

Unveiling differences, finding a balance

**Social Gender Analysis for
Designing Projects on
Community-based Management
of Natural Resource**



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Preface

Equitable distribution of the costs and benefits associated with conservation is a key issue within natural resources management. Trends show increasing environmental degradation and social and economic inequalities within and among households, communities and nations. Poverty and environmental degradation are linked to decision-making processes that are socially exclusive and based on an uneven access to, and control over, natural resources.

Addressing the underlying social, economic and cultural factors shaping social differentiation within and among communities – in terms of people’s diverse needs, interests, knowledge and power—is the first step to reverse inequalities associated with natural resources management. The above will also promote conservation of biodiversity and a just management of natural resources for the various social groups involved.

IUCN’s contribution to gender and social equity:

- Since 1980 IUCN has undoubtedly contributed to expand the concept of conservation to include sustainable use of natural resources. (IUCN World Conservation Strategy, 1980.) In early 1998, IUCN adopted a policy aimed at mainstreaming gender, and addressing the promotion of gender equality as a crucial factor in furthering the progress of environmental and social sustainability.
- In 2000, IUCN adopted the Policy Statement on Social Equity in Conservation and Sustainable Use of Natural Resources, which reaffirms social equity as a fundamental condition for environmental sustainability. This policy statement recognizes that in order to be successful, conservation of nature has to be understood as a social process, one that requires changing social and individual behaviors. This policy calls for effective and coherent strategies to ensure that conservation does not accentuate or perpetuate existing social, economic and cultural inequities.
- The IUCN Quadrennial Programme 2002-2005 targets Equitable Sharing of Costs and Benefits as one of seven key result areas aimed at increasing understanding of the main socio-economic factors behind environmental degradation: Poverty, concentration of wealth, over-consumption, and globalization. The said programme suggested concrete actions that could be taken to alleviate environmental degradation.

- In addition to global policy and planning priorities, various regional and national IUCN programmes and projects have gained expertise and experience on issues related to equitable sharing of costs and benefits of conservation activities.
- The Social Area Programme in the IUCN Regional Office for Meso-America (IUCN-ORMA) took the lead in mainstreaming gender in field projects and environmental policies. The team produced excellent gender tools in its series Towards Equity, which is now available online: POAM <www.poam.org>, The IUCN Forest Conservation Programme has published a number of documents, books and tools on participatory forest management (such as community-based management, collaborative management and indigenous ecosystem management). The Social Policy Programme has produced excellent materials on collaborative management as well. These documents and experiences are available on the Participatory Management Clearinghouse Web Site (online: The Participatory Management Clearinghouse <www.PMCnet.org>) initiated by the Social Policy Programme in partnership with Ramsar and the World Wildlife Fund in 2000 (online: IUCN <www.iucn.org/themes/spg>). The Spanish edition of the PMC was developed with IUCN SUR in 2001 and is available on their web site (online: IUCN SUR <www.sur.iucn.org/ces>).

This booklet recognizes these efforts and takes them one step further. It responds to the need of project managers to understand how gender, poverty and ethnicity relate to each other and how they affect project results. This booklet also guides projects on how to respond, in an integrated way, to the different mandates on gender, poverty alleviation and indigenous peoples.

- This booklet presents practical tools to consolidate and analyze information, it will enable project teams to understand how gender, poverty, ethnicity, age, and other key social variables are linked, and what implications they have on environmental management. This understanding is expected to improve results in promoting more equitable sharing of costs and benefits within communities.
- This booklet aims to encourage IUCN members and partners to use social and gender analysis as a methodology for promoting equitable sharing of the costs and benefits of natural resource management. While this booklet focuses on the design of a project, it acknowledges that the process of understanding the social map of communities might require more time than the design phases. It should, therefore, continue during the implementation phase, making the project flexible to adaptation, leading to an evolving understanding of the social dynamics within communities.

Introduction

This booklet is for you if you are working in the conservation & natural resources management projects at the community level.

- It can help you design and adapt projects that distribute the costs and benefits associated with natural resources management in more equitable ways.
- This guide is designed for project staff and managers working for institutions in developing countries who are concerned by the links between conservation of natural resources and sustainable livelihoods.
- We assume these institutions are already convinced of the need to promote participatory management of natural resources and to distribute costs and benefits in ways that are socially more just.
- Because of the abovementioned reasons, this booklet does not present arguments on behalf of participatory management of natural resources; however, this booklet puts forth concrete ideas on how to make participatory management fair for those various groups involved and affected. Some good reference materials on participatory management are provided in Appendix 1.

This booklet contributes by:

- Providing a conceptual framework, a methodology and a set of tools to integrate social variables like gender, ethnicity, class, poverty, age and seniority in the design of natural resource management projects.
- Applying the social and gender analysis to identify the various social actors who access, use, and control natural resources and make decisions concerning them.
- Understanding the particular interests, needs and potential contributions of specific groups.

All these elements influence and affect natural resource management and the livelihoods of local people.

THIS BOOKLET IS ABOUT:

- Making the analytical and empirical connections between social variables—such as gender, poverty, ethnicity, age, seniority, and education—and environmental issues.
- Helping projects to respond in more integrated ways to the various mandates on gender, poverty alleviation, indigenous peoples' rights, and sustainable use of natural resources.
- Identifying and understanding social variables and their interactions with environmental processes (this not an easy task for a non-specialized staff).
- Using social and gender analysis as an instrument to promote social equity in conservation and natural resource management.

As the timeframe and conditions of the design phase might not be enough to generate the information required, this booklet should be used throughout the whole project cycle.

THIS BOOKLET IS NOT ABOUT:

- Gender or
- Participatory management as isolated issues.

Organization of the booklet

This booklet starts:

- By introducing key concepts such as gender, social equity, sustainable livelihoods, and different variables and issues, such as poverty, age seniority and ethnicity.
- The booklet then goes on to explain why and how increased understanding and recognition of these variables in early project phases can facilitate a more equitable distribution of costs and benefits among the various social groups, households and individuals involved and affected by the project.

The various social variables presented in this booklet:

- Might be more or less relevant for different projects, depending on the project's individual context and goals.
- Each project, after going through the analysis proposed in this booklet, can highlight the variables that are more relevant to its goals and context—gender, poverty, and ethnicity or decide to address all of them.
- It is important to review the wide spectrum of variables before narrowing the focus.

The social and gender analysis presented in this booklet:

- Links **gender** with a broader set of social variables that interact with **gender—age, seniority, ethnicity, class and poverty**—providing a more complete picture of the gender and social equity demands placed on a project.
- Links **socio-economic** and **cultural contexts** with **environmental concerns**, helping projects to relate their goals and expectations with the diverse behavior of local populations.
- Helps to draw the **internal social map** of a community based on the identification of specific social groups, their power, their interests and needs, and how this affects the project.

The internal social map of a community can help projects:

- Mobilize local resources and properly engage various social groups in fair decision-making and participatory management. This would, in turn, increase social and environmental sustainability.
- Improve the assessment of their results in terms of alleviating poverty and promoting social equity – both strategic mandates for IUCN and most conservation and development agencies.

The second section of this booklet presents:

- Practical methodological guidance to integrate the conceptual framework into the project design or adaptation through.

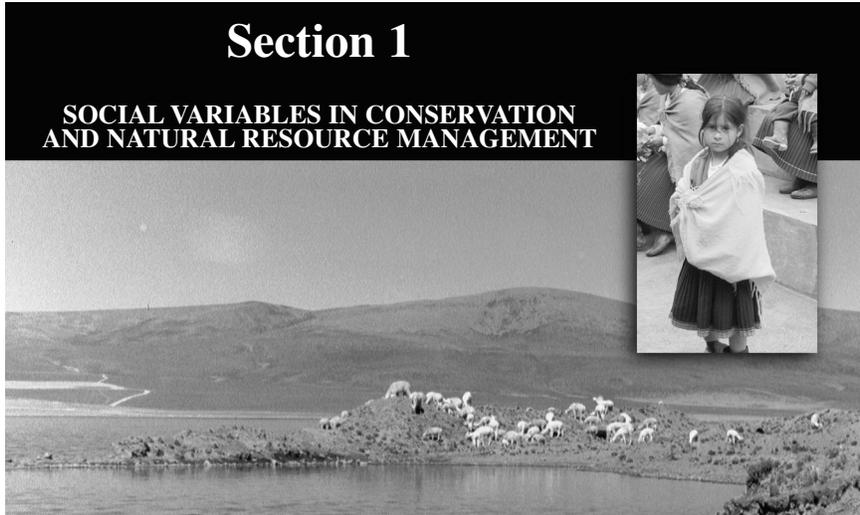
- Five tools or matrixes for organizing analyses and information, these are designed to connect various social variables with conservation issues.

In short, this booklet:

- Can help to **unveil social structures** in the community and to find a balanced way to integrate their conflicting interests.
- Frames gender within the broader context of class, ethnicity, caste, religion, age and seniority and poverty, all of which shape behavior, power, decision-making and use of natural resources within communities.
- Provides a **unified framework and methodology** for projects to respond to separate mandates on gender equity, indigenous peoples' rights, poverty alleviation, etc.
- Reduces **the risk of projects perpetuating existing social inequalities**.
- Helps **building capacity and local social expertise** within projects and institutions involved in the use of this booklet.

Section 1

SOCIAL VARIABLES IN CONSERVATION AND NATURAL RESOURCE MANAGEMENT



Conservation projects look for sustainable use and management of natural resources, in order to protect nature's integrity and diversity. Involving local communities in this process is becoming a more common practice among environmental organizations. Participatory approaches to natural resource management empower local communities to participate in planning and management. However, they do not necessarily ensure the distribution of costs and benefits in a way as to be socially equitable among those involved. Explicit efforts need to be made within participatory management of natural resources to enhance gender and social equity within and among communities.

Different stakeholders in a community have distinct rights, responsibilities, interests, and opportunities to participate in decision-making. They bring different perceptions and perspectives for defining and solving problems. This, in turn, affects their particular interests and the incentives they might have for conservation and use of natural resources.

Recognizing the diversity of opinions, interests, opportunities, and the complexity thereby introduced to conservation processes and activities, is a first step in promoting sustainable and equitable natural resource use.

It is very important to address the many processes associated with socio-economic differentiation, which shape the unequal distribution of costs and benefits of conservation and natural resource management among various stakeholders.

Unless special provisions are made to balance or neutralize the effects of social differences, conservation projects can create or accentuate inequalities. Careful identification of complementary and conflicting interests in resource use can lead to mechanisms that might neutralize and reverse inequalities, and to find incentives for sound and fair environmental management.

For non-experts, the social web might seem unclear and confusing, like a labyrinth. Identifying and understanding the interaction of social variables like gender, class and ethnicity appears to be complicated and time-consuming.

This booklet aims to provide a framework and a methodology to make this task easier for teams designing a project on natural resources management at the community level.

SUSTAINABILITY, PARTICIPATION AND EFFICIENCY

- Projects usually fail to identify all social groups, therefore limiting the participation of certain social actors.
- A project's social basis and its social and environmental impact are restricted when the needs and perspectives of all relevant stakeholders are not included.
- Participatory management of natural resources cannot be successful unless the social and economic distribution of costs and benefits among those involved is equitable.
- Understanding the internal social dynamics within communities helps projects to include the interests and perspectives of various social groups, increasing projects' efficiency and sustainability.

EQUITABLE SHARING

The notion of equitable sharing refers to the need to ensure that interventions are not only cost-effective, but that their costs and benefits are fairly distributed among the social groups involved and affected by the intervention. In the context of conservation and natural resource management, the notion of equitable sharing calls for an explicit effort to address those social and economic inequalities (in the areas of participation, decision-making, and power sharing) that currently allow only some groups to enjoy all of the benefits. Frequently in such situations other groups have to pay the costs of either the degradation of natural resources or their conservation. Equitable

Sharing highlights the need to overcome social and economic inequalities associated with natural resources management in order to advance towards a more sustainable use of nature, recognizing that socio-economic differentiation is associated with unfair sharing of the costs and benefits of any intervention.

Social differentiation is related to social hierarchies that maintain asymmetries in the way individuals relate to each other and in the way they access and benefit from natural and economic resources. Attention should be given to the way in which social differentiation affects natural resource management.

The costs and benefits of current patterns of the use of natural resources are distributed in accordance with the following criteria

<p><i>Location and time:</i></p> <ul style="list-style-type: none">• Rural versus urban• Local versus global• Upper versus lower watersheds• Seasonal/yearly/multi-year cycles• Short term versus long term• By different cohorts or generations	<p><i>Socio-economic factors:</i></p> <ul style="list-style-type: none">• Hierarchies of gender, class, race, ethnicity, age and seniority that give different roles, rights and powers to individuals.• Governance and power structures that institutionalize social hierarchies.• Markets that exacerbate social differences, open new opportunities and change traditional practices.• Legal and institutional frameworks (formal and customary) that regulate entitlements and rights.• Culture and ideologies that justify social differences in terms of gender, class, age, etc.• Personal agency and family histories.• The way individuals shape and reconstruct their identities and claim their rights.• The way social institutions like family, kinship and social networks provide resilience and support individual livelihoods.
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The underlying patterns of social differentiation in a given community:

- Affect conservation projects' results and their level of sustainability.
- Shape imbalances in the way various groups relate to the environment and to the project.
- Govern the decision-making processes related to natural resources.
- Influence how different people access and use resources.
- Define the way knowledge of various social actors is incorporated or excluded within natural resources management.

Projects can add to inequalities, unless special provisions are taken to balance or reverse these inequalities. It is important to understand the roles that specific social actors play in the use and management of natural resources, in order to facilitate the negotiation of their various interests and needs.

A balanced way to negotiate different interests can only rely upon a good understanding of how social differentiation affects social interactions in specific settings.

POVERTY

Poverty can be described as a state of deprivation that prevents people from fulfilling their basic needs in terms of food, shelter, health, well-being and the power to pursue their human rights and development. A family in poverty cannot secure on a stable basis food and shelter, access to education, health or safety.

Poverty usually results from:

- Limited access to and control of natural, social and economic resources, which is often an effect of a subordinated position within social, gender, age, ethnic and/or economic hierarchies.
- Seasonal or absolute scarcity of natural resources like water, vegetation and wildlife, on which peoples' livelihoods depend.
- Destruction of natural and social habitats and resources caused by war and conflicts, urban and industrial expansion, etc.
- Natural or human induced disasters, such as droughts, floods, forest fires, landslides, etc.

Poverty is associated with scarcity. However, it is important to understand that natural scarcity is not the only cause of poverty, since “social scarcity” results from uneven social access to natural and economic resources.

- The main cause of environmental degradation is the increasing demand for natural resources, generated by global hegemonic systems of inequitable production, consumption and distribution. The same forces that increase wasteful consumption in developed countries increase poverty of large populations in the rest of the world.
- These global mechanisms add to the local demographic pressure on natural resources exerted by local communities and individuals who depend on natural resources.
- Often, the poorest people and communities are the most detrimentally affected by environmental degradation. Although they are usually blamed for this problem, there are forces and interests beyond the local level that are responsible for this degradation. The over-consumption of non-local consumers exceeds the direct consumption made by local people of natural resources.

Poverty is often associated with environmental degradation, because the lack of alternative sources of income, food and energy often forces local populations to increase their pressure on the natural resources on which they rely.

Indeed, poor farmers often clear forests and wetlands for agricultural purposes. For example, people with no access to land in Zambia need to clear forests for cultivation in hill areas that are ill suited for agriculture. Poor families in Malawi also have to farm on unsuitable lands. They rely on wood for fuel, cooking and heating, or make charcoal to sell at the markets, and are putting a strain on forests and ranges. However, outsiders who obtain concessions and permits for logging, tourist lodges, oil and mining operations and cattle ranches often exert the largest pressure on natural resources.

This has been well documented in the case of developmental policies in Brazil. These policies provided subsidies for the clearing of Amazon rainforests for cattle ranching, but they also displaced local populations. A broad social movement of resistance of local people, supported by global activists, resulted in the creation of the Rubber Extractive Reserves. Voices of concern have been raised on the impact of logging contracts affecting boreal forests in Canada, Alaska, Russia, and Scandinavia, as well as the tropical rainforest of Latin America and Asia.

Poverty does not affect all families alike and neither does it affect all individuals alike:

- There are various adaptive strategies that have different impacts on resources—soils, wildlife, biodiversity in agriculture and forests.
- Poor families are not passive actors, but are actually very creative. They develop complex livelihoods that are adapted to limited or inadequate resources, and these strategies have allowed them to survive through time often in adverse conditions.
- The knowledge that local populations have generated through their experience passed on from generation to generation has to be recognized and used when designing or implementing a conservation project.

Not all families make the same use of natural resources within their communities.

Reducing poverty and promoting sustainable management of natural resources requires complex solutions and cooperation among all stakeholders and project teams in order to recognize and appreciate local knowledge and perspectives.

Developmental policies also have an impact on poverty. For instance, in Malawi, after the liberation, land in the hands of communities and traditional chiefs was converted into private tobacco estates. These changes in land use were part of an orthodox development strategy that resulted in more social exclusion from land and further poverty among members of rural communities.

- Finding solutions to overcome or reduce poverty that are environmentally and socially sound and effective is quite difficult.
- Identifying and understanding the roots of poverty, and the means by which local livelihoods subsist, are the first steps in tying local solutions to natural resources management that are fair and sustainable.

GENDER AND POVERTY

In Dakiri, Burkina Faso, allocating smaller plots separately to men and women, instead of allocating bigger plots to household heads, had positive productive and social results. When both men and women have irrigated

plots, the productivity of irrigated land and labor is higher than in those households where only men have plots. Women are frequently superior irrigation farmers, and those who have obtained irrigated plots are proud of their increase ability to contribute to the needs of their households. Women prefer to contribute to their households by working on their own plots, rather than providing additional labor to their spouse's or to the collective plots. As they become economically less dependent upon their husbands, women can help support their relatives and increase their own opportunities for individual accumulation of wealth in the form of livestock. The effects of having those individual plots significantly improve the bargaining position of such women within their respective households. Being in possession of an individual plot becomes a source of pride in the household and the community at large. (World Water Vision, 1999.)

Poverty also involves attitudes, identities, behaviors, and the use of adaptive strategies. These subjective elements should be considered in order to reach an understanding of how people living in poverty behave and make decisions affecting the environment.

