to reconsider the feasibility of the proposal.

The undecided

The undecided are stakeholders whose inclinations are not known, they are the people we need to persuade and conquer over to our side. They can either support the target or become our allies.

There are times when projects make the mistake of ignoring the undecided, who might ultimately make the difference between the success and failure of a proposal.

The organizers

These carry out the campaign and organize it.

Upon having a clear concept about each of the stakeholders involved, it is important to stress the fact that the power analysis cannot be carried out unless three basic factors are taken into consideration:

- Definition of the decision-making venue.
- Accurate information about the correlation of forces, to which effect a graphic technique called "power map" is used.
- Self-analysis of our power, where we stand to conduct our campaign.

It is just as important to recall making a situation analysis, which—together with the power analysis—helps us to accurately locate the stakeholders.

Analysis of the decision-making venue

There are two key questions we should answer to undertake a sound analysis about decision-making venues: who decides? and how?

To guarantee a successful proposal, we must have a clear understanding about who makes the decisions. There are times when more than one level of decision making is involved, in which case, the campaign should be directed towards both decision-making venues.

For example, when an initiative should be first submitted to a Congress commission and subsequently to a plenary.

The decision-making venue should be specific and personalized; that is, we should specifically appoint the person(s) responsible for decision making.

Once we know who makes the decisions, we should learn about how these are made, which are the procedures involved and the distribution of decisions across time. For example, if an issue related to the Central Government is to be resolved during the first quarter of the year, it would not make any sense to carry out a campaign during the last quarter.

After having defined who make(s) the decision(s) and how, the next step would be to strengthen our power analysis by visualizing the stakeholders and their possible moves, through what we call a power map.

Power map

The power map is a tool to visualize the relation of forces. It constitutes a graphic representation to recognize who are the stakeholders involved around the proposal.

This does not include a listing of friends or organizations in general. It exclusively considers the stakeholders involved in this proposal.

The power map does not only help us visualize which stakeholders we will be playing with, but also provides a graphic guide to determine the important visits and meetings required throughout the campaign.

Self analysis

The strengths and weaknesses of the organizers of the incidence process are assessed through self analysis. This should be characterized by honesty and criticism and self-criticism capacity.

Self analysis should consider who and how are decisions made. We should take into consideration the differentiated contribution of the organizations, the participation of mixed and women's organizations, and female and male leadership.

A very important variable to be considered is how the campaign's organizing group deals with the gender equity approach. The necessary measures should be taken to make sure that the gender equity approach is well known and adopted by all the people involved.

It is necessary for the group to make an inventory of gender-related policies and legislation at a national level.

The analysis of our strengths and weaknesses involves five basic fields of action:

- Institutional
- Financial
- Organizational
- Political
- Gender

The above analysis is extremely important, since we have to do the same with the allies, the opponents, and the target. That is, we must have a clear idea about the major strengths and weaknesses of all the stakeholders, as a result of which, we will be able to identify and determine the strategies and actions to be undertaken.

Definition of strategies and activities

A strategy is a series of activities directed towards the same end. This end should bear direct relation to the proposal, in addition to constituting a means to have a direct or indirect influence on the target.

The strategy is an action that initiates a circle that closes when a concrete (not abstract) product is made available. It is not only a matter of determining how the strategy will be carried out; a specific result should derive from it.

Several strategies may be undertaken during an incidence campaign (depending on the need and capacity), although they should be limited to only a few in order to avoid wearing down the leading group. In an incidence campaign the most common strategies aim at convincing, mobilizing, neutralizing, exerting influence, communicating, generating public opinion, coordinating, financing and lobbying.

Of all possible strategies, those related to communication means, mobilization, pressure and lobbying, bear special importance.

The selection and order of importance should be defined in direct relation to the power analysis carried out. Flexibility should always exist to modify the direction of a strategy or withdraw it.

For example,
strategies may be
based on:

- **Communication.** If the communication means were left out of an incidence process, the organizers would fail taking advantage of an essential resource to exercise pressure, persuade or influence on the decisions made by the target. This is a basic resource used in incidence-related work.
- **Organization.** The organizers should create groups, commissions, and fronts, as well as strengthen the organization and institution of the group involved.
- **Mobilization.** Is essential, since that is where the most traditional methods are found: marches, gatherings, fairs, festivals, meetings, and even art exhibitions.
- **Influence.** Among which are lobbying, communications, letters, telegrams, international pressure, and any other activities which purpose is to reach the heart of the target as personally as possible.

Strategies should stem from our power analysis. They should respond questions such as: Which is the discussion space? Which is the correlation of forces? Who are we? Which is our own self analysis to help us carry out the campaign?

These do not take place in linear succession, that is, one after the other. Organizers should be capable of dealing with the direction of the strategies and undertaking them simultaneously. In addition, strategies change during the campaign, as they readjust to the steps taken by the stakeholders and the political situation. Thus, they should be modified and oriented accordingly.

