



MODULE 15

Gender and Forestry

Overview

FORESTRY AND LIVELIHOODS: CHANGES AND TRENDS

Forests cover just under 4 billion hectares—30 percent of the earth’s land surface (FAO 2005a). They fulfill major economic functions, help maintain the fertility of agricultural land, protect water resources, and reduce the risk of natural disasters such as landslides and flooding. The world’s forests are home to at least 80 percent of remaining terrestrial biodiversity and are a major carbon sink that mitigates climate change (World Bank 2002).

More than 1.6 billion people depend to varying degrees on forests for their livelihoods. About 60 million indigenous people are almost wholly dependent on forests. Some 350 million people who live within or adjacent to dense forests depend on them for subsistence and income. In developing countries, about 1.2 billion people rely on agroforestry farming systems that help to sustain agricultural productivity and generate income. Worldwide, forest industries provide employment for 60 million people. Some 1 billion people depend on pharmaceuticals derived from forest plants for their medicinal needs.

Mounting evidence suggests that poverty—and poverty in rural areas in particular—can be reduced only by sustainably managing the natural resources that both generate income and provide environmental services. The forests of the world, which are among the most important of these natural resources, provide support to nearly half of the 2.8 billion people who live on \$2 or less a day (World Bank

2002). Thus, forests can and must assume a more prominent role in meeting the United Nations’ 2000 Millennium Development Goal of halving extreme poverty by 2015.

“*What happens to forests*” will be largely determined by “*what happens outside forests*” (FAO 2007a: 79) One reason that deforestation and forest degradation will continue in most developing regions is the expansion in agricultural land use for both subsistence and commercial cultivation. Deforestation continues at an alarming rate—about 13 million hectares per year (FAO 2005a). A reversal of the situation would depend on structural shifts in economies to reduce direct and indirect dependence on land. The World Bank’s forest strategy *Sustaining Forests* (World Bank 2002) recognizes that forests are always a part of larger economic, environmental, and governance systems that must work together if the goals of poverty reduction, sustainable economic development, and environmental protection are to be met. Total forest area continues to decrease, but the results of the Food and Agriculture Organization’s (FAO’s) Global Forest Resource Assessment (FAO 2005a) indicate the rate of net loss is slowing. Forest planting, landscape restoration, and natural expansion of forests have significantly reduced the net loss of forest area (FAO 2005a).

Concern about climate change has already focused increased attention on the role of forests in carbon sequestration, reducing carbon emissions and substituting for fossil fuels. Climate change may also affect forests themselves, altering forest ecosystems and increasing the incidence and

severity of forest fires as well as pest and disease infestation. At the same time forests will be increasingly valued for the environmental services they provide, which includes their role in conserving biodiversity and in arresting desertification and land degradation. In industrial and rapidly developing countries, recreational use of forests is receiving more attention, requiring changes in forest management.

Geographical shifts in the production and consumption of wood and nonwood forest products are likely to intensify, especially as a result of the rapid growth of the emerging economies in Asia, the Caribbean, Latin America, and the Pacific. This will be countered by slow growth of demand in many industrial countries, due to demographic changes and lower income growth rates. Technological changes, including biotechnology and material technology in wood-consuming industries, will improve productivity and reduce raw material requirements.

For many developing countries, wood will remain the most important source of energy. The rising price of oil and increasing concern for climate change will result in increased use of wood as fuel in both developed and developing countries.

An understanding of how society-forest relationships are likely to evolve is important in preparing the sector to address emerging challenges and opportunities (FAO 2007a). Practitioners and others must not consider natural forests solely in terms of the economic value of timber. Drawing on local knowledge can reveal the full range of social, economic, and ecological functions of these resources and how different groups use and benefit from them. Analyzing the complex interactions between local people and the forests can reveal the impact of forest interventions on livelihoods. By facilitating negotiation between stakeholders, practitioners may support the development of collaborative and adaptive strategies to manage forest resources (FAO 2006a). Successful improvements in forest management quite often resemble and build upon traditional activities already practiced in the area. If innovators do not understand local practices and know which local groups rely on which forest and agroforestry products, they risk introducing innovations that are technically feasible but that result in negative socioeconomic effects.