LIVELIHOODS

Local livelihoods, family strategies and farming systems are terms that refer to complex social management of resources that allow poor households to survive. Local livelihoods are the complex arrangements developed by households to cope with risks and limited natural and economic resources. This approach focuses on the dynamic and related means through which local people struggle to make a living, and the rationale behind their decisions, as opposed to a static analysis focused only on quantitative isolated indicators.

Families have access to natural resources—land, water, forests; economic resources—assets, cash, access to markets, credit, information and training; and socio-cultural resources—kinship, social networks and systems of knowledge.

Each family's access to natural and economic resources depends on its position within class and power hierarchies and kinship systems. It also depends on its capacity to negotiate (i.e., its bargaining power) inside and outside the community.

Individuals access and use natural resources through:

- Social relations and according to their place in hierarchies such as class, gender, age, seniority, etc.
- Power groups like unions, churches, etc.
- Kinship systems.
- Their capacity to negotiate their interests.

Generally, poor rural families have a very limited access to natural and economic resources and tend to optimize the social capital they have, such as family labor, traditional knowledge, kinship, local organizations, and social networks.

Many poor rural families have links with the city, either through some family members working in the city or because of their own mobility. Projects should avoid thinking that there is a sharp separation between rural-urban sectors, because there are many links. For instance, some traditional families of goat herders in an isolated and poor area of the northern coast of Peru included in their income resources generated by their daughters selling Yambal beauty products in those villages. (Quijandria and Espinosa, 1985.)

Usually, the poorer the household, the more vulnerable it is to changes and disruptions of any type, such as variations in demand, prices, credit or subsidies, weather hazards like droughts, floods, freezes, family illness, etc.

Gender and age divisions of labor within households enable complex temporal and spatial arrangements that allow these households to make intensive use of scattered and scarce resources during the year cycle. Impoverished rural households usually make optimal use of household labor within a yearlong cycle, however the division of labor within households and communities is usually based on gender and age asymmetries.

Livelihoods usually rely on multiple uses of available resources. These uses and activities are often diverse, including subsistence and commercial agriculture, harvesting of different natural resources and wildlife, include wage labor in local and regional markets, handicraft production, small businesses, etc. Figure 1 shows the diverse set of activities forming the livelihoods of riberenos in the Peruvian Amazon.

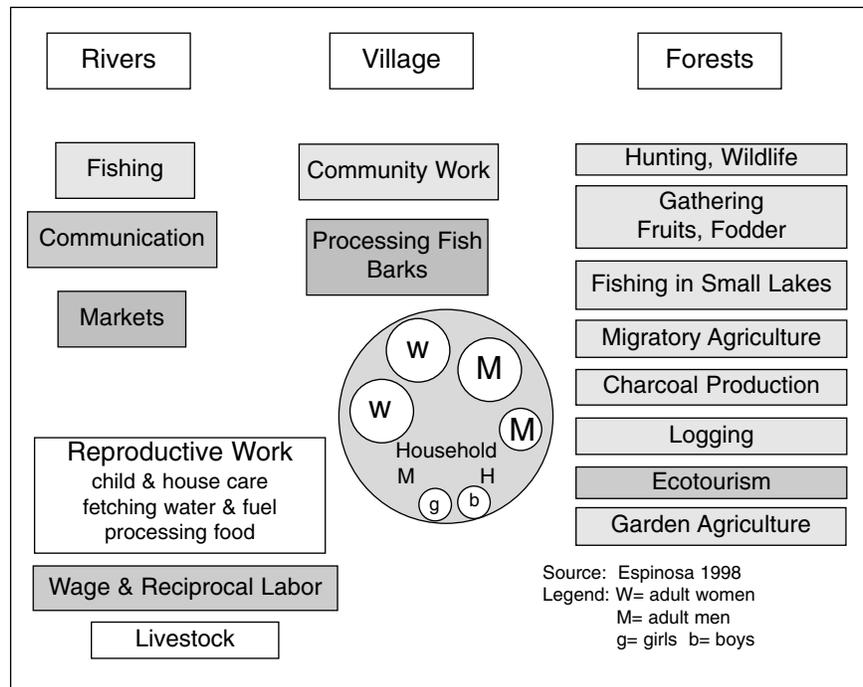
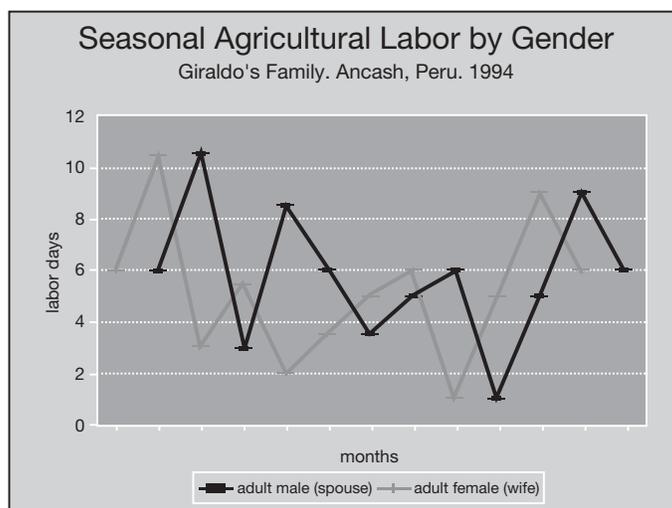


Figure 1. Farming Systems of Riberenos in the Peruvian Amazon

Diversification within agriculture and within economic activities is a strategy used to minimize environmental and economic risks and to make maximum use of family labor. As already mentioned, the labor of women and children is key to maintaining the diversification that characterizes most livelihoods. Some tasks performed by men like hunting, gathering, fishing or wage labor are often seasonal and coincide with key agricultural tasks, which are done by women. Figure 2 presents an example from the Peruvian highlands, showing how female labor complements the lower engagement of male labor in agriculture during peak periods along the agricultural cycle, allowing men to perform activities outside the farm.

Division of labor in terms of productive and reproductive roles results from gender and age hierarchies that legitimize these roles. Nevertheless, it is important to keep in mind that the borders between productive and reproductive roles are not always clear, and that they are not always either male or female dominated. For instance, food processing is done for consumption and for sale and the amount sold or consumed varies according to the cash flow, food availability, etc. The prevalence of inter-gender co-operation, subordination and conflict depend on specific cultural settings.



(Source: Espinosa, 1995.)

Figure 2. Seasonal Use of Male and Female Labor in Agriculture

Analysis is essential to understanding the particular conditions to which livelihoods respond and the role played by gender, class and ethnicity in sustaining these livelihoods and the way they affect the use of natural resources. Livelihoods rest on the social hierarchies of class, gender, age and ethnicity, which regulate the delegation of tasks and the power to make decisions. These hierarchies also shape the way costs and benefits are distributed among the members of a household and community. For instance, lack of access to land has been associated with the incidence of poverty, especially for women as it limits their food supply, access to income and credit. As activities extraneous to the farm are better understood as an important component of improved livelihoods, the access of women to activities divorced from their farms becomes crucial for improving women's condition. Kabeer & Van Anh (2002) explore the relationship between gender, the diversification of livelihoods and the well-being of rural households in Vietnam: “while the ability of household members –whether female or male- to diversify out of farming is clearly a factor associated with higher income and well-being, those households where women were only able to diversify into wage labor tended to be poorer on average and to report significantly lower levels of well-being.” (Kabeer & Van Anh, 2002.) These results call our attention to the need to carefully analyze the various components of rural livelihoods by paying close attention to their gender dimensions.

ETHNICITY AND CULTURE

People can be differentiated within communities and countries according to ethnicity and culture. Ethnicity, for the purpose of this booklet, is understood as the belonging to a certain group that defines itself as different from others. While language, common origins, Cosmo vision and costumes are elements that help us define ethnicity; the most important element is the identity the group has as a specific ethnic group. Ethnicity can be used to connote membership in a certain tribal group, an entire nation, and beyond. Often, national borders keep ethnic groups separated, as in the case of the ZIMOZA project involving traditional peoples of Zimbabwe, Mozambique and Zambia, which we have used to illustrate the tools comprised in section II.

Ethnicity is usually associated with different entitlements to natural resources within and between communities; therefore, it is an important variable that shapes the way local families access, control and share the costs and benefits of natural resources.

Ethnicity is a common source of conflict among different groups, as well as a binding element within them. It is important to note that the way we understand ethnicity can be influenced by our own ethnic bias. Hence, it is useful to consider the way social actors define themselves, and to understand the cultural relativity of the concepts we use when discussing these issues for natural resources management projects.

Perceptions on gender issues may be different for specific ethnic groups. For example, a disagreement erupted between Ashaninka indigenous women and Queschua women when the latter proposed the inclusion of domestic violence on the agenda for the indigenous women's movement of Peru. For Ashaninka women, the "real issues" were land entitlements and struggles with colonists, while domestic violence belonged to the families' private sphere. (Lanao, 2002.)

Ethnicity shapes the way local people access traditional knowledge on biodiversity and the environment in general. Ethnicity is always linked to other hierarchies such as age and gender. Elders among indigenous peoples usually hold the most valuable body of knowledge on biodiversity, soil management, traditional agriculture, and weather prediction.

How ethnic differentiation affects the use of natural resources

In the Zambesi basin, the Sena people would not accept gesbania sesban as a plant species to be used in agro-forestry projects because, in their culture, this plant is associated with evil spirits. The project had to bring in another species, Gliricidia, from ICRAF (International Center for Research on Agro Forestry).

When removing trees, the Bemba people of Zambia traditionally cut down the branches and then proceed to burn them, unlike other groups who uproot the entire tree.

In the Zambesi River, the Tonga and the Njanga had the right to fish first in the river, while other ethnic groups had to wait in line. Tonga and Njanda privileges were based on traditional beliefs related to their ancestry.

The ZIMOZA project, which includes Zimbabwe, Mozambique, and Zambia, shows how ethnic groups have been divided and are in conflict due to the creation of nation-states that ignored the territorial rights of these ethnic groups.

Culture also shapes the way local people use and manage natural resources and make decisions about them

There are some values, preferences and choices that are made independently of economic criteria. Local people sometimes maintain certain practices because they value them for cultural reasons.

Rural people can maintain practices based on cultural preferences, even though these practices do not represent the most economic or sustainable options. For example, some rural families of Zambia, Kenya and Tanzania continue to use charcoal for cooking, even when they can afford kerosene or electric stoves, because they enjoy the flavor of food cooked with charcoal.

In the ZIMUTO project (an IUCN wetlands project in Uganda involving traditional peoples), there are tensions between Christian families and traditional families concerning behavior at the sacred wetlands. For example, traditional behavior implies not wearing red clothing or allowing menstruating women into the wetlands. Local families converted to Christianity do not observe these traditional practices, which are regarded as backward and ignorant.

It is important that projects consider and understand the extent to which people's choices and values related to natural resources are based on ethnic or cultural differences.

It is very important to consider the site-specific cultural values that explain local people's behavior and choices, which affect the goals and activities of any project.

The rights of local populations to keep their ethnic identity and culture have to be respected and understood by project teams. The difference between cultural integration and assimilation is very important. While integration recognizes and respects cultural diversity, assimilation implies the subordination of traditional ethnic groups; in fact, such subordination entails the actual absorption of ethnic groups within the hegemonic culture and their eventual disappearance.

Conservation initiatives need to recognize and foster ethnic and cultural diversity as a fundamental part of conserving biological diversity. In this regard, the search for sustainability and social equity has to be part of building pluri-ethnic and multi-cultural societies and states.

Since 1985, AZTREC, the Association of Zimbabwe Traditional Environmental Conservationists, has been involved in the Zimuto area to "heal the land and its elements". Woodland management, wetlands management, agricultural land use and cultural survival are the basic elements of their strategy to conserve the environment. Formed by the traditional chiefs, spiritual leaders and liberation war veterans from seven districts, AZTREC promotes a new strategy for Zimbabwe, taking into account indigenous practices in natural resources use and land use management. Spiritual values and practices that are part of the local culture are acknowledged and promoted. (Gonese & Tivafiri, 2001.)

AGE AND SENIORITY

Within households and communities, roles, entitlements and power are associated with specific age groups. For instance, children have different roles from those of adults. In most traditional villages, male elders handle conflicts associated with water management, since younger adults respect their authority.

Among the adults, roles are differentiated by gender. Within gender, age and seniority determine adult group differences in roles and access to resources and power. This has implications on natural resources management.

These differences depend on the cultural context. It is important to know how and to what extent age and seniority distinguish the way community members access, use and make decisions about resources.

Age and seniority affecting the use of natural resources

In communities where there is more than one adult woman per household, age and seniority differentiate the roles of dominance and power and the tasks and assets among women within the same household.

Women in most rural societies gain seniority according to their age and place within kinship structures. As older women gain seniority, they often delegate to the younger women some tasks like grazing the herd or cooking for the household. By doing so, they gain time to perform other tasks—such as brewing beer or raising animals—which provide them with access to extra funds. These differences associated with seniority establish interests, restrictions and possibilities for women within the same households to participate in specific projects.

Marital status can also shape differences among adult women. Their roles change as they remain single, married, divorced or become widows. In communities where extended families are the norm, as is the case in Northern Ghana, adult women have different economic, productive and reproductive roles according to their age, seniority and marital status. These elements determine their rights to own cattle, kitchen tools and even access to financial resources. Seniority and marital status also establish relationships of dependence among adult women within the household. (Warner et al., 1995.)

In Zimbabwe's Save Valley:

- Only adult men are allowed to hunt, while young men stay at home.
- Young men cannot own land until they are married.

In the ZIMUTO project:

- Only older men and women, who are not sexually active, can enter sacred places in the wetlands.
- Older men are consulted when decisions are made.

Age and seniority differences have implications for natural resources management and development projects. Time allocations for productive and reproductive roles, access to small business ventures, and access to money, all these factors change within groups of men and women, in accordance with their age and seniority.

Decision-making power might not be the same between all adult women. For instance, in the case of the Ashaninka people in the Amazon, senior women have control of decisions related to pottery. While young women were eager to bring changes to the designs in order to make their products more attractive in the market places, senior women would not allow such changes or innovations. These tensions associated with seniority were affecting the results of a project established to generate income for women by improving their pottery production.

Considering age and seniority helps to refine gender analysis, and to better identify roles and stakeholders within households and communities. In some contexts, these differences may not be relevant for natural resources management, while in others they are crucial. For the sake of the analysis it is better to assess the importance of these variables in each case before disregarding any of them.

GENDER AND NATURAL RESOURCES MANAGEMENT

Conserving biodiversity and achieving sustainable management of natural resources relies on the capacity of people to agree on long-term, viable and fair arrangements for the use of these resources. This requires users and stakeholders to negotiate fair agreements that accommodate their needs and interests.

Gender is one of the major social systems within communities, regulating the way men and women interact, share workloads and distribute resources, power and income. It shapes how men and women perceive themselves, how they build their identities, make decisions and place themselves in the power structures affecting nature and people.

Learning more about gender and social differences will help project managers to anticipate possible conflicts, and negotiate a solid and fair social base for socio-environmental sustainability.

For example, a project aimed at reducing pressures on forests due to fuel collection by local people needs to:

- Focus on those involved in collecting fuel (i.e., women of a certain age) whose voice might not be represented in meetings with local groups.
- Consider how proposed changes (i.e., planting certain trees and bushes close to houses) might affect gender, class and ethnic groups within the community.

- Assess if the costs and benefits associated with the proposed changes are fairly shared among those groups, this should be done in order to ensure social sustainability. The role of core power groups within communities and districts is vital and must be considered.

By doing this, a project can reach its goals with greater ease while at the same time more evenly distributing among the people affected the costs and benefits associated with the changes the project brings up.

As already mentioned, community members undertake distinct responsibilities and thus have different rights, access and control over resources and decision-making opportunities.

- These differences are the result of gender, class, status and ethnic group affiliations.
- Other influencing factors: religion, access to formal education, family size and access to markets.

Knowing more about these differences will help project teams to:

- Anticipate the social conflicts in the project area to better define the scope of the project.
- Avoid or more efficiently manage existing conflicts.
- Build a solid and stable social platform based on equitable agreements and entitlements.

In the next sections, we will present some ways in which gender affects conservation and natural resources management:

- Roles and responsibilities
- Decision-making
- Use, access and control of natural resources
- Traditional local knowledge
- Local organizations and socio-environmental security.

GENDER, ROLES AND RESPONSIBILITIES

Gender roles differentiate people's lives in terms of responsibilities and activities, including those related to natural resources.

Women and men assume separate roles and responsibilities to secure their livelihoods. There is a division of labor and roles within the household and the community.

However, the roles are not fixed. They change constantly, due to dynamic interactions. As environmental, social and economic circumstances change over time, men and women continuously re-negotiate their roles and responsibilities.

To better understand gender roles in regards to natural resources management, it is important to address the triple role of women, which places specific demands on women's time and energy. (Moser, 1993.)

1. In their reproductive role, women are responsible for activities that support material reproduction of household members: childbirth and care, cooking for and feeding family members, collecting water and fuel; making, providing and washing clothes, cleaning the house, tending to subsistence crops, taking care of small livestock, and providing health care.
2. In their productive role, women carry out activities that receive economic rewards, such rewards are either monetary or in kind.
3. In their community role, women are often involved in formal and informal organizations and activities that support children's education, school nutrition programs, community kitchens, family and kinship obligations, religious duties, community work and care of the elderly and the ill.

The borders between these roles and the way they are distributed and shared between men and women are not always clear. Cultural, social and economic contexts play a key role in the way duties are assigned and shared among men and women.

There is substantial evidence concerning how this "triple-role" usually places heavier burdens on women than men, setting different opportunities and constraints for women and men to participate in natural resources management.

Women are vital to nourishing the world. They produce 60 to 80 percent of the food in most developing countries and their role in farming continues to grow. In 1950, women performed almost 40 percent of agricultural work. Today, they perform close to half globally and are the primary food producers in many parts of the world. In Sub-Saharan Africa and the Caribbean, they provide up to 80 percent of staple foods. In Asia, they perform up to 90 percent of the work in rice fields.