The activities

One of the most frequent causes of weakness of an incidence process is the inadequate planning of activities, such as the fact that, quite frequently, we find that the leaders of an incidence campaign are saturated with work because they are not only responsible for lobbying activities, but also have to deal with administrative tasks and securing of the resources needed. Work concentration wears down and weakens the organizers and extends incidence campaigns.

The main tasks could be divided into:

- Administrative
- Financial
- Organizational
- Educational
- Informative
- Political

The combination between strategies and activities is the art of incidence. We should resort to all possible strategies to reach the target, but should not undertake more than we can handle.

It is necessary to find a balance so that all actions are linked to a strategy, in a precise order where, by means of priorities, the organizers have established which activity goes first and which follows.

Finally, the activities, in addition to being coordinated to each other, should have individuals responsible for their execution, that is, should be appropriately distributed. Otherwise, it might occur that a good incidence plan will never materialize due to the lack of mechanisms to carry it through.

Evaluations

These are the points at which both, the incidence plan and the state of the process should be balanced and interpreted. They help to revise, correct, reinforce, update and broaden the information related to the above-mentioned components.

We should ask ourselves a few basic questions to help us penetrate into the evaluation. For example, did the incidence plan achieve the objectives proposed? Was the gender equity perspective appropriately mainstreamed throughout the process involving the definition, fine-tuning and development of the proposal? Was greater equity achieved between women and men? Was increased democratization/community participation achieved? Were the participating organizations strengthened/consolidated?

ANNEX 5

Internet sites on water and gender

Organization	Methods and tools	Policies	Case studies	Network	Training	Databases	Conferences and meetings	Publications	Links
Gender and Environment http://www.genderandenvironment.org	X	X	X	X	X	X	X	X	X
Gender and water alliance http://www.genderandwateralliance.org/		X	X	X	X		X	X	X
Beijing Platform for Action Objective K: women and the environment http://www.un.org/womenwatch/daw/beijing/platform/envIRON.htm		X							
Capacity Building Network for Integrated Water Resources Management http://www.cap-net.org/	X		X	X	X		X	X	X
Centro Internacional de Agua Potable y Saneamiento http://www.irc.nl/lges/index.html	X	X	X		X		X	X	X
Consultative Group on International Agricultural Research http://www.cgiar.org/					X	X	X	X	X
Departamento de Desarrollo Sostenible de la Organización de las Naciones Unidas para Agricultura y la alimentación http://www.fao.org/sd/index_es.htm				X	X		X	X	X
Global Water Partnership http://www.gwpforum.org/servlet/PSP	X	X				X		X	X
id21 communicating development research http://www.id21.org/				X				X	X
International Conference on Freshwater, Bonn 2001 http://www.water-2001.de/		X					X	X	
International Water Management Institute http://www.cgiar.org/iwmi/	X	X	X	X	X		X	X	X
Land and Water Development División - Organización de las Naciones Unidas Para la Agricultura y la alimentación (FAO) http://www.fao.org/waicent/FaoInfo/Agricult/AGL/default.stm	X		X	X	X			X	X

Organization	Methods and tools	Policies	Case studies	Network	Training	Databases	Conferences and meetings	Publications	Links
Oxfam http://www.oxfam.org.uk/publish/gender.htm								X	X
Programa de Agua y Saneamiento http://www.wsp.org/	X	X	X	X			X	X	X
Programa de las Naciones Unidas para el Desarrollo http://www.undp.org/water/index.html	X	X					X	X	X
Recursos Hídricos en el Altiplano http://www.agualtiplano.net/index2.html		X	X		X	X	X	X	X
The Water Page http://www.thewaterpage.com/		X	X					X	X
UNEP Freshwater Portal http://freshwater.unep.net/		X	X			X	X	X	X
United Nations Development Program http://www.undp.org/water/		X		X		X	X	X	X
United Nations Division for the Advancement of Women http://www.un.org/womenwatch/daw/		X					X	X	X
Water and Sanitation Collaborative Council http://www.wsscc.org/index2.cfm?CFID=9336&CFTOKEN=99813729		X	X				X	X	X
Water and Sanitation Programme (WSP) http://www.wsp.org/english/index.html						X	X	X	X
Water web http://www.waterweb.org/				X		X	X	X	
World Bank Water Resources Management http://lnweb18.worldbank.org/ESSD/essdext.nsf/18ByDocName/WaterResourcesManagement		X					X	X	X
World Bank Group http://lnweb18.worldbank.org/ESSD/ardext.nsf/18ByDocName/WaterResourcesManagement http://www.worldbank.org/html/fpd/water/ http://www.worldbank.org/gender/		X					X	X	X
World Water forum http://www.worldwaterforum.net/		X		X			X	X	X

ANNEX 6

Glossary

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

The gender relations characterized by inequity will have an impact on the unequal access and control of men and women to the resources and opportunities. An inequitable distribution of costs and benefits derived from the use of the natural resources may also take place. Therefore, these aspects constitute elements of analysis of gender relations.