This Module revisits the gender and forestry analysis and experiences of rural and community forestry themes that were profiled in the 1990s (Rojas 1993)¹ and reexamines gender-related issues in the forest sector in light of recent developments and ongoing trends in the sector (FAO 2007a; World Bank 2002). Drawing on documented evidence, it aims to provide practitioners with a commentary on practical experiences of gender in forestry projects and programs.

The Module is presented under a series of pertinent themes, with lessons learned and best practices.

However thoroughly one recognizes the importance of forests to livelihoods, poverty, sustainability, and conservation, the full potential of forests may never be grasped without an understanding of how women and men use forest resources differently. If decision making in forestry programs and policies follows a “gender-neutral” pathway, the implementation of those programs will not garner the knowledge and skills, nor address the needs, of half of the rural population. Gender- and wealth-disaggregated data on the resource management practices of forest- and agroforestry-dependent communities needs to be consistently and regularly gathered. The Module uses the Sustainable Livelihoods (SL) framework to capture the full scope of gender-related issues as they relate to livelihoods.

The need for gender-disaggregated data on the forestry workforce was recently reinforced by a United Nations Economic Commission for Europe-FAO study on women in forestry in Europe:

Ideas of specific masculine or feminine qualities are connected to certain roles, positions, tasks and professions in individuals. The perception of what is “appropriate” for men and women forms the basis for the distribution of work, the design and evaluation of different tasks, and the criteria for promotions. Forestry is not an exception to this since it has been generally regarded as an arena mainly for men’s work, business and governance. Within organizations, from households to companies and authorities, a gendered organizational logic is at work, which not only reproduces a structure of gender division but also, paradoxically, at the same time, makes gender invisible. Gender invisibility takes many forms. ... In many countries, reliable statistics on the demographics of the forestry workforce are difficult to obtain, and when it concerns women’s participation, data are virtually non-existent. (FAO 2006b: 1)

International agencies and nongovernmental organizations (NGOs) such as the International Union for Conservation of Nature are influential in the forest sector and maintain a variety of gender strategies, guidelines, and resources. The World Bank forest strategy, for example, clearly states that “the sustainable use of forests requires the participation of all rural populations, including women” (World Bank 2002: 22). The strategy also states, however, that although women’s needs often differ from those of men, many programs continue to overlook women’s specific needs regarding forestry. This lack of

gender awareness constrains the sustainable use and management of forests and forest ecosystems throughout the world. The World Bank forest strategy also points to a lack of adequate data, information, and methodologies to address this concern. It acknowledges that “gender analysis will be an important tool to provide simple information on resource use, responsibility, perspectives and needs, and serves a critical role in the quality of forest investment design” (World Bank 2002: 22).

A number of concerns regarding forestry and the livelihoods of rural women and men warrant prominent treatment:

- Depletion of forest resources often severely increases women’s labor, especially with regard to the time required to gather fuelwood and the cost of purchasing it. Without adequate fuelwood for cooking, household nutrition may be negatively impacted. Conservation measures that bar entrance into forests also increase women’s labor.
- Access rights to trees and forests by men and women are often limited by confusion, or lack of clarity between formal and local customary rights. Access to particular non-wood forest products, such as honey and fodder, is often guided by traditional and cultural norms, regardless of whether they are collected for subsistence or for market.
- Both women’s and men’s knowledge of trees and other forest products should be incorporated in forest management and conservation plans. Including and applying this often heavily gendered traditional and indigenous knowledge can be critical to the success of a project.

Protected areas are specific and unique natural habitats where human encroachment is restricted to preserve biodiversity. In many protected areas around the world, however, people with legitimate or historical land ownership rights live within the established boundaries. Women’s and men’s relationships with the environment in the protected areas and their buffer zones, in the context of their respective gender roles, are crucial for the very survival of these natural habitats (IUCN 2003). The Innovative Activity Profile on gender, protected areas, and tourism presents an FAO World Heritage national park small enterprise development project that developed and applied an innovative gender strategy.