More than simply supplying labor, women possess a vast and detailed knowledge of many crops—such as how the different parts of a plant can be used for food, medicine, and animal feed—and they are central to the selection, breeding, cultivation, preparation, and harvesting of food. Women help to protect and save the seeds, breeding stock that provides the "genetic resources" for food production.

Women farmers also often possess unique knowledge about fish and livestock. In many countries in the developing world, women do most of the inland fishing and handle most of the work associated with fish farming. They also raise livestock and manage dairy production. When the women go home from the fields, they prepare the food for their families.

(Women Feed the World, online:

Future Harvest - Science for Food, the Environment and the World's Poor
<www.futureharvest.org/people/women.shtml>)

CONTROL OVER ACCESS AND USE OF NATURAL RESOURCES

People use natural resources in various ways and for various purposes

Men and women use different resources or use the same resources but differently. However, it is important to resist the temptation to quickly label resources or uses as either male or female. It is recommended to instead investigate each situation carefully on a case-by-case basis.

- Women's contribution to the management of resources that are oriented towards the market is often ignored because the resources are considered to be within the male domain— as in the case of fishing, hunting or commercial cropping.
- It is easy for outsiders to overlook the secondary and tertiary processes associated with resources harvested by men. For example, women process fishes and furs from animals brought to them by men. Since the resource is labeled as exclusively within the male domain, women's economic contribution is ignored.

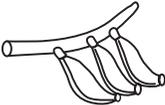
In some cases, women also harvest or extract resources that are considered to be part of the male-domain.

For example, Kainer & Duryea (1992) show that 50% of women interviewed in the Brazilian Amazon had, at some time, tapped rubber and 78% of them regularly collected the latex tapped by a male relative. This information exposes as a myth the common view that rubber tapping is always an exclusively male activity.

Aside from using natural resources differently, men and women usually do not have the same access to and control over these resources.

Many examples from tropical forests attest to the fact that women have access to certain trees to collect fruits or gather fodder for their animals. However, they have no control over those trees, and when men decide to cut and sell them, women lose an important resource. Conservation projects might gain stronger support from those women who have a vested interest in keeping trees alive.

Multiple Uses of Resources by Gender

Sub Products	Male Use	Female Use
Leaves 	Provides protection against rain and sun	Provides protection against rain and sun; used in wrapping or serving foodstuffs.
Fruits 	Sold in markets	Sold in markets, consumed at home, sold at social events, given as presents to friends & relatives.
Flowers 		Prepared in salads and other dishes
Stem 	Cut and used to feed pigs	Grated and used to feed pigs
Roots 	Transplanted to home gardens; given to friends	Transplanted to home gardens

(Slocum et al., 1995.)

- "Tenure and rights" systems tend to favor men as heads of households, leaving women disempowered to make decisions about the resources they use and depend on.
- Projects can perpetuate this situation by ignoring women's dependence on key resources and their lack of control over them.
- This is especially important in those rural societies where men and women have not only different roles within the household but also different budgets.

GENDER AND DECISION-MAKING

Key questions to ask: Who decides? Who benefits?

It is necessary to understand how important decisions are made within households and communities:

- Decisions related to natural resources management can expose women's subordination in the way decisions are made and implemented within both households and communities.
- There are formal and informal mechanisms for making decisions. Interested parties involved in putting together projects should pay attention to both mechanisms and how they interact, in order to understand the different roles of men and women in making decisions related to such projects.
- In most rural societies, formal decision-making mechanisms within communities are usually male-dominated.
- Projects could foster more balanced decision-making by acknowledging women's contributions in the management of natural resources, family health and communal affairs.
- Including women in community management boards and committees can empower women within the public domain. However, it is important to note that gender sensitization and empowerment should be attentive to local culture. Engaging men as well as women should be done with the view to minimize resistance and conflicts within households and the community at large.

- Another point to consider is the bargaining power of women in their contacts with men, which affects the relationships between public and private domains. Bargaining power might give indirect and hidden power to women to make decisions, which might influence the way formal and informal mechanisms are used to make decisions in general. A project in the Peruvian highlands got the approval of the (male dominated) community council to reforest an area that seemed to be useless, but was a place where women grazed their sheep herds. Women's bargaining power within households led to the revocation by the community council of its earlier decision to reforest that particular area. (Chavez, 1991.)
- One way to empower women and to achieve a more balanced process of decision-making is to include formal and informal organizations within their communities, project discussions and decisions.

At least 50 million women in developing countries are employed in the fishing industry, usually in low paying but important jobs such as net making, processing and marketing. Already mired in poverty, their circumstances are sure to deteriorate as they come face-to-face with the challenges of globalization, declining fish supplies, and competition from modern fishing fleets. Most women involved in fishing lack access to tools and require a voice in decision-making or the opportunity to receive training. To succeed in a world where privatization is on the rise and subsidies for fishing are disappearing women will need a lot of extra help. Until now, however, the very groups that one would expect to provide support have literally missed the boat.

Stella Williams, an economist from Nigeria's Obafemi Awolowo University notes that gender programs rarely reach out to women working in fisheries, and that fishery programs have been slow to take steps to improve their lot. "In developing countries," she says, "the work of women fishers is mainly found in the informal economy, where they continue to receive low pay and little in the way of job security. Most women lag far behind men in terms of earnings and in the services that would improve profitability."

LOCAL ORGANIZATIONS AND SOCIO-ENVIRONMENTAL SECURITY

There are many formal and informal organizations and networks within communities, and men and women play different roles within them

Projects usually focus on the most obvious formal and larger organizations, which are usually male-dominated, ignoring some less visible but equally important organizations.

Formal organizations are those organization formally recognized and in the possession of written rules. Besides community councils and local governmental bodies, there are sport clubs, religious groups, women's organizations, school-related associations and political parties.

Informal organizations can include kinship groups and non-kinship groups gathered for the purpose of exchanging labor and goods, hunting and fishing, and small-business informal partnerships. All of these groups are very important in providing social networks and for sharing information, labor and resources. They enhance social resilience and coherence and are important elements of local livelihoods. In some cases, kinship groups might also generate conflicts with regards to natural resources management.

These social networks, and the roles men and women play in them, are an important source of information for projects. They influence the behavior and actions of the community members, in terms of use and access to resources, sharing information and influencing decisions.

Men and women do not always learn in the same way and the nature of their knowledge can vary

Since gender groups are socialized in different ways, various factors affect the knowledge of men and women. There are differences in the roles they learn, their responsibilities and burdens, and the ways they experience everyday life.

Many conservation projects tend to undervalue or overlook the traditional knowledge of families within their communities, and they also tend to ignore the empirical knowledge women have gained and possess.

There is a rich body of traditional empirical knowledge on biodiversity and resources management that can contribute to project goals and results. Project teams should strive to overcome individual biases, and recognize and seek different sources of information.

It is important to avoid stereotypes about what women and men actually know and what they do not know; instead, one should take into consideration the changes caused to traditional knowledge by the expansion of markets, school systems, churches, projects and the media. These changes affect men and women differently, according to their age, class, and ethnic group.

Despite the extensive contribution of women to the informal market economy

and the knowledge they possess about natural resources management, their skills are rarely recognized. This is especially true for activities that are not fully integrated within a market economy.

Recognizing that women possess traditional knowledge could empower them; strengthen their knowledge and their ways of learning. Their assorted knowledge and skills, if accessed, are potential elements for change and can help conservation projects to find innovative and user-oriented solutions to environmental and social problems.

In the Central Himalayas in India, modernization of agriculture started in the 1980s, which undermined traditional livelihoods and began to erode traditional knowledge. Loss of traditional knowledge has affected women and male elders who depend on traditional knowledge because they have little access to modern knowledge. Traditional knowledge has been considered a feminine asset, since women are in charge of selecting seeds, processing the compost and taking care of the livestock. However, there are some male elders with a vast knowledge of the rich local biodiversity. Women elders have passed their knowledge about botany and environmental management through generations. Today, young men are not interested in traditional knowledge. They perceive it as a backward step, as they are emulating western lifestyles and knowledge. They consider traditional knowledge responsible for low yields and stagnation of agriculture. Predominance of commercial over subsistence agriculture has displaced women's role in agriculture, undermining the value of their knowledge and elder's knowledge on nature. It has given young men and modern knowledge a more predominant role. (Mehta, in Rocheleau et al., 1996.)

SOCIAL GENDER ANALYSIS

Social Gender Analysis (SGA), as presented in this booklet, can be described as the systematic effort to understand the respective roles of women and men within a community, roles shaped according to their age, seniority, class or status and ethnicity.

This analysis explicitly links gender with the broader set of social variables, and aims to determine how they impact the use and management of natural resources, conservation of biodiversity, and the objectives and results of environmental projects.

SGA facilitates in identifying the underlying social and economic factors affecting the needs, interests, perceptions, and power of all the members of the community.

SGA enables projects to engage men and women in a more balanced way, and to distribute the costs and benefits of the projects, in more equitable terms, within and among households of the community.

This analysis facilitates the process of social learning and better use of natural and human resources:

- Besides guiding the design of more appropriate projects, SGA can help projects strengthen the capacities of those participating in SGA. The need for local inter-disciplinary expertise on socio-economic and environmental issues is well recognized and this is one way of building the necessary institutional capacity.
- SGA promotes better-informed interactions among members of the project team and between the team and the local community, this improved interaction facilitates the drawing of their social map.
- The individual knowledge, perceptions and experiences of those who participate in this exercise are socially transformed to a more systemic view of the social interactions with the environment and of the internal social map of the community.
- The open process of social learning can help the team to do the planning in more participatory ways. It can also help the project to engage the various groups of the community in more consensual ways, thus contributing to sustainable natural resources management.

SGA understands social equity in terms of negotiating conflicting interests. SGA does not propose fundamentalist confrontations of isolated demands – which could define gender, class, and ethnic conflicts in terms that are irreconcilable. On the contrary, SGA proposes integral and consensual ways to articulate these demands to overcome differences and conflicts and reach more equitable and sustainable livelihoods. Such an approach endeavor to build harmonious relationships between human beings and nature.

SGA allows projects to promote social equity, social security and social sustainability by:

- Making gender, social and cultural hierarchies visible.
- Identifying and understanding all stakeholders involved, in order to define the scope of the project.
- Framing isolated technical components within the social dynamics of the community.
- Opening broad-based participation and enabling empowerment.
- Understanding causes of poverty and demographic pressures on natural resources.
- Acknowledging and respecting ethnic and cultural diversity.

MAKING GENDER, SOCIAL AND CULTURAL HIERARCHIES VISIBLE

SGA proposes specific criteria and tools to help project teams identify and understand the assorted social actors and their individual differences, roles, knowledge, and interests, which might otherwise be invisible due to the social, cultural and gender biases of project teams.

For example, it is easy for a project team to ignore women's knowledge of biodiversity within community-based management, unless specific questions and considerations allow it to come forth.

Overcoming social blindness is not limited to making gender differences visible. There are other important differences that might be overlooked. As we have mentioned before, age, seniority, economic and social status, ethnicity, and religion, all influence the behavior of different individuals and groups within their communities.

These social variables are always interactive. Social groups should not be viewed as segregated blocks, but as fluid clusters that intersect and interact. For instance, men and women are differentiated in terms of young and old, rich and poor, etc. Ethnic groups are differentiated in terms of gender, etc.

IMPROVING PROJECTS BY INCLUDING GENDER ISSUES

Gender issues are central to ICRAF research on integrating trees in land-use systems in developing countries and in its training and information services on agro-forestry. Researchers must ensure that tree-planting technologies meet the needs of all members of the rural communities. In surveying indigenous knowledge on multipurpose trees, scientists talk to male and female farmers, traders and herbalists about trees, tree products and tree management. Studies show that men and women often select different trees and shrubs for food and other purposes. Women are particularly interested in medicinal tree products, as it is their role to look after the family's health. Also, women are more interested than men in planting trees on farmland to provide fuel, since collecting firewood for cooking is generally their responsibility. By adopting gender analysis, ICRAF has been able to better integrate the specific knowledge and needs of women and men, increasing the long-term involvement of local peoples in ICRAF projects, and their effectiveness.

IDENTIFYING AND UNDERSTANDING ALL STAKEHOLDERS IN ORDER TO DEFINE THE SCOPE OF A PROJECT

It is important to have “the big picture” in mind when designing a project. This way the project can fit into the local socio-economic dynamics. However, broad sets of socio-economic information are not easy to handle and analyze. Not considering all social groups or stakeholders related to a project is a common mistake that limits the social and environmental sustainability of most projects. However, institutions designing and implementing projects have time and financial restrictions to correct this failure. There is a demand for a good and feasible social analysis in terms of resources and the project's life span.

SGA aims to fill this need. SGA offers a methodology to review the socio-economic and environmental interactions within the community in a way that is comprehensive and systematic. SGA focuses on the needs, interests, power and access to and control over natural resources that gender, age, class and ethnic groups have within the community.

This practical guide helps to prepare short analytical diagnoses, which are useful to the design and future assessment of natural resources management projects. The use of this guide can help groups avoid tedious, costly diagnoses that do not provide adequate inputs to the design of a Natural Resources Management (NRM) project, nor assess its feasibility from the perspective of social sustainability and equity.

This guide could also help funding agencies in assessing whether a proposed project responds to key socio-environmental problems, and whether it promotes equitable sharing of costs and benefits.

SGA's ultimate goal is to facilitate the negotiation of these various interests, so that the activities of the project respond to consensual agreements among those sharing its costs and benefits.

SGA can also help in visualizing and addressing issues that may be beyond the scope of the project, and foresee conflicts that cannot be resolved by the project. This information can help define the project's scope and goals. It can also help identify the policy recommendations for those issues that are beyond the project's reach.

SGA can assist in the development of criteria and indicators to assess the project's impact on specific social groups within communities.

FRAMING ISOLATED TECHNICAL COMPONENTS WITHIN THE SOCIAL MAP OF A COMMUNITY

Technical staff specialized in the biological components of natural resources management often have a hard time visualizing how their work relates to social differentiation and the goal of social equity, even when they are committed to supporting community participation and improving local livelihoods. By helping project teams to understand how different social groups relate to natural resources, SGA provides the social context to frame specific technical components.

Biologists and foresters participating in the testing of this booklet reported several positive results. They stated that using SGA methodology gave them “the big picture” and allowed them to make the connection between their specific technical components and the social differentiation in the communities with which they were working. (IUCN, 2001 and 2002.)

OPENING UP BROAD-BASED PARTICIPATION AND PROMOTING EMPOWERMENT

Underlying socio-economic hierarchies determine how resources are distributed within communities. These hierarchies often ensure that disadvantaged groups continue to be deprived of resources, opportunities and decision-making power.

Even natural resource management projects that have no social development goals cannot ignore social issues that affect their implementation and results. Ignoring social issues, like power structures and social differentiation, would only make these projects perpetuate and sharpen socio-economic imbalances and conflicts. This, in turn, would limit their environmental and social sustainability.

Specific efforts should be made to ensure that the goals and activities of any given project do not exacerbate social exclusion and conflicts. Empowering groups and individuals like women, poor families, elders, and ethnic minorities, is essential to foster more balanced social interactions. This contributes to a fair negotiation of how costs and benefits derived from a project will be distributed among the social groups.

Therefore, actions and mechanisms fostering fair negotiation processes within a community and between the community and the key external players are required.

These actions require projects to know the internal social map of a community and to know how it affects natural resource management.

This effort might help a project's activities to engage and empower those disadvantaged groups in the community who are important for natural resource management.

Making special provisions to facilitate more equitable participation can also open up new opportunities for collaboration, and consensus building among social groups.

In the long run focus on social equity will enhance the sustainability of results obtained by technical projects.

UNDERSTANDING THE CAUSES OF POVERTY AND DEMOGRAPHIC PRESSURE ON NATURAL RESOURCES

Several studies show that men and women allocate their incomes and goods differently within the household. Research shows that women are more committed to investing their income to improve their family's well-being in terms of food, health and education, while men tend to spend their income more on personal expenses. (Bruce, 1988.)

Although these findings may not apply to all contexts they necessarily call attention to the need to consider differences in the ways income is allocated within households. These gender differences in the use of money and resources explain why an increase in male income might not necessarily result in increased well-being of all members of the household. Most poverty alleviation initiatives have focused on male income improvement and most of them have failed to improve family well-being. The lesson learned is that gender equity in income earning and allocation is essential to improve family well-being.

Projects that allow women to increase and control their income and to manage domestic and communal resources show better results of alleviating poverty and improving family well-being. This is especially true in terms of food, security and health improvements.

When women generate income through farming, processing, and the marketing of their goods, they improve the health of families and communities. One study in Brazil found that the probability of child survival is nearly 20 times greater when women earn an income. Another study found that mothers' incomes are the most important determinant of children's physical development. With political power and economic and agricultural resources, women can create a better world.

Even so, their contributions are often limited by lack of access to resources. Both men and women farmers in most developing countries are not able to

buy land or obtain credit, but women's access is even more limited as a result of cultural, traditional, and sociological factors. As women's access to education, credit, and other resources increases, their incomes rise, birth rates decline, and their children's health and educational opportunities increase. A recent World Bank study found that if women received the same education as men, farm yields could rise by as much as 22%.

- It has been shown that women with better access to education, income, resources and decision-making have greater power over their reproductive roles, and tend to have fewer children.
- Promoting gender equality within a sustainable use of natural resources can result in the reduction of poverty and demographic growth.
- It is important to consider other key elements that reproduce poverty and social exclusion: tenure and property rights systems, socio-economic stratification, markets, and ethnic and cultural discrimination.

SGA can help projects understand the underlying causes of poverty and demographic growth by focusing on the internal social differentiation and linking micro with macro processes. SGA can also make visible how poverty, demographic growth and environmental degradation have different implications for specific groups.

ACKNOWLEDGING AND RESPECTING ETHNIC AND CULTURAL DIVERSITY

Ethnic and cultural diversity is the key element for the conservation of biological diversity. Traditional groups hold important knowledge and practices that have enabled them to conserve and maintain the biological diversity in their own areas.

Identifying and understanding ethnic and cultural diversity can help the project team to be more open to the way local people define their problems, solutions and priorities.

Addressing cultural and ethnic issues can help projects integrate people's visions into the project goals and steer project activities in the right direction. In this way, goals like social and gender equity can be framed within local cultures.