- **The access** is defined as the possibility for participation, utilization and benefit of the resources and the 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 time.
- **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.

Affirmative actions

Constitute the strategies aiming at the promotion of equal opportunities through measures whereby it is possible to offset or correct discriminations resulting from social practices or systems. They aim at implementing programs to provide women with specific advantages.

The affirmative action is «... the most valid and accepted instrument at an international level to overcome the obstacles that stand in the way of achieving equality between men and women».

Affirmative actions are usually identified with actions focused on increasing the political participation of women, but may be extended to other fields of action. To eliminate or lessen discriminatory situations, they may be adjusted to the reality of the organizations and development projects.

Aquifer

The underground rocky or sedimentary layer containing water.

Biological diversity or biodiversity

The variety of life in all its forms, levels and combinations, including the diversity of the ecosystems, the diversity of species, and genetic diversity (IUCN, UNEP and WWF, 1991)

Charge capacity

The capacity of an ecosystem to sustain healthy organisms while maintaining the productivity, adaptability and renewal capability.

Civil society

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

Common law right

It refers to unwritten standards that generate a right based on traditions and customs.

Community

The social grouping within which individual households are established.

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

These are 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.

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.

Ecofeminism

Women are more identified with nature because of the connection between the domination and oppression of women and nature. It rejects patriarchy (authority of men over women).

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.

Economic security

The means to solve conflicts among economic activities while guaranteeing maintenance of the natural services.

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 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.

Efficiency

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

Elasticity

The mitigation capacity of a system in light of changing conditions.

Environment

It refers to all living and not 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 to each other as well as with all the not 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 information is revealed about 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 security

The means to achieve long-term social, economic and ethical security through: i) the sustainable utilization of renewable resources and functions of the ecosystems; ii) protection against natural threats; and iii) conservation of other species.

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.

Equal 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 abilities, regardless of gender, class, sex, age, religion and ethnic group.

Equal treatment

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

Equality

The condition of one thing 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.

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.

Freshwater resources

Fresh water, in all the different parts of the hydrologic cycle, all living beings existing in these waters, and all the goods and services they provide.

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, form 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

It 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.

Gender in development (GID)

Men and women play different roles in societies, for which reason they have different needs and opportunities. The planning approach focuses on meeting the strategic needs and empowerment of women.

Governability

A democratic form of governing a country or institution by taking into full consideration the needs and expectations of all citizens and stakeholders.

Institutions

The processes and structures leading to regularized decision-making and behavior patterns.

Integrated watershed management (IWM)

The pluralization and coordinated management of the water resources of a river watershed, considering its interaction with the soil, the water and other environmental resources, to be used in an equitable, efficient and sustainable manner in a wide range of scales, from the local level to the level of the spring.

Integrity of the ecosystems

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.

Legitimate

Public, fair and accepted by all concerned, and that requires an institutional decision-making framework that represents everyone's interests.

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.

Migration

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

Misogyny

The attitude of hatred or contempt towards women, merely for being women.

Overexploitation or overcollection

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.

Population

The group of individuals from the same wild species who share the same habitat. It is considered as the basic management unit of free wildlife species.

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, finally, 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 suppliers 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

An area primarily used for the protection and enjoyment of a natural or cultural heritage, maintenance of biodiversity, and/or maintenance of life-supporting systems.

Public (social) interest

These are the interests of the citizens of a country. This interest is formally declared by law and legal regulations are in force to protect it for the benefit of the entire population.

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 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.

Resistance

The attribute of remaining unchanged even under the influence of new forces, new data, or new observation perspectives.

Resource deterioration

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

Resource supply

The total actual and potential package of goods and services that may be extracted from a certain resource.

Restoration

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

Right

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

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.

Sanitation

The elimination or safe reutilization of excrete and other waste generated by urban, industrial and agricultural uses.

Scarcity

In the case of water resources, the limited availability of many different water supply services limiting access thereof. Scarcity may simply mean that there is not sufficient water (which leads us to wonder about how the available water should be distributed), but to many the problem lies on the quality of water resources, the consequences of the different and incompatible uses competing for the same resources, or the social, economic or institutional obstacles limiting the access to resources that, in an absolute sense, are abundant.

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.

Social security

The means to reach material and non-material manifestations to meet basic needs in a secure manner and to be free of threats posed by violence, damages, oppression and environmental risks.

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.

Spring

The land unit from which water flows downstream up to a specific point within a watercourse, determined by the topographical characteristics and limited by a dividing line (for example, watershed, watershed, drainage watershed).

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.

Subsistence goods

The production means available to a specific person, household or group that may be used in their subsistence-related activities, including natural capital, social capital, human capital, physical capital and financial capital.

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.

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.

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).

Vulnerability

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

Women in development (WID)

Women are an unused resource capable of making an economic contribution to development. A change in the focus of wellbeing planning towards poverty relief and meeting of the basic needs of women.

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.

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