Although many cases of women successfully managing community groups in participatory forestry and agroforestry field projects can be identified, women continue to be nominal stakeholders in the decision making and planning of decentralized and local forestry programs. The

successful project experiences cited in this Module demonstrate how to overcome this barrier.

Women are the principal practitioners of traditional agroforestry in production systems such as home gardens in Kerala State in India and Sri Lanka (Kumar and Nair 2004). They are also often innovators who develop or adapt new agroforestry technologies, such as dairy fodder and the domestication of indigenous fruits (World Agroforestry Centre 2008). Yet their presence in policy, decision making, and the science of agroforestry remains proportionally minimal.

Women are engaged in many roles in the forest industry in the developing world, often in the most menial jobs in sawmills or plantation nurseries. Women also gain employment in catering and prostitution in forest logging camps. However, an overall lack of data exists with regard to women’s employment in large-scale forest enterprises. This lack of visibility of women’s employment in forest industry data suggests the likelihood of poorer working conditions and lower remuneration. If women’s working conditions and employment opportunities are to improve, gender disaggregated data are required in the forest industries sector. This Module focuses on women’s role in small and medium forest enterprises, and more notably the nonwood forest product (NWFP) sector, for which a large body of literature and project experience can be consulted. The entrepreneurship of local people, especially women, in forestry activities and enterprises, may be constrained by centralized ownership, cultural norms, and poor access to extension, training, credit, and markets.

The 2005 Human Development Report identified HIV and AIDS as the factor inflicting the single greatest reversal in the history of human development (UNDP 2005). HIV and AIDS are undermining progress toward the Millennium Development Goals (MDGs), including the third MDG on gender equity. Women in sub-Saharan Africa are infected more often and earlier in their lives than men. By virtue of the gender inequality that is embedded in many cultural traditions, the domestic burden of HIV and AIDS care falls especially heavily on women (UNAIDS 2006). Additional domestic responsibilities to care for the sick translate into a differential use of time in the allocation of other domestic and productive duties, including a differential use of forest products. In high-prevalence areas, women who become caregivers of ill members of the household have less time for agricultural activities on their own plots. As a result, in, for example, *miombo* woodland areas, the household becomes more reliant on forest foods and income from fuelwood that is often gathered by children (FAO 2005b). Pandemics such as HIV and AIDS increase poverty and affect the use of forest resources (Shackleton and others 2006).

Emergencies, such as conflicts and natural disasters, in which populations are massively displaced often lead to additional reliance on forest products for subsistence products. The local forest cover often becomes depleted as people who live in camps, mainly women and children, gather fuelwood in the area. As wood resources are depleted, women and children are obliged to travel longer distances to collect wood, making them vulnerable to gender-based violence (SAFE²). Research recommends investing heavily in forested areas during postconflict periods to prevent renewed fighting and help protect the forest itself (Kaimowitz 2005).

Two recently published reports on gender and forestry in Europe (FAO 2006b) and Africa (FAO 2007b) consider the employment and positions of women in forestry services (officers and rangers), forestry education, and the technical and administrative staff of forest ministries. Even the European report recognizes that “quantitative data [are] known to be patchy and insufficient to determine, with confidence, the number of women working in the forest industry, or their roles and employment levels” (FAO 2006b: 11). However, the report also notes that “examples of good practice, have been emerging, which proves that concerted and sustained commitment and planning at senior organizational level can result in quantifiable improvements in the number of professional women foresters employed and the level of seniority they can attain” (FAO 2006b: 11). The Africa report is extremely critical of the status quo, which it characterizes as having a near total absence of data on gender in the forest sector, combined in some cases with a complete lack of motivation by policy and decision makers to address gender issues in the sector.³ The report emphasizes the need for gender-disaggregated data to better appreciate the gender disparities in forest education, employment, and career opportunities in the formal sector, as well as to appreciate the different roles of rural women and men with livelihoods based on forest-related activities. Such information would also enable the development of more gender-conscious forest sector programs and policies.