The abovementioned perspective would make a project more responsive to the needs of local peoples. By adapting projects to local needs related to specific cultural and ethnic issues, ethnocentric interventions can be prevented.

Section 2

PRACTICAL STEPS: USING SGA TOOLS



THE SITUATION ANALYSIS AND DESIGN OF A PROJECT

1. Before starting the design of a new project, it is very important to clearly consider the mission and priorities of the institution and its partners.
2. These elements should be used as a filter when selecting key elements or topics to focus the project's design upon.
3. The team needs then to collect and analyze key information to get a good picture of the forces, trends and main socio-environmental problems to be targeted.
4. It is very important to make a realistic assessment of the strengths and weaknesses of a project. Once the project's scope is defined, the team should consider which participants should be involved and mobilized, and who could benefit from the intervention. (IUCN, 1999.)

For practical reasons, this section focuses on the initial phase of designing a project. However, the complex task of understanding social differentiation related to natural resources management will take the whole project cycle and beyond.

- For projects whose main goal is to promote equitable and sustainable management of natural resources, this initial phase is particularly important.

- During this phase, the project team should collect baseline information, analyzing the social, economic, political, and cultural contexts.
- Diagnosis reports often contain quantitative data with weak analyses, failing to provide linkages between the socio-economic data and the goals of natural resource management.
- This is often a problem, as this phase requires the team to capture the main social trends and conditions affecting natural resources management and local livelihoods.
- It is not easy to “disentangle” the social web, to connect socio-economic data with main environmental concerns and goals, to figure out the interests, roles, potential and conflicts of social actors within local communities.

This guide will facilitate the analysis of connections between

Social, economic and cultural variables, and the goals and objectives of sustainable resources management.

During this phase the team should answer the following questions:

- How do various people and institutions understand and perceive social and environmental problems in the project area?
- Who are the primary users and what are the main uses of natural resources? What are the main conflicts and problems related to them?
- What are the main underlying socio-economic factors affecting environmental degradation in this area?
- What is the estimated distribution of costs and benefits derived from the project, for particular groups and social actors, as classified by gender, class, age and ethnicity?

SGA TOOLS

The following five tools have been designed to facilitate the following:

- Organization and analysis of socio-economic information (as classified by gender, age, class, ethnicity) with regards to the use and management of natural resources.
- Understanding of the implications of social dynamics for the goals and performance of natural resources management projects.

These tools help project teams and managers to have a better understanding of social differentiation within a community, allowing them to promote more balanced participation and sharing of the costs and benefits of natural resources management.

These tools are not designed to collect data from the field or to facilitate participatory appraisals. These tools are designed to facilitate analysis and discussion within project teams. These tools can also help ongoing projects identify gaps that require additional information and action.

These tools are useful because:

- They focus on the interactions between gender and other key social variables that affect social and environmental sustainability of natural resource management.
- Their aim is to capture the social interactions that frame the linkages between social and environmental phenomena and to make explicit the ways these linkages affect decisions and processes relevant to a conservation project.
- For these reasons, this set of tools is not aimed at replacing other guides that are more specific on gender or participatory management of natural resources.

What are the SGA tools?

SGA Tool #1 Identifying uses and users of natural resources

SGA Tool #2 Tenure and property rights of natural resources

SGA Tool #3 Decision-making and access to economic resources

SGA Tool #4 Traditional environmental knowledge within households and community

SGA Tool #5 Demography, socio-cultural adaptation and environmental management

How to use the proposed tools?

Use each tool as a guide to:

- Facilitate an orderly description and analysis of how the use, access and control of natural resources, environmental management, tenure and property rights, traditional knowledge, decision-making, and family strategies are differentiated within households and within communities by gender, age, seniority, class, and ethnicity.
- Consider what implications these differences have on the project goals and activities.

It is important for the group to have at least two people who are familiar with the local livelihoods and who understand how the gender, age, seniority, and ethnic differences relate to local uses and practices. The group should have a facilitator to stimulate discussion, while an assistant writes down responses and posts them on the wall. The facilitator should ensure that the group clearly understands the meaning of the categories used in the tool matrix. To help the participants' comprehension, the following is a list of the main categories used in SGA tools #1 to #5.

Plan for a minimum of five hours to complete SGA tool #1 and an average of three hours for each of the following tools.

All participants should have read the booklet before the meeting, especially the section pertaining to the tools. In addition to empty frames, some tools containing case studies are included.

Use a large wall to reproduce the empty frame of the tool to be filled in. Use colored paper strips or tape to reproduce the matrix of the tool on the wall. The frame will hold cards filled out by participants, including information and analyses discussed. All participants will follow the analysis in this manner and the facilitator can keep a record of the group analysis.

These are not logic matrixes, therefore the group should not be afraid to mix different categories or levels of analysis, as long as it facilitates the understanding of how differentiated socio-economic roles affect the use and management of natural resources and produce different environmental impacts on local populations.

The team should neutralize individual biases by balancing its own composition (in terms of gender, age, status, ethnicity, and discipline). It would be useful to include representatives from the community (schoolteachers, healthcare workers, traditional midwives, women's organizations, etc.).

THE STRUCTURE OF THE TOOLS

Each tool has three main sections:

- The first section of each tool will differ.
- The other two sections of the five tools will remain the same.

Sections

The first section (column 1) registers specific information for each tool on: resources and uses, tenure and property, access to economic resources and decision-making, traditional environmental knowledge, demographic issues and adaptive strategies.

The second section (columns 2-3) contains information on how the above variables are differentiated by gender and age within households and between households within the community (by gender, age, seniority, socio-economic status, and ethnicity).

The third section (columns 4-5) is more analytical and focuses on the implications for the project. It builds on the two previous sections and states the specific implications of social differentiation for the project. A column is included to register possible interventions and activities for the project, to alleviate or solve the problems addressed.

To understand the social, economic and cultural differences within a community associated with natural resources management, two levels of analysis have been considered—household and community.

Defining most used categories in sections two and three: households & communities

Household (Column 2) is understood as the domestic unit formed by members of a family and those who share shelter, food and contribute with their labor to the survival of the group. Because gender, age and seniority

establish differences within households, this column explores to what extent these variables differentiate the use of resources, tenure and property rights, knowledge, etc.

Community (Column 3) is understood as a group of families that share a territory or a set of resources and find an added value in collaborating to carry forward their livelihoods.

As communities have internal social structures and hierarchies, it is important to explore how gender, age, seniority, status and ethnic differences relate to natural resources management. This column should register the ways these differences are reflected within natural resources management, according to the thematic focus of each tool.

In the SGA tools, the focus of the “household” column is on the intra-household dynamics while the column “community” focuses on the inter-household differences and dynamics.

Level of Analysis	Focus	Key Questions
Household	Intra-household dynamics	Is this practice the same for all members of the household? How gender, age & seniority explain differences?
Community	Inter-households	Does it s happen in the same way for all families within the community? What do families do differently? Discuss how and why (role of class, ethnicity, etc.).

Linking intra/inter-household differentiation with the project goals: the last columns

Problems and implications (Column 4 below): First it should be explored how differences in gender, age and ethnicity, with regards to natural resources management, are a problem for conserving the integrity and diversity of nature, the well -being of local populations and the goals of the project. The problems outlined should be based on information generated in the first columns of the tools.

It is important to combine the perspective of the groups within the community with the view of the institution designing the project. The problem cannot be exclusively defined from the viewpoint of the community, or exclusively from the perspective of the project, even if the project deals with technical issues. There are always social costs and benefits associated with any intervention, and their distribution depends on the internal social structure of the community.

Defining the problem should result from a participatory process involving the team, focused on the understanding of how social and environmental phenomena interact for specific groups of people. To add to its validity, the draft project resulting from this exercise should be later discussed with groups in the community.

How could the project intervene (column 5): Concrete activities and interventions for the project should be explored, in order to alleviate or solve the problem addressed in the previous column. It is also important to identify those issues that are beyond the scope of the project which require policy changes.

How to fill in the tools

Experience has shown that it is easier to horizontally fill in the first column (items 1 to 10), in order to define the categories to be used and to make sure that they are adequate for the community targeted by the project.

Once this first column is clearly defined, the following two columns should be addressed simultaneously, exploring item 1 of the first column, how it develops within households (item 11) and within the community (item 12). The next item under consideration should be item 2 of the first column, how it develops within households, (item 13) and how it develops within a community (item 14), etc. Participants should proceed horizontally and move between columns 1 to 2 to 3 in order to complete items 11-30.

Column 4, the implications for the project should then be analyzed and registered vertically, from item 32 to 41.

Finally, column 5, the potential interventions and activities should be listed here, once the column 4 has been filled in. One should begin with item 42 and end with item 50.

Specific theme of each tool	Within households	Within community (Inter-households)	Problems/ Implications for the project & community	What could the project do about it?
1	11	12	32	42
2	13	14	33	43
3	15	16	34	44
4	17	18	35	45
5	19	20	36	46
6	21	22	37	47
7	23	24	38	48
8	25	26	39	49
9	27	28	40	50
10	28	30	41	51



SGA Tool #1 Recognizing Uses and Users of Natural Resources

This tool offers a format to:

- Describe in detail the way various sets of social groups within communities and households use natural resources.
- Define how this differentiation relates to changes in the use of natural resources.
- Derive the environmental and social implications.
- Propose interventions that can reverse or alleviate these problems.
- Review whether the proposed interventions include key social actors, based on the information generated on uses and users of natural resources.

It serves to:

- Visualize the behaviors and interests of social groups within the community, which are associated with various uses and users of natural resources.
- Understand the roles and institutions affecting management of natural resources (i.e., the internal social map).
- Link the behavior and interests of current users of natural resources with the specific interests of the project.
- Put in context the use of specific resources within the whole set of uses and users of natural resources within the community.
- List and prioritize resources used that cause the majority of conflicts or are the most degraded or endangered.

Clarifying the categories of resources and uses

Resources

The concept of resources relates to those elements of the landscape that are relevant for conserving biodiversity and for local people's livelihoods, such as forests, rivers and small lakes. For each of these resources the various uses (agriculture, timber and non-timber, fishing, etc.) have to be listed. It is important to list the resources as they are perceived in the area.

SGA Tool #1 Identifying Uses and Users of Key Natural Resources. The Case of the ZIMOZA Project in Southern Africa

Resource & its uses		Within households		Within communities (gender, age, status, ethnicity, and seniority)		Outsiders & shared management	Problems & implications for the project	How could the project rectify potential problems?
		Access	Control	Access	Control			
Water	Domestic use	Everybody in the family has access.	The mother is the one who has control.	Easy accessibility is dependant upon location vis-à-vis the source. Some families have their own source. Water quality is decided by status.	No control of common sources, but of private sources. Traditional leaders decide to zone certain areas as inaccessible.	N/A	Families with easy access have an increased risk of flooding, poor water quality and water-borne diseases. Project needs to talk with local women.	Plan needs to address the need for equitable access to quality water.
	For livestock	The herd is gathered by boys or girls.	N/A	Open to all families.	In times of drought, there exists a traditional control of water for animals.	In the communities, the veterinarian controls moving animals.	Lack of availability.	Promote wells and disaster management.
	For transportation	N/A	N/A	Some have boats or canoes, according to status.	N/A	Immigration is controlled at the riversides.	Safety. Poor people have small boats and are more likely to have accidents. Crocodiles and hippos are restricted in their use of the river as a means of transport.	Address safety issues in the management plan.
	Irrigated agriculture	Men & Women.	Men.	Families close to the river have better access to water.	Well owners.	Need water rights to pump water from river. Projects can have an influence.	We don't know how many families do not have access to irrigated water for agriculture.	Need to confirm the carrying capacity and demand for irrigation.
	Non-irrigated agriculture (rain, bucket)	Women.	Women.	Open to all.	Traditional leaders.	N/A	Floods and droughts affect agriculture. It is time consuming for women. Low yields.	There are opportunities for diversify. Evaluate where crops are appropriate.
	Tourism	N/A	N/A	Only those with access to education, language and financial resources have access.	Traditional & local authorities have to authorize access.	Government regulates water rights of outside investors.	Tourists' lodgings pollute, disturbing the ecosystem. Therefore, the community does not benefit from water for tourism.	Confirm the extent of this problem.
	Ritual	Elder men and women, who are not sexually active, have access to water in sacred places.	Elder men and women have control of water in sacred places.	Access might be based on belonging to a specific ethnic group.	Traditional leaders ensure that traditions are followed.	N/A		Management plan should promote, respect and identify sacred places and meet with spiritual leaders.
Wildlife	Sport hunting	Men & women work in the lodges.	Men decide whether women can seek employment.	Hunters are the best guides.	Traditional leaders & local authorities. District government grants licenses.	Investors and shared management between district and local authorities.	Benefit sharing arrangements are unclear.	The project could investigate the benefit of sharing arrangements of game hunting.

UNVEILING DIFFERENCES, FINDING A BALANCE
 Social Gender Analysis for Designing Projects on Community-based Management of Natural Resource

Resource & its uses	Within households		Within communities (gender, age, status, ethnicity, and seniority)		Outsiders & shared management	Problems & implications for the project	How could the project rectify potential problems?	
	Access	Control	Access	Control				
Subsistence hunting	Mature men.	Men control and share among families. Women do the cooking.	Hunting groups & individuals.	Traditional leaders control what & when is suitable to hunt.	National policies manage wildlife. Shared management between district and local authority and communities.	Not enough wildlife to support community need for subsistence hunting. Lack of alternative income to meet needs.	Explore ways of ensuring higher animal densities of wildlife and to provide alternative income generating activities & alternative meat protein sources for local people to alleviate hunting pressures.	
	Rituals & health	Men or women can use them for making home remedies.	N/A	N/A	Traditional healers, both men and women, perform rituals.	N/A	No access to animal parts & derivatives for rituals.	Get precise information to increase population density of key endangered species.
Fish	Artisan work (hooks, nets)	Men.	Women do the trading and bartering, but give the proceeds to men.	Unknown.	Traditional & local authorities.	National parks & policies control.	Women have no control over revenues.	Gender training/ awareness for gender balance in decision-making & budget management.
	Commercial (motor boats, larger boats)	Men fish and women process and sell the fish.	It needs to be confirmed that wives control the proceeds.	Not all families, it depends on social status. The social impact needs to be explored.	Traditional & local authorities.	National parks & policies control.	Status of fish populations is unknown. Conflicts over fishing grounds emerge.	Explore cooperatives as ways of promoting equitable sharing. Confirm control at household level and access at community level. Look at policies of other countries and at TBNRM in those countries.
	Sport fishing (angling)	N/A	N/A	N/A	Traditional & local authorities- this needs to be confirmed.	Investors controlled by national parks, policies and tourism board.	Explore the impact of sport fishing on communities.	Consider this issue in the management plan. Confirm control at community level.
Forest	Timber							
	Wood/ Fuel	Mostly women but also young boys and girls.	Women – because they cook.	Every family.	Traditional leaders, who protect sacred places.	Forestry commission and local authorities.	Trees are being cleared without being replaced.	Encourage the growth of trees.
	Lumber	N/A	N/A	N/A	Unknown.	Forestry commission, local authorities, and concessionaires.		
	Wild fruits	Everyone.	Women.	All families.	Traditional leader controls how much fruit is taken and which fruits are harvested.		Problems with transportation and marketing.	Explore new ways of promoting the transportation and marketing of products.
	Handicrafts materials	Men and women: women weave baskets and men carve wood.	Women basket weave and men carve wood.	All families.	Traditional leader controls how much is taken.	Tourists buy the crafts.	No ready markets.	Encourage establishment of cooperatives.

Resource & its uses	Within households		Within communities (gender, age, status, ethnicity, and seniority)		Outsiders & shared management	Problems & implications for the project	How could the project rectify potential problems?	
	Access	Control	Access	Control				
Tools for household Medicine Building materials Recreation Spiritual	Men for garden tools and wooden utensils. Women for containers.	The same.	All families.	Traditional leader controls how much is taken.				
	Men and women.	Women have more control over home remedies.	All families.	Herbalist, both men and women.	Herbal association – ZINATHA.	Loss of indigenous medicinal plants.	Promoting awareness of the value of indigenous knowledge systems.	
	Women for thatching. Men for building poles and fibers.	The same.	All families.	Traditional leaders and local authorities.	Forestry commission.	Veldt fires, which burn thatching grass and trees.	Plan needs to establish ways of managing fires.	
	Everyone.	N/A	Everyone.	N/A	Forestry commission.			
	Adult men and women.	Adults.	Everyone.	Spiritual and traditional leaders.	ZINATHA Herbal association.			
M i n e r a l s	Men do the mining and carving.	Men sell & control income.	Access depends on family tradition or experience.	Anyone with experience.	Minerals Policy, local authorities, and tourists.	There is a market problem, which is driving away tourists.	Need to establish co-operatives that ensure joint marketing of products.	
	Men, women and youth.	Under male control.	Depends on family specialization.	Any family.	Ministry of mines, private buyers.	Land degradation and the illegality of the activity.	Need to give the communal people licenses and establish cooperatives.	
L a n d	Commercial agriculture							
	Cotton cash crop	Work is done by men and women.	Men control income at the expense of the family. Female heads of households may control the income.	Credit from cotton companies is available for seeds & inputs.	Chikunda group accesses larger and best plots, so they are also better off.	Cotton companies determine the price.	Crop diseases and acquiring loans is a problem for some communal people.	Credit schemes should be established.
	Subsistence (some parts are sold): maize, sorghum, ground-nuts	Men, women and children.	Married men or eldest son control the buying of seeds and the ploughing. Women take care of cropping and selling.	All have access to subsistence crops but elite groups have more land.	Traditional leaders control and allocate land.	N/A	Poor soils, low rainfall, and crop diseases lead to poor harvests.	Management plan should encourage other means of land use than just farming.
	Settlement	Both men and women.	The household head will be in control, with some families under the control of a woman but most households are under the control of a man.	Scarcity of land forces some families to settle in grazing lands, which creates conflicts.	Chief allocates land beyond its carrying capacity, which creates conflicts.	Law gives power to local chief. Local councils involved act on behalf of the local government.	Shortage of suitable land for settlement, with some families settled in flood prone areas.	Management plan should take into account the resettlement initiative of government.