Organizational and institutional support to women’s groups is required if rural and disadvantaged women are to access resources, credit, technical and entrepreneurial training, and guidance. Having women employed as frontline extension staff, project managers, policy makers, and forest enterprise employees and managers would be advantageous in securing this support. An acknowledged requirement is for more and improved training for women in all cadres of the forest professions, as well as improved facilities to enable women and men to be trained and to accumulate work experience (FAO 2007b).

BENEFITS AND CONSTRAINTS OF GENDER-RESPONSIVE POLICY

Created by the Economic and Social Council of the United Nations in 2000, the United Nations Forum on Forests (UNFF) provides a platform for high-level policy discussions and global cooperation to promote improved management, conservation, and sustainable development of forests. Women are represented at UNFF, as one of the nine Agenda 21 major groups. The other major forest stakeholder groups include indigenous peoples, business and industry, small forest landowners, youth and children, NGOs, local authorities, unions, and representatives of the scientific and technological community (www.un.org/esa/forests).

In some forested countries, the directors of forest departments or ministries of environment and forests are women. This has been shown to enhance the profile of women’s role in the forest sector, particularly with regard to smallholder forestry, forest associations, and livelihoods-related issues. In most countries, however, women’s role and representation in decision making that pertains to the forest sector are very limited. Considerable efforts can be made through training and job placement in both public and private sectors to enable more women to gain employment in the public sector and be effective forest managers and entrepreneurs, as well as to enhance their advocacy and representational skills (FAO 2006b).

Although an outspoken political commitment exists on nearly all levels to integrate gender considerations into policy development, reality lags behind. Most policy decisions are still taking a gender-neutral approach, ignoring the complementary capacities of women and men in implementing these policies.

Many people working in the forestry sector are familiar with the operationally focused gender materials produced by the Forest Trees and People Program at FAO in the mid-1990s. In recent years, however, mainstream publications pertaining to forests, livelihoods, and poverty became gender neutral, referring, for example, to “rural people,” “farmers,” and “households.” Women per se and recognition of women’s specific challenges and acknowledgment of their specific achievements had largely disappeared (FAO 2006a, 2007a). The recent release of PROFOR’s *Forests and Poverty Linkages Toolkit* explicitly includes gender in its tools for analysis of livelihoods. Interim results from midterm reports piloting the toolkit in Cameroon, Ghana, Madagascar, and Uganda demonstrate clearly the significance of collecting and analyzing gender- and wealth-disaggregated data.⁴ In Madagascar results from one

community found that poor women rely significantly more on the forest resource for their livelihoods than do poor men—37 percent of women’s income came from the forest compared to 22 percent of men’s income. Wealthier men, on the other hand, gained more of their income from the forest than wealthier women.

These kinds of results clearly indicate the contrasting uses and perceptions of forest resources and its products by different members of society. The data also emphasize the vulnerability of poor women and their families, and the likely impacts on the most marginalized segments of a community if they are excluded from decision making about the forest resource base, the products of which often provide one-third of their income (see Technical Note 1 for more details). The data collected in piloting this toolkit could also be indicative of how differential forest product use and access develop between men and women as households move out of poverty.

It is obvious that sustainable development, particularly in forestry, can be achieved only if decision and policy makers continuously connect gender awareness from local to national and global levels. A prerequisite is the continued collection of gender-disaggregated data and the use and application of gender-conscious language and tools in policy texts and field manuals.

INNOVATIVE APPROACHES TO OVERCOME GENDER BARRIERS

The SL conceptual framework for analyzing the agricultural livelihoods of women and men, girls and boys, is an adaptation of the sustainable livelihoods concept and considers assets, risks and vulnerability, information and organization, markets, policies, and institutions. In the forestry context, many of these barriers are probably higher and more intractable than in other rural sectors. Much has to do with traditional management regimes and decision making, but much also relates to the potential wealth of the sector and the dominance of large-scale concessions.

At the local level, groups of women have improved their access to decision making in the management of forest resources through organization and advocacy. Time and again the material presented in this Module will demonstrate that through enhanced organization and representation, they have improved their incomes and the well-being of their households, as well as the educational opportunities of their children.