Resource & its uses	Within households		Within communities (gender, age, status, ethnicity, and seniority)		Outsiders & shared management	Problems & implications for the project	How could the project rectify potential problems?
	Access	Control	Access	Control			
Communal grazing. (Goats, cattle)	Men, boys. Women raise chickens and have control over this function.	Men.	Everybody has access.	Traditional leaders.	N/A	Shortage of grazing lands during droughts and veldt fires that destroy the grass.	Rotational grazing is the solution.
Brick-making	Men, women, children.	Mostly men.	The poor are hired to do this activity.	The wealthiest families hire the poorest families. Traditional leaders choose the areas that can or cannot be used for brick-making.	N/A	It requires a lot of firewood to burn the bricks and there is lack of transportation.	Establishing cooperatives.
Ecotourism	Men, women and children. Children do traditional dances, women do traditional cooking.	Each person controls the income they generate.	While traditional skills are key, English and education can better relate to the tourism operators and achieve more gains.	Irrelevant.	Tourist lodgers are outsiders.		
Pottery (sold in local and outsider markets)	Mostly women.	Women control it.	Open access.	No control.	N/A	Problems with markets.	Co-operatives should be established.
Quarry (within community)	Mostly women.	Women control it.	Open access.	No control.	N/A	Open access leads to land degradation.	
Insects	Commercial	Women of all ages and young boys.	All families.	Traditional leader and local authorities.	N/A	Lack of markets and transportation to big cities. It is a seasonal activity.	
	For medicine	Men and women.	Women have more control over home remedies.	All families.	Herbalists, both men and women.	Herbal association – ZI-NATHA.	
	Subsistence	Women of all ages and young boys.	Women.	All families.	Traditional leaders and local authorities.	N/A	N/A

HOW TO USE SGA TOOL #1:

1. Follow general instructions given on pages 85 & 88. Once the format or matrix has been prepared and shown on the wall and the cards are ready to be written, the facilitator should check with the group to see that the categories of the tool in question are clear. Any suggested changes should be first discussed and agreed upon by the group.

2. The group should start with the first column of the first section:

- Discuss and define the key natural resources in the area, for the community and for the goals of the project.
- Brainstorm to prepare a first draft.
- Quickly reorganize this list, based on the characteristics of the area, local livelihoods, and the goals of the project. For instance, in the case of the ZIMOZA project, the group organized the resources according to their importance, starting with water, then wildlife, then fish, then forests, then minerals, then land and then insects. For the case of Vilcabamba CI Peru (Presented in the Spanish version of the booklet: *Desenredando el Laberinto*, online: IUCN <www.sur.iucn.org/ces>), it was clear to the group that land and forests were not separate resources. Because of this, the list was reduced to include land within forests.

3. The key resources in the first column:

- Brainstorm and use cards to list all uses that each resource has, either productive, non-productive, subsistence, commercial, direct or indirect.
- Re-order the list for each resource, according to what is most important for local people. For the case of ZIMOZA project, water was classified according to domestic use, transportation, irrigated agriculture, ritual, etc. For the case of Vilcabamba, the identified uses of forests were commercial and subsistence agriculture, subsistence hunting and fishing, collecting fruits and medicinal plants, and logging.
- It is important here to register various uses of the same resource whenever different users are involved at the household or community levels. The question for this exercise is: what are the various uses of this resource, either by final use (consumption, process or sale), by type of product (timber or non-timber products) or by who is extracting the resource (households or communities, men or women). In the case of Vilcabamba, it was useful to distinguish what means were used to catch the resource (fishing with poison, hook or net), since they related to different users.

4. When the first two columns of the first section are completed:

- Go to the second section to describe how the resources are used within households and the community.

Within the households:

- Explore the various uses of each resource within the households, and then the differences between households within the community. For this part, the matrix should be filled in horizontally (from left to right) to identify how labor, access and control of the resource is used within households and communities.
- In terms of labor, the questions should be: who performs the activity? How does this activity vary between members of the household?
- Go to column 3-1 to see who has access to the resource within the family. In other words, who in the household has access to the fruits of hunting or fishing?
- The column 3-2 focuses on control of the resource within the family. The questions to ask: Who makes the final decision about what to do with the resource and who decides when and how much to harvest? Is it the male or the female? Is it the husband or wife? Do elders play a special role?

Within communities, explore how the uses of resources change among households by gender, age, status or class, and ethnicity.

- Go to column 4-1 to define who has access to the resource within the community. For example, do all families have similar access to fishing resources within the community? Are there norms that limit access to certain groups (like ethnic groups in the case of the Zambezi River)? What circumstances explain why certain families have better access than others? Are younger families fishing more because of higher family consumption or is it because they are more skilled in marketing their catch?
- The column 4-2 is about who has control over the resource. Staying with the case of fishing, one should ask what are the traditional regulations that limit the catch during certain periods of the year? Do these regulations protect certain species? Do they protect certain places? Who controls fishing resources within the community— is it each household, the community council or is it the chief of the community?

At this juncture, proceed to the last section, which relates the social differentiation with the goals of the project.

- The column 5 summarizes the problems that result from social differentiation, as they relate to the goals of the project. How do these differences impact the use, access and control of natural resources within households and communities? What do they mean for sustainable management of natural resources? Can they be transformed into favorable conditions for the project?
- The last column 6 should describe potential interventions of the project to solve the addressed problems. What could the project do? What activities could be proposed? With whom specifically should the project work within households and communities?

Fill in columns 3 to 6 for each one of the identified uses of key natural resources.



SGA Tool #2 Tenure and Property Rights over Natural Resources

These tools give us a format to:

- Obtain a detailed picture of how tenure and property rights over natural resources vary within communities and households by gender, age, seniority, status and ethnicity.
- Link these differences in tenure and property rights with the goals of the NRM project.
- Estimate the potential distribution of costs and benefits associated with the project, in order to design a project that does not further aggravate an uneven distribution of costs and benefits of natural resources management (NRM).
- Identify how resource users could participate in the activities proposed by the project. Depending on the nature of resource users' tenure and property rights, incentives or disincentives could be developed to foster a more equitable and sustainable use of natural resources.

This tool is useful to:

- Avoid making wrong assumptions about families becoming participants or beneficiaries of the project and more specifically, to help assess how social groups could engage and benefit from the project by analyzing:

- Who is entitled to control natural resources in a given area?
- Who would have incentives to invest in long-term actions?
- Who would be paying the economic and social costs of changing the way resources are managed?
- Who would benefit from these changes in resources management?

SGA Tool #2 Tenure and Property Rights over Natural Resources

Resources	Uses	Within households (gender & age)		Within communities (inter-households dynamics, gender, age, status, ethnicity, seniority)		Problems & implications for the project	What could the project do about it?
		Access	Control	Access	Control		

SGA Tool #2 Tenure and Property Rights over Natural Resources. The Case of ZIMOZA Project in Southern Africa

Resources	Uses	Statutes & regulations	Users within households (Gender, age, seniority)	Users within the community (inter-households dynamics: gender, age status, ethnicity, etc.)	Problems & implications for the project	What could the project do about it?
Land		Heritage Property. The Administration of the Estate Act amended customary law in 1997. This allowed women to inherit property.	Women could inherit after 1997, but in practice, the eldest son gets the inheritance.	Some families follow the new statute; however, most keep the traditional where only the eldest son inherits. Communal lands belong to the State and communities have only tenure rights. Tourist lodges have access to private land next to the community.	Positive implication, women have the possibility to inherit. The community does not have property rights.	Greater awareness concerning the new inheritance rights. Cultural and gender sensitivity. Engage in campaigns supporting property rights.
		Tenure.	Eldest son inherits tenure rights.	Albeit people have tenure rights inside their community, they do not have ownership. These tenure rights are limited and can pass to their children. Those who are related to the chief have better tenure rights. Marriage allows men to get land. Chief has power to bestow or refuse to bestow land. All families have seasonal open access to plots of land where animals can graze and where families can gather wild fruits from the forests. Common areas have open access regulated by traditional norms.		
Agriculture	Grazing	Right to graze domestic animals is given the Communal Lands Act.	Mostly the youth are involved.	All families have access to grazing lands.	Problems with grass destroying veldt fires.	
	Settlement	Tenure, no ownership rights but usage rights only, regulated by the Communal Lands Act.	Men and women belonging to the community can obtain a plot of land.	The legislation allows the chief to bestow plots of land to men and women in the community or new arrivals who need somewhere to settle.	Settlements are not secure, since they do not own the land on which they are settled and the government can claim it at anytime.	Lobby for ownership rights of the land or for title deeds to the land on which they are settled.
	Ecotourism					
Wildlife	Subsistence	Legal framework: hunting is illegal unless you have a license.	People hunt despite the fact that it is illegal.	Chief does not always enforce prohibitions.	Licenses are given only to large commercial hunters.	Management plan should use the model of
	Ritual	Illegal but people engage in it regardless of that fact.			Conflict between law & traditional regulations. CAMPFIRE a model of sharing management and benefits.	CAMPFIRE in the management of wildlife.
Water	Household Use	The Water Act gives people the right to use water for domestic purposes.	Everyone in the house has access.	All families have usage rights. There is no private ownership of water, it is all vested in the state president.	Unsafe sources of water in the communal area.	Project should ensure that the rights are not merely rights to water, but rights to safe water.

Resources	Uses	Statutes & regulations	Users within households (Gender, age, seniority)	Users within the community (inter-households dynamics: gender, age status, ethnicity, etc.)	Problems & implications for the project	What could the project do about it?
	Livestock	The Act recognizes the watering of livestock as a primary use of water.	The youth/herdsmen.	Every family with livestock has use rights.		
	Transportation					
	Irrigated agriculture	Water legislation regulates the use of water for irrigation.	Women, men and youth are all users.	All families with irrigable lands have use rights.	Sometimes the stipulated rates for water and electricity could be a problem.	
	Non/irrigated agriculture (rain, bucket)	As above	Any person has access rights.	All people have rights to use rain water for agriculture.	Droughts and floods are major problems.	Management plan should address the need for irrigated agriculture.
	Tourism					
	Ritual					
Fish	Artisan work: (hooks, nets)	Legal framework: fishes are under wildlife category, the refore permits are required in order to fish.	Women do not normally fish with hooks or nets.	Regulations on seasons, tools, species, size, etc. Traditional regulations: women do not use hooks and nets; certain pools are sacred.	Access but no property rights to fish. Lack of property rights allow the communities to control outsider use.	Explore if traditional regulations (no hooks and nets used by women) affect food security.
	Commercial (Motor boats, larger boats)	Legal framework: licenses and permits prescribe areas and seasons. Traditional regulations do not work on commercial fishermen.	Men are mainly involved.	Traditional regulations do not work on commercial fishers because they are outsiders with licenses and ignore traditions. Community can report violations by outsiders. Traditional chiefs are part of shared management boards.	Community does not have access to commercial use, due to a lack of boats.	Explore the viability of sustainable management of commercial use by the community. Be careful to ensure equal benefit by all families.
	Sport fishing (angling)		Same.			

Clarifying the notion of tenure and property

Taking into account the complexity of these notions, operational definitions on the above follow:

Tenure

The right to use a resource for a certain period, which does not imply permanent use or the right to pass the use to another party; for instance, a family has tenure rights to a plot of land in the forest or to use the pastures of communal lands during certain seasons of the year. This family cannot pass these rights to another family, unless the owner authorizes it.

Property

The right to decide how to use a resource without time restrictions including the right to pass this right to other parties through selling or renting, and also the right to exclude others to benefit from the use of this resource. For example, when a family owns a plot of land, their descendants can inherit this ownership and it can be sold or rented. The family can invest in the plot of land with the security of having the right to harvest the benefits derived from this investment in the long-term. They can exclude other families from access to the property and its resources.

Legal frameworks

The set of formal statutes and regulations issued by the state at the national, regional or district level, enforced by the public authorities

Traditional norms

Refer to those norms, beliefs and customary practices embedded in the local peoples' worldview. They are orally transmitted from generation to generation and are valid for traditional communities and indigenous peoples. The said norms, beliefs and customary practices shape their behaviors during their daily lives, including the use they make of natural resources.

HOW TO USE SGA TOOL #2:

1. Follow general instructions provided on pages 85 and 88. Once the format and the cards are ready, the facilitator should ensure that the goal and categories used in this tool are clear to the whole group.
2. Start with the first column of the first section of the table. Key resources should be listed, as it is done in SGA Tool #1.
3. In the next column (Statutes and Regulations) register for each key resource the statutes and regulations shaping property and tenure rights of this resource at two levels: legal frameworks & customary laws.

The formal legal framework

Within households: For instance, who is the formal head of the household: the man or the woman? How is property inherited: by daughters and sons? Does the eldest receive more than the rest? Are men and women treated on equal terms?

Within the community: How is the relationship between tenure and property expressed at the family and communal levels? Has this changed recently? Are there families that have concentrated resources? Do they have tenure or property rights to those resources? How did they achieve this concentration? What are the mechanisms that allow some families to have better access and control over resources than others?

Concerning customary laws/traditional norms, what regulations establish traditional norms that mark differences in resource tenure?

Within the household: For instance, are there taboos that limit tenure rights to certain resources for women? On the question of access to certain resources, do regulations favor older men more than younger men within their households?

Within the community, what elements affect tenure and property rights for men and women, older and younger men, and the poor and wealthy from various ethnic groups? For instance, to what extent is formal education eroding traditional ways and regulations, therefore giving young men advantages over older ones?

Is there a conflict between traditional customary law and state statutes and regulations?

What elements within traditional norms are allowing certain families to have better access to tenure and property?

Is the concentration of resources in certain families ratified by communal regulations? What is the role of communal councils in issuing or controlling tenure and property over natural resources, such as land and forests?

Are women and men considered equal when making decisions that affect tenure and property rights of the natural resources they depend on? Are men and women equally qualified to vote and to be elected within the governing bodies of the community?

4. The most important elements of social differentiation affecting natural resource management should be summarized or highlighted, addressing the connection and implications of the goals and activities of the project.

- How do the systems of tenure and property affect the goals and activities of the project?
 - For instance, taking into consideration their access to tenure and property of natural resources, what is the interest of the various groups (by gender, age, seniority, status or class, and ethnicity) in participating in the project?
 - Who are the key decision-makers, according to these tenure and property rights systems? Due to the social exclusion that they generate, is tenure and property a problem that limits sustainable use of natural resources?
 - Do tenure and property rights systems allow equitable sharing of costs and benefits from uses of natural resources (current uses and those resulting from the project intervention)?
5. What alternatives could be proposed in the frame of a project to compensate or alleviate the social exclusion generated by the systems of tenure and property described so far?



SGA Tool #3 Decision-Making, Access and Control of Economic Resources

This tool provides a format to:

- Organize detailed information on how economic decisions related to natural resources are made within households and communities, according to gender, age, status, etc.
- Organize detailed information on how, within households and communities, there are differences in the access to economic resources (credit, money, and consumption) and to information on economic issues (markets, incentives, subsidies).
- Organize detailed information on how, within households and communities, the access to information on human rights, women's rights, indigenous peoples, and environmental regulations differ for various social groups.
- Analyze the patterns of decision-making, access to economic resources and information within households and communities, in order to see to what extent these patterns affect the use of natural resources for various groups of users (women, men, old, young, poor, wealthy, ethnic groups).

This tool is useful to:

- Explore how differentiated access to economic information and resources relating to natural resources management affects the participation of various social groups in the proposed activities of the project.
- Anticipate how the project could affect and interest various social groups in different ways.
- Identify some interventions or activities of the project that could favor a more balanced access to information, economic resources, and decision-making among main social groups (gender, age, ethnicity) to make the project equitable and sustainable.

HOW TO USE SGA TOOL #3:

Follow general instructions provided on pages 85 & 88. Once the format is on the wall and the cards are ready to be written, the facilitator should ensure that the goal and categories used in this tool are clear for the whole group.

1. Start with the first column, where information related to decisions, access and control over economic information and resources should be registered. First define the most important issues or resources to focus on. To guide discussion on how decisions are made within the households, the following questions might be asked:
 - Who makes decisions within the households about selling harvested natural resources, agricultural products (how much, what, when, where), the husband or the wife?
 - What are the roles of other relatives in the households in this decision-making process?
 - This information should be placed in the second column, under “households.”
2. The group should then discuss how decisions are made within the community, in terms of differences among households. Some questions are provided to stimulate discussion. Information should be annotated in the column on “community”:

- Within the community, family decisions vary according to seniority. How traditional or disadvantaged are the families under consideration? What other factors explain this variation: religion, politics?
 - What are the products or resources managed by the community and not by individual families? Who makes the decision in the process of selling these products and how are benefits shared?
3. Follow this same procedure to answer the questions regarding decisions on consumption and buying in the first column. Information focused on households should go in the second column; information focused on the community should go in the third column.
- For the issues of access to local and regional markets, it is important to know how this access differs due to gender, age, status, and other variables. It is important to know who within the households and community sell in these markets. Taking into account the great diversity of products sold, it is better to select a few important products and establish some trends that are relevant for the project, rather than a detailed description of every single product that is sold.
 - Concerning access to credit, consider both formal and informal credit. It is very important to know what discriminations exist against women, illiterates, those who do not speak the official national language, the poor, etc. Differences within the family should be registered in the column on households, and differences among families should be registered in the column on community (differences in terms of gender, age, status, ethnicity, etc.).
 - The same exercise should be done to see who has access to financial resources and who controls financial resources within households and the community. NOTE: the column “community” does not refer to communal funds, but to the differences that exist within a community, among various households in their access to financial resources and how do they manage them.
 - Access to modern technology (such as tractors, radio, telephone, boats, etc.) refers both to those who are qualified to use this technology and to those who can afford it. What restrictions exist within the households for women to use modern technology? These could be physical limitations, being illiterate or not fluent in the national language, or certain taboos. Within the community, some families might be too economically disadvantaged to afford it. Traditional families might reject modern technology and prefer traditional ways. There could also be a problem with the lack of

dissemination of modern technologies or with them being inappropriate. In each case, the focus should be on the factors that prevent a more even access to modern technologies among the various social groups within the community and among the social actors within households.

- The next topic is access to information. It is important to know who has access to information on civil rights, legislation affecting women, minorities, indigenous peoples, farmers, local communities, etc. Information on how this access varies within households and the community should be registered under the columns “households” and “community”. The same rationale should be used to register who has access to economic information in regards to prices, markets, subsidies, incentives, policies, etc.