Women and children are often the most vulnerable in forest conflicts and the most reliant on forest resources

during conflicts and periods of economic hardship. Strong examples of support in advocacy and home visits provide hope that innovative programming will overcome some of the difficulties and alleviate the horrors faced by these families. However, larger initiatives to support the most marginalized families directly have yet to be implemented.

Although training in organizational and representational skills is very important, training in business and negotiation skills for small-scale enterprises is fundamental to the success of identified women’s enterprises. For an enterprise to be independently sustainable, training and credit support needs to be provided for at least five years. Projects should not consider engaging for periods less than this.

The gendered nature of resource use, access, control, and responsibility with respect to trees and forests is highly complex (Rocheleau and Edmunds 1997). Women’s rights to particular areas of cropping land, trees, and tree products, as well as to “in between spaces” in agricultural landscapes, are often based in negotiable customary law and are often substantial. These rights, however, may be marginalized or not recognized, sometimes regarded as well-meaning efforts to create statutory laws and administrative procedures (Rocheleau and Edmunds 1997). Women’s rights are often negotiated and may subsequently not be best served by formal titling of land, which often vests ownership in a single head of household. Agroforestry and forestry projects and programs can better protect women’s access rights by allowing for multiple uses of specific spaces and resources by multiple users, and by prioritizing renewable uses, such as the gathering of fruits or harvesting of fallen wood, prunings, coppiced wood, and leaf fodder, which do not preclude most other uses (Rocheleau and Edmunds 1997).

Designers of agroforestry projects and programs are advised to disaggregate gendered knowledge, access, and control further, so as to also include tree products, such as timber, fuelwood, fruits, and fodder. In many cases, although women have substantial labor and management responsibilities for a particular resource, men control the disposal or marketing of the products of that resource, as well as the distribution of its benefits. Reporting gender-disaggregated data on agroforestry practices should also be encouraged. It has long been recognized that women are the principal holders of knowledge and managers of traditional home gardens (FAO 1999), and 60 percent of the practitioners of innovative agroforestry practices such as domestication of indigenous fruit trees and production of dairy fodder are women (see Thematic Note 2). These particular practices are easily adaptable to women’s niches on farms. However, the gender aspects of innovative agroforestry

practices such as these are perhaps not afforded the profile that they warrant in program reports and scientific publications. Using and applying gender-disaggregated data will raise the profile of women agroforestry practitioners and thereby enable their greater access to technical information, credit, and related extension support.

Gender-related considerations have been integrated in almost all relevant forest policy commitments and related fields, such as climate change. However, a gap still exists in translating these policy commitments into implementation. True change and gender-responsive action can be achieved only if policy and decision makers face their responsibility to ensure an inclusive implementation of their gender-relevant commitments at project and program levels.

The Innovative Activity Profiles demonstrate that gender awareness in implementation needs a strong backup from the policy level to achieve the change of traditional and sometimes obsolete attitudes on the roles of men and women in forest management. Demographic developments and changing family patterns require that women be involved in decision making on all levels to sustain their

livelihood and the security of their families. This requires in particular a rethinking of traditional gender-biased land tenure and property rights; greater gender equity in land tenure and rights to forest resources would be building blocks for the sustainable and long-term-oriented development of livelihoods based on forest resources. Policy and decision makers are encouraged to use the potential of gender equity in working toward the Millennium Development Goals on all levels by ensuring universal access to education and training and building entrepreneurial capacity in sustainably managing forest resources.

MEASURING CHANGE: GENDER-SENSITIVE MONITORING AND EVALUATION INDICATORS

Being able to measure the impact that forest policy, training, and management initiatives have on men and women beneficiaries, their families, and communities is important. Table 15.1 gives some ideas for indicators and sources of verification, though clearly modifications are required for each program.

Table 15.1 Monitoring and Evaluation Indicators for Gender and Forestry

Indicator	Sources of verification and tools
Over a set period, an increase of <i>x</i> percent in household incomes from forest-based activities among women-headed households and poor households in program areas	<ul style="list-style-type: none"> Household surveys Project management information system Socioeconomic data from statistics office
Changes over <i>x</i> -year period of project activities in household nutrition, health, education, vulnerability to violence, and happiness, disaggregated by gender	<ul style="list-style-type: none"> Household surveys, before and after Project management information system School records
Proportion of annual household income (or consumption) derived from upland farming, agroforestry, or forest activities	<ul style="list-style-type: none"> Household surveys
Percentage of women and men actively participating in natural resource management committees (including bank account signatory roles)	<ul style="list-style-type: none"> Bank records Committee meeting minutes Interviews with stakeholders Local traditional authorities (such as a chief or local council) Program and project records
Number of women and men actively involved in management (that is, protection or conservation or production) of protected areas or reserves based on a management framework or plan	<ul style="list-style-type: none"> Community monitoring committees Forest management plans
Capacity-building support provided for community-based resource management, forest enterprises, and others	<ul style="list-style-type: none"> Project records Training records
Change in perceptions of men and women regarding importance of forest protection and management, measured before and after activity	<ul style="list-style-type: none"> Focus groups Stakeholder interviews
Percentage of women and men community extension workers and professional forestry extensionists	<ul style="list-style-type: none"> Forest Department records Project records

(Table continues on the following page)

Table 15.1 Monitoring and Evaluation Indicators for Gender and Forestry (continued)

Indicator	Sources of verification and tools
Level of satisfaction among women and men with access to and quality of extension and training services	<ul style="list-style-type: none"> • Sample surveys • Stakeholder interviews
Percentage of representations and mentions of women and men in training and awareness-raising materials	<ul style="list-style-type: none"> • Survey of training and information materials
Number of women and men actively involved in participatory research and innovations in agroforestry or forestry, before and after project activities	<ul style="list-style-type: none"> • Forestry extension records • Interviews with stakeholders • Observation • Participatory monitoring
Number of women and men involved in seed collection, propagation, and tree nursery techniques in district, before and after project activities	<ul style="list-style-type: none"> • Forestry department records • Participatory forest management group records • Project records • Stakeholder interviews
Changes to access rights by women- and men-headed households to common property resources (timber and nontimber) in forests	<ul style="list-style-type: none"> • Case studies • Interviews of local authorities and community leaders • Participatory rapid appraisal
Changes in time taken to collect firewood daily, before and after project activities	<ul style="list-style-type: none"> • Participatory monitoring • Project records
Number of conflicts over natural resources access or land ownership per year	<ul style="list-style-type: none"> • Interviews with stakeholders (from all relevant groups in conflicts) • Local traditional authorities (such as a chief or local council) • Program and project records
Number of women and men from district employed in forest enterprises, annually	<ul style="list-style-type: none"> • Administrative records
Incidence of occupational health and safety problems among workers in plantations and processing plants, disaggregated by gender	<ul style="list-style-type: none"> • Administrative records • Review of procedures against local and national regulations
Spread of HIV and AIDS, prostitution, alcoholism, and other problems from in-migrant workers, compared with baseline	<ul style="list-style-type: none"> • Community health surveillance • Health records • Local authority reports
Community satisfaction (disaggregated by gender) with changes in forest access and forest resources dispute treatment	<ul style="list-style-type: none"> • Group interviews or focus groups • Interviews, before and after

Source: Authors, with inputs from Pamela White, author of Module 16.

Forests as Safety Nets: Gender, Strengthening Rights, and Reducing Vulnerability

Forests have a significant role in reducing vulnerability and providing safety nets and subsistence (food, fuelwood, and incomes) for the rural poor who depend on forests for their livelihoods. Livelihoods vulnerability may arise from natural disasters, human conflict, human and animal disease epidemics, food insecurity, agro-ecological factors such as water variability, and market and price risks. Poor households are more exposed to these risks and less resilient in coping with them. They tend to have weaker political representation and to experience greater difficulty in securing their rights to land, other resources, and support in times of crisis (see also Module 11). Women are typically the principal agents of food security within a household and tend to suffer the most in terms of increased workload when livelihood shocks occur.

KEY GENDER ISSUES

Several key gender issues face women in regard to forestry issues.