In all these questions, the focus should be on how decisions are made and who has access to resources and information within households and among families in the community.

4. Next, in the fourth column, for each item of the first column, combine when appropriate and highlight and summarize problems. How do these differences in access to information, resources and decisions affect management of natural resources and the goals and activities of the project?
 - Who are the main decision-makers within households and communities? Which main groups are excluded?
 - If there is bargaining power, interdependence and consensus within families and communities, what are the common elements that the project should strengthen and take into account?
 - If the gap between decision-makers and resource-users is large, how would this affect the goals and activities of the project?
5. Finally, register in the last column, alternatives the project could implement that would alleviate or compensate the social exclusion and conflicts affecting natural resources management and the sustainability of the project. This column should be filled in last, after reviewing the previous column with information on the dynamics of decision-making and access to economic resources and information.

Focus should be kept on those issues that are more relevant for the project specific goals.

SGA Tool #3 Decision-Making and Access to Economic Resources and Information

Decisions and access	Within households (gender, age, seniority)	Within communities (inter-households dynamics, gender, age, status, ethnicity, seniority)	Problems & implications for the project	What could the project do to improve these situations?
Who decides on the sale of products (when, where, what to sell, etc.)				
Who decides on what, when and where to buy?				
Who decides what and how much to consume?				
Who has access to local markets to sell products?				
Who has access to regional markets?				
Who has access to credit? (formal or informal)				
Who has access to financial resources?				
Who decides on and controls use of financial resources?				
Who uses modern technology (who has knowledge and who can afford it financially)				
Who has access to information on civil rights for women, indigenous peoples, environmental laws, etc?				
Who has access to economic information (prices, subsidies, incentives, etc.)				

SGA Tool #3 Decision-Making and Access to Economic Resources and Information. The ZIMOZA Project in Southern Africa

Decisions and access	Within households (gender, age, seniority)	Within community (gender and inter-households differences)	Problems and implications for the project	What could the project do about it?
Who decides on the sale of products (when, where, what to sell, etc.)?				
Subsistence fishing	Men decide on distribution, women on processing and selling. Men have control over money.	Controlled by men or women heads of households.	Needs further exploration of differences. Women would be less committed to activities if they receive no benefits. Project could require more labor by women.	How to avoid this in order to ensure that women benefit from their work in the context of project activities.
Commercial fishing	Same as above.			
		Only a few families can participate in commercial fishing; hence, outsiders mostly do it. Women are used as wageworkers to process fishes. It is unclear who controls wages--it varies.	The community does not benefit. Women's wages are important.	Explore the possibility of establishing fees or taxes for outsiders doing commercial fishing, so that the community can benefit.
Cotton /small scale (applicable to all commercial crops)	Men consult with wives, but make the decision of how to use financial resources. Men sell the cotton, but women and children carry the cotton.	Female heads of households do this directly.	Income from commercial crops is mostly in men's control, with limited control by women. Therefore, an increase in this income might not benefit all family members.	Take this into consideration when deciding interventions.
Wild fruits	Women collect and do the marketing, even outside the community. Beyond a certain profitability, men will take control.	According to status (transportation) it could be men or women.	Market problems.	Encourage women to form co-operatives.
Livestock	Men decide what to do; however, sometimes the wife is consulted.	The decision-makers are mostly male.	Financial resources are usually in the hands of men, with no benefit to women.	
Honey	Men.	Men make decisions.	Market problems.	
Buying supplies and services: who decides (what, when and where)?				
Food & house supplies	Women make decisions, but some need the endorsement of men.	Women.	Sometimes there will be a shortage of food in the house.	Development of a management plan that creates an economic base to increase the food supply.
Livestock				
School fees & supplies	Women address the need and men make the decisions. Women will raise needed funds in by brewing beer. Women are more concerned and supportive on this issue. When having to choose, boys are sent rather than girls.	Wealthier families make a joint decision about this issue. Poor families make more sacrifices to send their offspring to school.	Women are busier in the month before schooling. They work extra hard to get money in order to afford school fees and supplies. Decisions on who attends school depend on seasonal tasks, father's emigration, etc.	Consider this for the planning of activities for women. Facilitate saving schemes affecting schooling expenses.
Tools & inputs for Agriculture and livestock	Men decide about commercial crops and on livestock inputs. Women decide about subsistence crops.	Standard.		
Who has access to credit (in products or money)?				
Formal	Women cannot provide collateral (they have no land titles) to access financial credit or in kind.	Better access to education, collateral, and status are advantages when applying for credit. Kinship is also important.	Access to formal credit is unequal and politics are involved.	Explore ways to overcome restrictions to formal credit for unmarried men and for the elderly. Attempt to make credit more accessible.
Informal (women's groups)	Women have access through women's group.	Kinship can provide better access to informal credit.	Informal credit is not always reliable.	Lobby for support from NGOs, and the private sector and the government.

Decisions and access	Within households (gender, age, seniority)	Within community (gender and inter-households differences)	Problems and implications for the project	What could the project do about it?
Who uses modern technology (who has knowledge of modern technology and who can afford modern technology)?				
Tractor, radio, inputs, telephone, boats/engine	Men have better access to a network to exchange labor or goods for a tractor. Women can compensate with other products like beer; however, most women cannot afford to hire a tractor.	Some families, such as headmasters, employees, and those receiving revenues from relatives, can afford technology.	Women and poor families are less likely to use technology. Constrains on using land in a more sustainable manner and to have less pressures on converting forests or wetlands to arable land.	Ways of improving the economic base of communal people should be further explored so that they can afford access to modern technologies.
Who has access to information on the legal rights of women, minority groups, environmental laws, etc.?				
	Men and women, but higher literacy among men gives them the advantage of reading and understanding the information. Young educated people.	The most educated families. Not all families have a radio or read the newspaper. Young educated people.	Those who have access to information can get confused because of the conflict between rights contained in statutes and the customs of the community.	Find some way of promoting legal education and of harmonizing the conflict between the two legal systems.
Who has access to economic information (prices, subsidies, incentives, etc.)?				
	Informal exchange of information on prices among men, while drinking beer. Women do so after church or while washing clothes.	Families that have a greater involvement with the market; families with more economic power; exchange of information.	Lack of formal information exchange channels: radios, newspapers, computers.	

4

SGA Tool #4 Traditional Environmental Knowledge

This tool offers:

- Detailed information on the ecological knowledge of specific social actors within households and within the community (by gender, age, seniority, status, ethnicity, etc).
- A way to identify who knows what, for specific topics pertaining to environmental knowledge, relevant to NRM projects.

This tool is useful to:

- Assess the potential contribution of various social actors towards the project, in order to include all knowledge that can contribute to the success of the intervention.
- Understand and legitimize the various types of knowledge, to overcome the “invisibility” of the knowledge of certain groups. For instance, the knowledge women have on biodiversity.
- Detect the loss of traditional environmental knowledge and the changes in the transmission of knowledge within the community.

HOW TO USE SGA TOOL #4:

1. Follow the general guide provided on pages 85 & 88. Once the format is on the wall and the cards are ready to be filled, the facilitator should make sure that the goal of the tool and the categories used in the tool are clear for the group before starting the exercise.

Start with the first section of the tool, where the information on traditional environmental knowledge appears.

Next, the main categories used are presented. However, each project should define which are the most important topics of traditional environmental knowledge for the area and goals of the project.

2. Categories tentatively proposed
 - Weather prediction: includes the capacity to observe nature (behavior of animals, colors of the clouds, appearance of the moon, etc.) and to anticipate the patterns of rain, frosts, floods, etc. It is important to know to what extent this knowledge is different for men and women within families, by age and seniority and within the community and how status, access to education, ethnicity, etc., affects how this knowledge is distributed and transmitted in the community and within households.
 - Water and wetland management refers to the knowledge of how to conserve these resources and the wildlife they contain.
 - Soil management refers to the knowledge on types of soils, their properties and uses and techniques to control erosion.
 - Traditional agriculture refers to the knowledge of the biological control of plant diseases, insects and plagues, how to associate and rotate crops to increase fertility, how to manage agriculture within the forest, etc.
 - Biodiversity and wildlife refers to the knowledge of animals, their habitats, their behavior, uses and reproduction.
 - Biodiversity and forest dynamics refers to the knowledge of plants (medicinal, fiber, etc.), trees (timber and non-timber species) and forest dynamics.

3. Each one of these areas of knowledge requires an analysis of who knows what within households (register this information in the second column of “households”) and within the community (register this information in the third column). Within households, it should be explored how men and women have specific knowledge by age, seniority and how these variations occur. Under “community,” it should be discussed and registered if families have similar knowledge or if they differ in terms of age and seniority, status, ethnicity, etc. In each case, ask which elements of social differentiation might seem more relevant for the project.
4. In column 4, define the main problems and opportunities that social differentiation in traditional knowledge presents for the project and for the livelihoods of local people. The implications for the project should be stated here.
5. Finally, taking into account the problems stated in the previous step, the group should discuss what alternatives could be proposed for the project to implement. This information should be placed in the last column.

SGA Tool #4 Traditional Environmental Knowledge within Households and the Community

Traditional environmental knowledge on	Within households (gender & age)	Within communities (gender, age, ethnicity, socio-economic status)	Problems & implications for the project	What could the project do about it?
Weather prediction				
Wetlands and water management				
Soil management				
Traditional agriculture				
Biodiversity –wildlife				
Biodiversity–plants and forests				
Other				

SGA Tool #4 Traditional Environmental Knowledge within Households and the Community. The Case of the ZIMOZA Project in Southern Africa

Traditional environmental knowledge on	Within households (gender & age)	Within communities (gender, age, ethnicity, socio-economic status)	Problems & implications for the project	What could the project do about it?
Weather prediction & rituals (brewing beer, etc.) Predicting drought, timing of the rain, etc.	Elderly men & women. It is orally transmitted.	Traditional families know more than westernized and educated families. Most Christian families do not believe it. Senior members are more knowledgeable.	Knowledge is valued in the community, but less than the influence from markets, school, and Christianity.	Document, validate, and revitalize this knowledge among youth. Use it as a planning tool.
Coping mechanisms during drought and floods.	Women gather nuts and roots from the forests.	Traditional role of cows and status within community prevents families from reducing herd size during drought, making it difficult to cope with droughts.	Resistance from families to reduce size of herds, due to status (i.e., the cattle complex) could be problematic for an implementation of a management plan with recommendations and coping with environmental stress.	Validate women's knowledge on gathering food from forests, in order to share within broader areas. Take into consideration this traditional practice.
Fish management Assess fish populations, what to fish, when, where etc.)	Adult men pass knowledge to their sons. Women also know, but less than men.	Mostly fishermen and elderly men. Knowledge is not shared among families.	Knowledge is being lost and is undervalued.	Project should validate and promote traditional knowledge on fishes.
Wetlands and water management Dynamics of the wetlands and related resources	Mainly the men know more about the dynamics surrounding wetlands. Knowledge about the resources depends on the resource and who uses it, (i.e., women will have more knowledge) around resources used for pottery and handicrafts).	Mainly elderly men and women. Traditional families or families that specialize in brick making, etc.	Knowledge various depending on the users, which creates a conflict of interest.	Project should identify users who possess knowledge of specific resources.
Soil management	Elderly men and women.	Senior members of the community, both male and female.	Knowledge alone is not enough in some areas, since the soils have been exhausted and there is low rainfall.	Encourage the resettlement of the people so that they can apply their knowledge.
Traditional agriculture	Elderly men and women.	Mainly elder men and women.	Shifting cultivation lost due to lack of land to clear and modern methods of agriculture replacing traditional methods.	Find a way of accommodating the traditional knowledge with the modern methods.
Wildlife	Men.	Men.	It is illegal to hunt wildlife, due to protective legislation. As a result, traditional knowledge is being lost.	Management plan should take lessons or should strengthen the CAMPFIRE initiative and incorporate indigenous knowledge systems.
Plants and forests	Men.	Men.	Some traditional trees being lost.	
Medicinal plants and use For home remedies & traditional rituals	Women know more about home remedies for children and reproductive health. Men know more about medicine for livestock.	Different specialized traditional healers (N'ganga) Spiritual healers collect parts of animals or plants for medicine.	Specialized and rich knowledge.	Document and respect this knowledge. Recognize its importance and use it within conservation and propagation strategies. Make sure that plants are conserved. Ensure property rights of this knowledge.



SGA Tool #5 Demographic Issues and Socio-Environmental Adaptation

This tool offers:

- A format to describe the demographic trends in a community and the demographic strategies of various families, as they change according to gender, age, seniority, ethnicity and types of households.
- A description of various strategies used by families to maximize their access to natural resources, for instance, intensifying the use of resources, expanding their base of resources or diversifying their activities.
- A way to assess health, education, decisions about fertility, cultural values of fertility by gender, age, status, ethnicity, etc.
- A format to describe and understand the demographic phenomena at the local level, as part of the strategies used by families to adapt its size to the resources they can access.

This tool is useful for:

- Linking demographic issues with the adaptive livelihoods of families responding to changing social and physical environments.
- Understanding the rationale for local decisions and behaviors, so that projects can fit into these rationales and make them more sustainable and equitable.
- Understanding how various local populations cope with demographic issues, poverty and environmental degradation.

HOW TO USE SGA TOOL #5:

1. Follow general guidelines provided on pages 85 & 88. Once the format and the cards are ready, the facilitator should make sure that the goals and categories of the tool are clear for the whole group.
2. Start with the first column of the tool, where information on demographic aspects and adaptive family strategies should be placed, using the following questions:

- How many living children per mother (an estimated average is enough to have an idea of the average family size). Leave empty the household column and go to the next column: community, where this information should be placed. It is important to note how family size varies by socio-economic status or ethnicity and how it affects families' well-being and their use of natural resources. Age is not a reliable variable, since young couples are at the beginning of their life cycle and are expected to have a smaller family than mature couples. For example, what is the correlation, if any, between age, income, and education on family size?
- Is a large family more valued? It is important here not to focus on how many children they have, but how many they expect or would like to have, in order to calculate if couples value or not a large family. In this way, we could compare how this value differs among men and women, young and old. Write this information down in the household column. The next column shows the differences within the community, among more traditional families, younger couples, poor families, etc. The question is, which families prefer a larger family, what value is attached to the children (labor, status symbol, future security), and which families prefer small families and why (less demand placed on food, better capacity to educate them)?
- Is infant and child mortality high? It is important to know if high child mortality neutralizes high fertility, to understand how families assess these factors. Leave the household column empty and focus on the differences among families and place that information in the communities' column. For example, in which families is child mortality highest? Which families have better conditions to treat diseases and avoid or reduce child mortality? The goal here is to gain some knowledge of the way these factors influence family decisions on demographic strategies rather than to conduct a demographic study.
- Is pregnancy prevented or interrupted? If so, how? It is important to know if this knowledge is available and if these practices are common. Who controls fertility within the household (the husband or the wife)? It is also important to know how different families behave in this regard (by status, ethnicity, access to education, etc.).
- Is demographic pressure on natural resources high, medium or low? Estimate the degree of demographic pressure on natural resources and the changes in the last ten years. Also, changes in the patterns of residence (from dispersed to more concentrated) or by demographic growth (emigration, immigration).

3. Adaptive strategies: What practices do families develop to adapt their size to the amount and type of resources they can access? The aim of these practices might be to reduce the size of the family through emigration of its members, to combine families into households in order to gain a greater labor force, to expand its base of natural resources, or to use resources in more intensive ways. The following questions are a general guide. The team should select those which are more prevalent and add others if necessary.
- Is child migration common? A common practice among economically disadvantaged rural families is the emigration of sons and daughters to emigrate. It is important to know if this emigration targets sons, daughters or both. It is important to know if, within the community, there are differences among families on emigration. How do the youngest, most economically disadvantaged, and more traditional or more educated families react on issues pertaining to emigration? What creates the discrepancy of views between families?
 - Is household restructuring common? To what extent households have additional members in order to reduce costs and maximize labor and income?
 - In what conditions is it customary to use resources in a more intensive way? Who does it? This option is usually limited by access to labor and money and the means to intensify use of resources. One alternative for some families is to intensify the use of natural resources. For this reason, it is important to know if there are differences within the household to use resources more intensively. Explore within the community which families do or do not intensify the use of resources (by status, seniority, ethnicity, access to education, etc.), and what resources are being used more intensively?
 - Is it common for people in the community to try to expand the base of natural resources? If so, who does it? Converting forests or wetlands? Privatizing common lands? Extracting more resources from common areas? Invading other lands? Expanding the base of natural resources might be a more feasible option in some communities where resources and territories are not limited. This option might include converting forests and/or wetlands into agricultural lands, or extracting natural resources more intensively.

There could also be a trend to privatize common lands, as in the case of the Andean communities. Invading land belonging to the state, private owners or neighboring communities is another mechanism. The focus on this topic should be on inter-household differences. The information collected should be entered in the column “within communities”. It is important to know what types of families practice the various options under consideration.

- Is economic diversification common? If so, for whom? Although this is a common characteristic of rural and economically disadvantaged families, it does not have the same degree of importance for all families. The capacity to diversify economic activities / production is very important to a project that aims to promote sustainable use of natural resources. For this reason, it is important to explore the roles of men and women within households. Within the community, it is also important to know who (by their status, age, seniority, education, ethnicity, etc.) diversifies to a greater extent, why and what types of restrictions are placed on those who are not diversifying their activities.
- Other strategies might include reciprocal exchanges of labor, goods and resources, based on kinship or affinity groups. Explore if these networks play an important role, how they involve men and women, and how they work within the families of the community (by their socio-economic status, level of education, age, seniority, ethnicity, etc.). These networks are very important for a project, as they could facilitate informal access to resources beyond the formal entitlement. They also affect the availability of labor and access to resources like land, seeds, tools, knowledge and information.

In the next column, the main problems identified for the project plan should be registered. These problems should be derived from information registered in previous columns. If a new element arises, then the group should revisit the previous columns and register that element where appropriate. It is very important that the group discusses what implications the phenomena described in the first three columns have for the project. What implications do the strategies developed by the families to adapt to their social, economic and physical environment have for the project?

Finally, register in column 5 what alternatives the project could implement to alleviate the problems described in this tool. Since the project will not be able to address each one of them, focus on the most urgent problems. It is important to identify issues that are beyond the project's scope that require policy recommendations.

SGA Tool #5 Demographic Issues and Adaptive Socio-Environmental Strategies

Demographic issues	Within households (gender and age)	Within communities (gender, age, ethnicity, socio-economic status)	Problems and implications for the project	What could the project do about it?
Living children per mother (average)				
Is a large family preferred?				
Is child mortality high?				
Is pregnancy prevented or interrupted? If so, how? Who decides?				
Is demographic pressure on natural resources low, medium or high?				
Adaptive family strategies:				
Is migration of sons and daughters common?				
Is it common to make more intensive use of natural resources? If so, for whom?				
Is it common to expand the base of natural resources? If so, who does it?				
Are forests or wetlands being converted?				
Are common lands being privatized?				
Are more resources being extracted from common areas?				
Are other lands being invaded?				
Is economic diversification common? If so, for whom?				

SGA Tool #5 Demographic Issues and Adaptive Socio-Environmental Strategies. The Case of ZIMOZA Project in Southern Africa

Demographic issues	At the household level (gender, age, seniority)	At the community level (gender, age, status, ethnicity, seniority)	Implications for the project	What could the project do about it?
Living children per mother (average)	6 to 7 children There might be more than just one mother per household.	Differences among Christians and the education of families who are not polygamists.		
Is a large family more valued?	Yes, for labor.	Families possessing more land and livestock will tend to have larger families. Further, traditional leaders and healers will have bigger families. Christians and literate people will have fewer children.	The need to teach them family planning methods.	Campaign for family planning.
Is child mortality high?	Yes, especially children under the age of two.	Families with unbalanced nutrition, poor diet, lack of medical facilities, clean water and sanitation. Families with AIDS.	Lack of nutritious food.	Management plan involving food provision sanitation and health facilities.
Is pregnancy prevented or stopped? If so, how? Who decides?	Traditional pregnancy prevention and abortion exist. Herbs and barks are used. When the man feels compromised, he may favor abortion. Problem: Baby dumping and killing. Married women have restricted control over pregnancy prevention. Under traditional law, married women do not have the right to refuse sex to their husbands. Women have more children as a method of keeping their husbands.	Differences between educated women. AIDS is changing views about sex life, number of children. Christian and Muslim women will not abort their fetuses.	Most methods terminating pregnancies lead to death.	Management plan needs to include reproductive health components.
Is demographic pressure on natural resources high, medium or low?		High.	Need to address the depletion of certain natural resources.	Management plan needs to encompass sustainable use of resources.
Adaptive family strategies	At the household level (gender, age, seniority)	At the community level (gender, age, status, ethnicity, seniority)	Implications for the project	What could the project do about it?
Is sibling migration common?	Yes, young people migrate from the age of 18 onwards (after finishing school).	Young people from economically disadvantaged families will migrate as domestic workers. Young people from wealthier families will migrate with the goal of getting a formal job.	Village age structure: most of the population will be elderly or very young, but not in between.	Management plan should involve job creation strategies and economic bases should be strengthened.
In what conditions is it common to use resources in a more intensive way? Who does it?		Wealthier families and those with a good network can make more use of technology in agriculture and fishing. Poor families make more intensive use of wood fuel and wild fruit.		Management Plan should consider sources of income for poor families and ways to limit use of technology that allows more intensive use.
Is it common to expand the base of natural resources? If so, who does it? Are forests or wetlands being converted? Are common lands being privatized? Are more resources being extracted from common areas? Are other lands being invaded?	Women collect more fuel wood and wild fruit, while men collect more wildlife.	Extracting more resources from a common area.		
Is economic diversification common? If so, for whom?	Women do handicrafts; they also brew beer and raise chickens. Men make bricks and fish.	It is common among the economically disadvantaged families and female-headed households.		

Section 3

HOW TO USE THE INFORMATION GENERATED BY THE SGA TOOLS



WHAT TO DO NEXT?

Once the SGA tools have been completed, the group should have at its disposal:

- A list of socio-environmental problems (from the fourth column of the five SGA tools). This list should be reviewed according to the institutional profile, the goals of the project, the most urgent environmental issues, and the interests of local people. After a group discussion, write a short list of the problems to be addressed.
- A list of possible activities to tackle the problems (from the last column of the five SGA tools, although brainstorming could be used to see if the group is missing something important). This list should be reviewed in comparison to the short list.
- Information on the various social groups that should be involved in these activities (from the second and third columns of the five SGA tools).
- This information should be used to define the following issues through group discussion:
 - Which social groups should be involved in the activities proposed for the project?

- How would the various social groups identified already be affected by these activities, in terms of gender, age, seniority, status and ethnic groups?
- What incentives and what limitations would these social groups have to participate in the project?
- Based on these elements, does the sharing of costs and benefits seem to be fair among the social groups?
- How could this social sharing of costs and benefits become more balanced and fair?

The list of priority problems and activities, and who to involve, could be organized in the following table:

Consolidation Matrix

Priority problems	Proposed activities	Social actors to be involved	Analysis to ensure the social equity of the project design			
			How would the different groups be affected?	What incentives and limitations do these groups have to engage in the project?	What costs and benefits do these activities have for men and women, poor and wealthy?	Is the sharing of costs and benefits fair? How could it be more balanced?
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•

FURTHER STEPS

This guide has introduced you to the set of social variables affecting interventions on natural resources management. The focus has been on the interactions between gender and poverty, gender and age and seniority, gender and ethnicity, gender and class, as these dynamics affect the use of natural resources and the social sharing of its costs and benefits. Our aim was to provide a way to draw the internal map of social differentiation within communities, and to elicit how it affects management of natural resources.

We hope that the tools and methodologies proposed in this guide have helped to unravel the labyrinth of social structures and dynamics within communities, as they relate to environmental issues. Most topics need a more elaborated and comprehensive treatment, but making social and gender analysis accessible to non-specialised users demands certain simplifications. We have emphasized links between processes, levels and variables, in order to allow this exercise to capture the social complexity. By making social actors more visible, it is hoped that a broader and more balanced participation of local people, and more balanced negotiations among the social groups can be facilitated. The tools presented here are methodological guidelines to be adapted to the each specific context, nature and goals of the institution that is designing the project. These tools can be used at various times, with varying depth and detail.

Participants in the Lima and Harare workshops reported the following points after using the booklet:

- Visualizing both comprehensive and disaggregated social and environmental interactions within a community.
- Discovering the social context for specific technical components.
- Anticipating how various groups would react to certain activities or interventions.
- Having an improved understanding of social subgroups and their importance for natural resources management.
- Organizing the information and knowledge that individual team members have in fragmented and disperse terms.
- Identifying gaps in projects and teams.

I hope that you have found this booklet useful. To facilitate further use of social and gender analysis within your project, a resources directory on gender and participatory management of natural resources is included in Appendix 1.

Many participants requested some guiding criteria to assist them in assessing whether a project is contributing to promote social equity and sustainability. Here is a preliminary set of criteria:

- Biological, cultural, ethnic and social diversity is respected in the context of searching for social and economic justice.
- Costs and benefits resulting from the use of natural resources are fairly distributed among the social groups involved.
- The well-being and socio-environmental security of the members of the community are enhanced.
- Decision-making and management are carried out through fair and balanced participatory processes.

Bibliography

CARE-Peru, Analisis socio-demografico de los ribereños del río Napo y Mazan, Loreto in Diagnostico del distrito de Mazan, Loreto (Consultancy Report) by M. Cristina Espinosa. Lima, Peru 1991.

Campbell, C., "Out on the front lines but still struggling for a voice: women in the rubber tapers' defense of the forest in Xapuri, Acre, Brazil" in D. Rocheleau, B. Thomas-Slayter & E. Wangari, eds., *Feminist Political Ecology Global Issues and Local Experiences* (London: Routledge, 1996).

Espinosa, M. Cristina, "Género y desarrollo: Variaciones en la división de trabajo y toma de decisiones por efecto de variables exógenas en las familias campesinas de Huaraz" in *Socialismo y Participación*, no 61. CEDEP. Lima, Peru 1993.

Espinosa, M. Cristina, *The Effects of 1990 Structural Adjustment Program on Poor Farmers of Peruvian North-Central Highlands of Peru* (Master thesis, University of Florida, 1995) [unpublished].

Espinosa, M. Cristina, *The Role of Socio-Economic Differentiation in the Use of Wildlife Resources in North-Eastern Peruvian Amazon* (Ph.D thesis, University of Florida, 1998) [unpublished].

Goneze, D.M & A. Tivafiri, "Spirituality, Religion and the Environment" *Compas Magazine* (2001) at 20.

Interview with Chavez Augustin (1991).

IUCN, *World Conservation Strategy* (1980).

IUCN, *World Conservation Strategy* (1983).

IUCN, *Guiding the Project Planning Cycle: Monitoring and Evaluation Initiative* (1999).

IUCN, *Policy on Mainstreaming Gender in Conservation* (1998) online: IUCN <www.iucn.org/themes/spg>.

IUCN, *Policy Statement on Social Equity in Conservation and Sustainable Use of Natural Resources* (2000) online: IUCN <www.iucn.org/themes/spg>.

IUCN, Workshop Report (2001) by M.R. Lanao y C. Espinosa

IUCN-ORMA, Towards Equity: gender tools for natural resource management.

IUCN-ORMA: online <www.poam.org>.

John and Catherine T. MacArthur Foundation, Equidad de genero y sustentabilidad en la peninsula de Atasta, Campeche: diagnostico situacional (Project report) by I. Castanheda et al. (Mexico, 1999).

Joekes, S., C. Green, & M. Leach, Integrating Gender into Environmental Research and Policy (Brighton: Institute of Development Studies, 1996).

Kabeer Naila & Tran Thi Van Anh, "Leaving the Rice Fields, but not the Countryside. Gender, Livelihoods Diversification and Pro-Poor Growth in Rural Vietnam" in Razavi Shahra, ed., Shifting Burdens: gender and agrarian change under neoliberalism (Bloomfield: Kumarian Press/UNRISD, 2002).

Kainer, K. & M. Duryea, Tapping Women's Knowledge: Plant and Resource Use in Extractive Reserves Acre (1992) 46 Economic Botany at 4: 408-425.

Lanao, Maria del Rosario, « Diagnostico de Mujeres Peladoras de Castanha en La Jolla, Madre de Dios » (Conservation International Peru, 1993).

Lanao, Maria del Rosario, Testimony provided during the facilitation of the Harare Workshop organized by IUCN Global Social Policy Program to test this booklet tools (2002).

Leach, Melissa, Rainforest Relations: Gender and Resource Use among the Mende of Gola, Sierra Leona (Washington D.C.: Smithsonian Institution Press, 1994).

Mehta, M., "Our lives are no different from that of our buffalos: agricultural change and gendered spaces in a Central Himalayan Valley" in Dianne Rocheleau, Barbara Thomas-Slayter & Esther Wangari, eds., Feminist Political Ecology: Global Issues and Local Experiences (London: Routledge, 1996).

Moser, C., Gender Planning and Development (New York: Routledge, 1993).

Quijandria, B. Espinosa M.C. & Maria Fernandez, Small Ruminant

Production System Research and Technology Validation in Peasant Communities in the Highlands of Peru. Technical Report SR-CRSP-INIPA. Small Ruminants Collaborative Research Support Program in Lima, Peru 1984.

Rocheleau, Dianne, Barbara Thomas-Slayter & Esther Wangari, "Gender and Environment" in Dianne Rocheleau, Barbara Thomas-Slayter & Esther Wangari, eds., *Feminist Political Ecology: Global Issues and Local Experiences* (London: Routledge, 1996).

Rocheleau, Dianne, Barbara Thomas-Slayter & Esther Wangari, eds., *Feminist Political Ecology: Global Issues and Local Experiences* (London: Routledge, 1996).

Sarin, M. and SARTHI, "The view from the ground: community perspectives on joint forest management in Gujarat, India" in *The Forest Participation*, No. 4, IIED Forestry and Land Use Programme. London, 1996.

Schmink, M., "Conceptual framework for gender and community-based conservation" in M. Schmink, ed., *Case Studies Series on Gender, Community Participation and Natural Resource Management* (Gainesville: MERGE, University of Florida, 1999).

Slocum, R., Wichhart, L., Rocheleau, D. & B. Thomas-Slayter, *Power, Process and Participation: Tools for Change* (London: Intermediate Technology Publications, 1995).

United Nations Development Program, *2000 Human Development for United Nations Development Program* (New York: Oxford Press, 2000).

Warner, M.W., A. L. Hassan & J.G. Kydd, "Beyond Gender Roles? Conceptualizing the Social and Economic Lives of Rural People in Sub-Saharan Africa: Some Evidence from Northern Ghana" in *Development and Change*. Vol. 35: 210-242, 1995.

World Water Vision, *Mainstreaming Gender in Water Management: Why and How? Background*. Paper for the World Vision Process. World Water Council c/o UNESCO Division of Water Sciences. (Paris, October 1999).

Zwarteveen, M., "Linking Women to the Main Canal: Gender and Irrigation Management" *Gatekeeper*, N. 54, Sustainable Agriculture Programme, IIED. London, 1995.

Resource	Focus – relevance	Contact
National Environmental Secretariat, Government of Kenya, Clark University, Edgerton University, and Centre for International Development and Environment of the World Resources Institute Participatory Rural Appraisal Handbook (New York: World Resources Institute, 1990).	Methods for community needs-assessment and participatory planning using PRA (Participatory Rural Appraisal) methods. Oriented towards the creation of Village Resources Management Plans. Includes 12 tools.	World Resources Institute, Centre for International Development and Environment 1709 New York Avenue, NW Washington, DC 20006 USA Ph. 202 729-7600 Fax: 202 729-7610 Email: publications@wri.org WWW site: http://www.igc.org/wri WWW bookstore: http://www.wristore.com
Parker, Rani, Another Point of View: A Manual on Gender Analysis Training for Grassroots Workers (UNIFEM, 1993).	A user-friendly training manual specifically designed for training purposes includes a training methodology section and materials which can be reproduced for handouts.	UNIFEM United Nations Development Fund for Women 304 East 45th Street, 15th floor New York, NY 10017 Tel: 212/906-6400 Fax: 212/906-6705 http://www.unifem.org Email: unifem@undp.org
Russo, S.L. et al., "Gender Issues in Agriculture and Natural Resource Management" in Dounia Loudiyi & Alison Meares, eds., Women in Conservation: tools for analysis and a framework for action (Washington D.C.: IUCN, 1989).	Presents tools and concepts to facilitate the incorporation of gender equity issues into agriculture and natural resources management projects.	U.S. Agency for International Development Information Centre Ronald Reagan Building 1300 Pennsylvania Ave., NW Washington, D.C. 20523-0016 Tel: +1 202-712-4810 Fax: +1 202-216-3524 http://www.dec.org/search/dexs/index.cfm?fuseaction=docs&title=%20Gender%20Issues%20in%20Agriculture%20and%20Natural%20Resource%20Management
Slocum, R., L. Wichhart, D. Rocheleau & B. Thomas-Slyter, Power, Process and Participation: Tools for Change (London: Intermediate Technology Publications, 1995).	Participatory tools for appraisal, planning, consciousness-raising and analysis are placed in the context of gender analysis, participation and the need for working towards empowerment of all disempowered groups. Presents 35 tools.	Intermediate Technology Publications 103/105 Southampton Row London WC1B 4HH, UK Tel.:+44 171 436 9761 Fax: +44 171 436 2013 orders@itpubs.org.uk http://www.itdg.org
Williams, S., J. Seed & A. Mwau, The Oxfam Gender Training Manual (Oxford UK: Oxfam, 1995).	Manual for gender trainers oriented towards development and relief organisation professionals at all levels including planning and carrying out gender training, exercises and tools for understanding gender in the context of development programs. It seeks to increase gender equity and empowerment through raising the gender awareness of its target audience.	Oxfam (UK and Ireland) 274 Banbury Road Oxford OX2 7DZ, UK Tel: 44 1865 311 311 Fax: 44 1865 312 600 Email: oxfam@oxfam.org.uk WWW site: http://www.oxfam.org
World Bank, The World Bank Participation Sourcebook (Washington, DC: World Bank, 1996).	Suggests ways to incorporate participatory approaches into project design and implementation. With case studies	World Bank 1818H Street NW Washington DC, 20433, USA Tel (202) 477-1234 Fax (202) 477-6391 www.worldbank.org books@worldban.org
Pierce Colfer, C. et al., The grab bag: supplementary methods for assessing human well-being criteria and indicator toolbox (Jakarta, Series: CIFOR, 1999).	Various methods and criteria to assess the impact of projects on the well-being of local communities are presented	CIFOR http://www.cifor.cgiar.org/docs/ref/publications/index.htm

Appendix 1

RESOURCES DIRECTORY

Resource	Focus – relevance	Contact
Manuals and Handbooks		
Aguilar, L. et al., <i>Hacia la Equidad</i> (San Jose, Costa Rica: ORMA/IUCN, 1998). Available in English and French. Online: IUCN < www.iucn.org/publications >.	Manuals and Handbooks This series of nine modules covers concepts, methodologies, tools and instruments for incorporating gender and equity perspectives into conservation and development work at all levels from the field to the policy level.	IUCN – ORMA Apartado 0146-2150, 100m Sur de la Iglesia, Moravia, San José, Costa Rica Tel.: +506 236 2733 Fax: +506 240 9934 Email: correo@orma.iucn.org
Beck, T. & M. Stelcer, <i>The Why and How of Gender-Sensitive Indicators: A Project-Level Handbook</i> (Ottawa: Canadian International Development Agency (CIDA), 1996).	Reviews the main approaches to using gender-sensitive indicators, and determining which types of indicators can be used. Contains entire discussions of concepts and methods.	Canadian International Development Agency -CIDA 200 Promenade Du Portage, 5/F Hull, QC K1A 0G4 Canada (+1) 819 - 953 50 23 (+1) 819 - 953 54 69 http://www.acdi-cida.gc.ca/publications-e.htm
Davis Case, D., <i>The Community's Toolbox: The idea methods and Tools for Participatory Assessment, monitoring and Evaluation in Community Forestry</i> (Rome: FAO, 1990).	Participatory tools for appraisal, planning, monitoring and evaluation in a forestry context but are broadly applicable to resources management projects.	Sales and Marketing Group, FAO Viale delle Terme di Caracalla, 00100 Rome, Italy Fax: +39 (06) 5705 3360 FAO publication agents exist around the globe. For a list visit the FAO website: http://www.fao.org
Jackson, W.J & A.W. Ingles, <i>Participatory Techniques for Community Forestry: a field manual</i> (Gland: IUCN, 1998).	A toolkit of participatory approaches to community forestry for programme managers and field workers. A particular focus is placed on Nepal but tools can be used in a variety of contexts.	IUCN Communications Division Rue Mauverney, 28 CH-1196 Gland Tel. 41 22 999 0001 Email: mail@hq.iucn.org
Margoluis, R. & N. Salafsky, <i>Measures of Success: Designing, Managing and Monitoring Conservation and Development Project</i> (Washington DC: Island Press, 1998).	Guide for field practitioners through the project cycle for conservation and development projects.	Island Press P.O. Box 7 Covelo, CA 95428 USA Tel: 800 828-1302 Fax: (707) 983-6414 Email: info@islandpress.org
Barton, T., G. Borrini Feyerabend, A. de Sherbinin & P. Warren, <i>Our People, Our Resources: supporting rural communities in participatory action research and population dynamics and the local environment</i> (IUCN, 1997).	Provides framework, tools and methodologies for participatory action research on population dynamics and their interactions with the local environment, in the context of participatory approaches to natural resources management.	IUCN-The World Conservation Union. Gland, Switzerland. www.iucn.org/publications
Thomas-Slayter, B., R. Polestico, A. L. Esser, O. E. Taylor & A. Mutua, <i>Manual for Socio-Economic and Gender Analysis: Responding to the Development Challenge</i> (Worcester, MA: Clark University, 1995).	Tools for the macro (policy) level, the intermediate (program) level and the field level. The field level manual presents methods and tools for facilitation, participatory appraisal, and analysis with heavy emphasis on analysing the livelihood systems of rural populations. The three manuals contain 40 tools.	Food and Agriculture Organisation of the United Nations, Sustainable Development Department, Women and Population Division, Women in Development Service Viale delle Terme di Caracalla, 00100 Rome, Italy Tel.: 39-6-57055102, Fax: 39-6-57052004 E-mail: SEAGA@fao.org Document online at: http://www.fao.org/sd/seaga

Resource	Focus – relevance	Contact
FINNIDA, Looking at gender and forestry: operational issues for project planners, implementers and administrators (FINNIDA, 1994).	Useful guidance is presented to help project staff make the links between gender and forestry at the operational level of project cycles.	Finnish International Development Agency. Finland. http://global.finland.fi/julkaisut/index.php?kieli=3
Concepts and Frameworks		
Braidotti R., E. Charkiewicz, S. Hausler & S. Wieringa, Women, the Environment and Sustainable Development: towards a theoretical synthesis (London: Zed Books/ INSTRAW, 1994).	An interdisciplinary survey and debate on the notions of women, the environment and sustainable development, aimed to clarify the political and theoretical issues at stake, proposing key elements for a paradigmatic shift in the way these issues are framed.	Zed Books Ltd. 7 Cynthia Street, London N1 9JF, UK or 165 First Avenue, Atlantic Highlands New Jersey 07716 USA http://zedbooks.co.uk/
Leach, M., R. Mearns & I. Scoones, Environmental Entitlements: a framework for understanding the institutional dynamics of environmental change (Institute of Development Studies: Brighton, 1997).	This volume focus on the issue of entitlements and institutional frameworks, these represent the parameters within which environmental change can or cannot be fostered.	Institute of Development Studies http://www.ids.ac.uk/ids/bookshop/index.html
Oxfam, Concepts and Frameworks for Gender Analysis and Planning (Netherlands: OXFAM United Kingdom and Ireland, 1996).	Presents six frameworks for organising gender analyses, each in the context of its major goals, in the philosophical/political context and its strengths and weaknesses, and case studies illustrating their use.	Gender and Development Training Centre Wilhelminastraat 18 2011 VM Haarlem NL tel. (+31) 23 5342149
Thomas-Slayter, B., A.L. Esser & M.D. Shields, Tools of Gender Analysis: a guide to field methods for bringing gender into sustainable resource management (Worcester, Mass.: Clark University, 1993).	Presents eleven information-gathering tools that can be used for collecting gender desegregated data and for assisting gender analysis. The examples are from agriculture or agro forestry.	ID Publications, Clark University 950 Main Street, Worcester MA 01601 USA. Tel: (508) 793-7527 Fax: (508) 793-8820
Thomas-Slayter et al., A Manual for Socio-Economic and Gender Analysis: responding to the development challenge (Worcester, MA: Clark University, 1995).	This three-part manual presents a framework and methods for understanding gender in the context of socio-economic and environmental factors affecting equity and development. Includes tools for the macro (policy) level, the intermediate (program) level and the field level. The field level manual presents methods and tools for facilitation, participatory appraisal, and analysis with heavy emphasis on analysing the livelihood systems of rural populations. The three manuals contain 40 tools.	Food and Agriculture Organisation of the United Nations Sustainable Development Department Women and Population Division Women in Development Service Viale delle Terme di Caracalla, 00100 Rome, Italy Tel.: 39-6-57055102, Fax: 39-6-57052004 Email: SEAGA@fao.org Internet Web Site: http://www.fao.org/sd/seaga Document online at: http://www.fao.org/sd/seaga
Case Studies		
Razavi, Shahra, ed., Shifting Burdens. Gender & Agrarian change under Neoliberalism (Kumarian Press /UNRISD, 2002).	This book explores from a gender perspective agricultural policies & agrarian change brought by neoliberalism in Africa, Latin America and Asia.	www.kpbooks.com 1 800 289 2664

Resource	Focus – relevance	Contact
<p>Menjivar, Celia, <i>Through the Eyes of Women: Gender, Social Networks, Family and Structural Change in Latin America and the Caribbean</i> (Ontario: De Sitter Publications, 2001).</p>	<p>The effects of neoliberal reforms on daily life in Latin America and the Caribbean. Women's perceptions and assessments are examined through a prism that includes the lives of other women, men, and other members of the women's families, work settings, communities, and political and religious organizations, embedded within broader forces in the economy, politics, culture & legal systems that organize their lives.</p>	<p>de Sitter Publications 374 Woodsworth Rd., Willowdale, Ontario, Canada M2L 2T6 Fax: (416) 441-3035 General Information - info@desitterpublications.com Subscription Information - sales@desitterpublications.com</p>
<p>Feldstein, H. & S. Poats, <i>Working Together: Gender Analysis in Agriculture Volume 1: Case Studies and Vol.2 Teaching Notes</i> (West Hartford, CN: Kumarian Press, 1989).</p>	<p>Essential tools for incorporating gender analysis into program design, making it an integral pragmatic part of research and development work in agriculture Examines participatory methodologies for integrating gender into agricultural projects.</p>	<p>Kumarian Press, Inc. 14 Oakwood Ave West Hartford, CT 06119-2127 USA order toll free / 800 289 2664 Email: kpbooks@aol.com</p>
<p>Koopman, J., <i>Gender and Participation in Agricultural Planning: key issues from ten case studies</i> (Rome: FAO, 1997).</p>	<p>Compares successes & challenges of producing gender desegregated data, training field personnel and institutionalising gender-responsive participatory planning.</p>	<p>Sales and Marketing Group, FAO Viale delle Terme di Caracalla, 00100 Rome, Italy Fax: +39 (06) 5705 3360 Document available online at: http://www.fao.org/WAICENT/FAOIN/FO/SUSTDEV/WPdirect/WPre0048.htm</p>

Useful Web References

Institution	Methods & Tools	Policies	Case Studies	Networks	Training & Workshops	Databases	Conference & Meeting	Publications	Links	URL – Contact
ELDIS	x	x	x	x	x	x	x	x	x	http://www.eldis.org/gender Email list: mailbase@mailbase.ac.uk
African Gender Institute: University of Cape Town (AGI)				x	x			x	x	http://web.uct.ac.za/org/agi/index.htm Email: agi@humanities.uct.ac.za
The Asian-Pacific Resource and Research Centre for Women (ARROW)				x	x		x	x		http://www.asiaconnect.com.my/arrow/
Bridge						x		x		www.ids.ac.uk/bridge/
Consultative Group on International Agricultural Research (CGIAR)				x				x		http://www.cgiar.org/ Gender and Diversity: http://www.genderdiversity.cgiar.org Gender and Diversity Newsletter: http://www.genderdiversity.cgiar.org/newsletter/default.asp
Development Gateway: Gender and Development			x	x			x	x	x	http://www.developmentgateway.org/node/130625/
The Socio-Economic and Gender Analysis Programme (SEAGA)	x			x						http://www.fao.org/WAICENT/FAOINFO/SU/STDEV/seaga/default.htm
Gender, Environment, Agriculture and Participation (GEAP). Institute of Food and Natural Resources Department. University of Florida				x	x				x	http://international.ifas.ufl.edu/pgeap.html
Gender, Science and Technology Gateway						x		x		http://gstgateway.wigsat.org/ http://gstgateway.wigsat.org/database.html
International Development Research Centre (IDRC)	x				x					http://www.idrc.ca/gender/ Email: gsd@idrc.ca
Institute of Development Studies (IDS)					x					Http://www.ids.ac.uk/ids/teach/trainb.html Email: teaching@ids.ac.uk
International Institute for Environment and Development (IIED)						x		x		http://www.iied.org/
(IISD) International Institute for Sustainable Development				x				x		http://iisd1.iisd.ca/about/prodcat/default.htm
International Water and Sanitation Center (IRC)				x	x			x		http://www.irc.nl/themes/gender/index.html Access to Gender Resources: http://www.irc.nl/themes/gender/resources.html#NGQ
Royal Tropical Institute Koninklijk Instituut: Voor de Tropen (KIT)					x			x	x	http://www.kit.nl/gender/html/training.asp
Managing Ecosystems and Resources with Gender Emphasis (MERGE)			x			x		x		http://www.tcd.ufl.edu/merge/
Organisation for Economic Cooperation and Development (OECD)								x	x	http://www.oecd.org/
Oxfam								x		Http://www.oxfam.org.uk Gender and Development Journal http://www.catchword.com/getstart.htm
South Asian Women's NETwork (SAWNET)				x				x	x	http://www.umiacs.umd.edu/users/sawweb/sawnet/
U N Development Programme (UNDP)	x	x					x	x	x	http://www.undp.org/gender/ Email: us1.Gidp@undp.org
Women Ink								x		http://womenink.org
World Bank		x	x	x			x	x		http://www.worldbank.org/gender/
The World Conservation Union (IUCN)								x		http://www.generoyambiente.org/EN/secciones/subseccion_25_120.html

Appendix 2

ZIMOZA TRANSBOUNDARY NATURAL RESOURCES MANAGEMENT PROJECT

Case study used to fill in the SGA tools during the SGA booklet validation workshop, Harare 2001. Case study prepared by Shamiso Mtisi, IUCN-ROSA

The acronym ZIMOZA simply stands for the three countries involved in the transboundary natural resource management initiative—Zimbabwe, Mozambique and Zambia. The initiative is facilitated by IUCN-ROSA through its Networking and Capacity Building (NETCAB) project. The project was started in response to an invitation from the Ministry of Mines, Environment and Tourism to initiate dialogue between the three governments. This dialogue was to focus on transboundary natural resource management.

The project arose out of a realization that there is no coordination between the three countries on the way they utilize the resources that cut across their national boundaries. The three countries share a lot of natural resources with communities that have common histories, cultures and languages.

Objectives of the project

The objectives for the establishment of the Transboundary Natural Resources Management (TBNRM) initiative were:

- To maintain the distribution of the range of ecosystems which do not respect administrative or international borders.
- To facilitate joint management and policy formulation for TBNRM.
- To allow open discussion on the national strategic interests of each country.
- To allow transboundary communities realize common values from the use of natural resources. (Mbizvo-Guveya, 1999.)

Location of the project

The ZIMOZA project area is comprised of three districts: Luangwa in Zambia, Guruve in Zimbabwe, and Zumbo and Magoe in Mozambique. The Guruve district in Zimbabwe is located in the Mashonaland Central Province. It has an international border with Zambia and Mozambique to the north and northeast. It is Zimbabwe's most northern district. As such, a significant portion of its population comes from the other two countries.

The Luangwa district in Zambia lies along two international boundaries, namely Mozambique to the northeast and Zimbabwe to the south. The district is in the semi-arid region of Zambia, which includes the lower Zambezi and Luangwa Valley.

The other district is Zumbu, which is located in the western part of the Tete province in the center of Mozambique. To its west and across the Aruangwa and Zambezi Rivers, Zumbu borders Zambia and Zimbabwe. To the north it borders Zambia and the Marava District, while Cabora Bassa Lagoon is situated to the east, to the south we find the Magoe district.

Ecosystem

The ZIMOZA TBNRM areas are rich in natural resources. The four districts share a lot of natural resources including water from the Zambezi and Luangwa rivers. The ecosystem is made up of land, forests, wildlife, fish, and minerals. These resources are common in all the three countries. (Gueveya, 1999.) The natural resources, diverse as they are, are present across political boundaries, since nature knows no national borders. There is a dependence on agriculture and crop production through cultivating the flood plains along these rivers. However, these areas have poor soils and a dry climate, with chronic droughts. (ZERO Study, 2001.)

Chipoto ward in the Guruve district

A study has been done in the Chipoto ward, which is a communal land in Zimbabwe. The Chipoto ward is situated in the Dande communal lands in the Guruve district to the north of Zimbabwe. It stretches along the Zambezi Valley and is enclosed in the south by the Zambezi Escarpment, and to the north by Zambia and Mozambique. One main physical feature of Chipoto ward is the Mwazamutanda River. Therefore, this ward shares natural resources with other communities in Mozambique and Zambia.

Information about the people

Guruve has a total of 28 wards, and the Chipoto is one of the least populated, contributing only 1.2% to the district's population. In total, this amounts to about 1,598 people in the area of 650 households. (ZERO Study, 2001.)

The indigenous people of the Chipoto ward are the Korekore. The other ethnic groups in the area are the Chikunda and the Doma. The Chikunda people are also found in Mozambique and Zambia. This tribe dominates local political affairs and decision-making. However, the Doma tribe is both marginalized and despised in the area, since for many years it has refused to settle permanently in order to pursue agricultural activities, favoring hunting and gathering instead.

In terms of languages, Korekore is the main tribal grouping and the original language spoken in most parts of the Guruve district. However, Shona and Karanga are also spoken in the area.

Gender, decision-making and women's involvement in socio-economic activities

Main activities of males and females in the Chipoto ward

Gender has been defined as a set of cultural roles, which refer to an institutionalized system that allots resources, property and privileges to persons according to culturally defined roles. This definition is expressed in the Chipoto area, where women and men perform different functions in the households. Since crop production is the main activity in the area, tradition appears to have prescribed that women should rid the fields of weeds and watch over them, harvest and market crops, and collect wild fruits. On the other hand, the men fish, prepare the land, hunt, and build houses.

One notable thing in the Chipoto district is that crop production is equally shared between men and women. But in most cases, it is the women who will do most of the work. Traditional family values held by the community dictate that a married woman would not have access to land independently of her spouse. However, widows and unmarried adult women have full access and use rights independently of heirs or any male adults.

One other observation made during the study was that, due to the Tsetse fly problem, livestock production is not favored in the area. As such, most of the small livestock as such as chickens and goats are traditionally regarded as "women's wealth," since most Zimbabwean men consider owning such domestic animals unimportant. In cases where they own them, they dispose of them very quickly, unlike cattle.

In terms of productive and reproduction roles, women perform the bulk of the tasks. They are solely responsible for child rearing, housekeeping, farming, family health care, water and fuel wood gathering. These women are viewed as fulltime mothers and housewives and dependent subordinates to men. Men are still considered as the breadwinners and household heads, responsible for women and children. It is submitted that, given such a situation, access and control over resources is unequal.

The Chipoto community is a patriarchal society, one based on male dominance. In all instances, it is the husband who engages in wage employment. Men perform most leadership functions, while women are involved in household maintenance and reproductive activities. The representation of women in the community is fairly weak.

There is a close relationship between the low education level of most women in the community and the under representation of women on committees and institutional structures. (See table below.)

Women and Men’s Involvement in Socio-Economic Decision-Making Structures

Committee/ Institution	Chair	Secretary	Treasurer
Ward Wildlife	Male	Male	Male
SDC	Male	Male	Female
Grinding Mill	Male	Male	Male
LGDA Chalets Project	Female	Male	Male
Clinic	Male	Male	-
Ward Committee	Male Councillor	Male	-

Another important question concerns the role of women in cross-border natural resource use and trade, whether illegal or legal. This is one aspect that has not been revealed by the studies. Women appear to be involved by marrying partners from across the border and by the fact that they are the main users of natural resources. On the other hand, it is important to understand whether the women who are mostly involved in agricultural production benefit from doing so. It is customary that some men will take away everything that women have.

Major livelihood activities in the Chipoto ward

Because of the diverse wealth in natural resources in the Chipoto, livelihood strategies include agriculture, in the form of gardens, hunting, fishing, collecting wild fruits, brick making, selling thatching grass and honey gathering. Agricultural production is the main economic activity and

provides a source of livelihood for the community. Women are involved in most of the food production, from the planting stage until the food is ready to be eaten. In this area, people cultivate the rich alluvial soils along the flood plains of the river. They grow maize and cotton in their riverbank gardens. Over the years, the livelihood of the community has been a delicate balance between hunting, fishing and gathering wild fruits.

The majority of households look at the natural resources in terms of their intrinsic value, with little or no scope for commercial value and exploitation. These resources are exploited on a subsistence basis.

Problems faced by the community

The communities face a number of problems in the use of natural resources along the border area. There are restrictions on cross border trade, problems with animals destroying crops, lack of extension services, tsetse fly infestations, crop diseases, droughts and floods.

Conclusion

It is the aim of IUCN to empower these communities to manage resources jointly and while respecting the aims of sustainability, despite the existence of natural boundaries. Furthermore, the historically disadvantaged should be empowered as well, so that there is equity in resource distribution. One of the most striking recommendations in all the studies commissioned by IUCN is the involvement of women in decision-making in utilizing resources.