Experiences in community and participatory forest management

One step forward in linking sustainable livelihoods and forests has been approached through community forestry. Too often, however, the community has been viewed as a homogeneous unit in terms of status, influence, wealth, gender, and access to resources (Muckarjee, Jayaswal, and Parihari 2006; Wollenberg and others 2001). Even when these differences have been recognized and participatory processes have been employed, issues of power and the capacity of groups to negotiate solutions have not always been adequately considered. As a result, many women's concerns regarding forest use and access have been neglected in the consultations undertaken in the participatory design

and implementation of projects. Community forestry, however, remains a popular approach to forest management, and the demand for support in carrying out community forestry projects among communities remains high.

Nonwood forest products

Poor households in particular depend on NWFPs, which provide essential food and nutrition, medicine, fodder, fuel, thatch and construction materials, and nonfarm income.¹ NWFPs are particularly important in relieving “hunger periods” in the agricultural cycle; they provide seasonal employment and a buffer against risk and household emergencies. The poor, moreover, tend to have more access to the forest than other natural capital and few land rights elsewhere. Within poor households, gender asymmetry in ownership and access to productive resources such as land causes women to rely disproportionately on NWFPs for income and nutrition (FAO 1995). In many communities women are responsible for the household activities that involve forest-based foods and firewood.

Generally the poor and more marginal households engage in the local trade of nontimber forest products (NTFPs), and this is a particularly important activity for women (Kaimowitz 2003). In a series of studies in Brazil, Cameroon, and South Africa, 40 to 50 percent of those active in this trade were women who headed their own households (Shackelton, Shanley, and Ndoye 2007). In Cameroon the trade in four popular edible NTFPs was dominated by women, who were responsible for most of the harvest and who formed 94 percent of the traders (Ndoye, Ruiz-Perez, and Eyebe 1997). Wholesalers were often men. In eastern Amazonia both poor men and women collect and sell a number of forest fruit species, whereas in the city most fruit wholesalers were men, and most fruit processing was undertaken by poor urban women (Shanley, Luz, and

Swingland 2002). Local trade in many nontimber products is an area in which women are free to earn income with little interference or threat of expropriation by men (Schreckenber, Marshall, and Te Velde 2006). Where the opportunity cost of women's labor is relatively low, the participation of women can make NTFPs commercially viable.

Global markets for NTFPs often overshadow local trade in traditionally important products. Yet neglect of local trade can lead to further marginalization of low-income groups whose livelihoods depend on that trade (Shackleton, Shanley, and Ndoye 2007). Many households require flexible local income-earning opportunities that allow space for responsibilities such as child care, nursing the ill, maintaining homes, and crop production. The production of NTFPs for local markets can provide part-time, seasonal, occasional, or full-time year-round employment, depending on the product, location, and individual household. This flexibility makes NTFP-related activities particularly appealing to women, enabling them to combine collection and trade of these products with their other domestic duties and responsibilities (Shackleton, Shanley, and Ndoye 2007).

HIV and AIDS and communicable diseases

The most important actions in dealing with the medical and health emergencies created by the HIV and AIDS pandemic are public awareness programs aimed at preventing further spread of the disease. Although this aspect of HIV and AIDS mitigation is generally outside the mandates of agriculture and forestry departments, all sectors of society have a role to play in alleviating the impacts of the disease, both in the immediate and in the long terms. The forest sector can help to mitigate the impacts of AIDS in a number of ways (FAO 2002):

- By enhancing short-term agricultural productivity
- By enhancing long-term agricultural productivity
- By developing education and human resource development strategies in extension and services (forestry training and education)
- By transferring skills from one generation to the next.

One example of the implementation of an HIV and AIDS response within this mandate came as a result of a request of the government of Malawi to support field studies that address the interactions between *miombo* woodlands and the morbidity and mortality caused by communicable diseases, especially HIV and AIDS.² The results demonstrated the crucial role of the woodlands in supporting the livelihoods

of affected households and documented adjustments in use and access to woodland resources by women and children of households with sick adults, as well as households in which an adult had recently died (box 15.1).

Forests, natural disasters, and conflicts

Natural disasters and civil strife affect large numbers of displaced people who rely on forests for shelter, fuelwood, fodder, and nutrition. Large concentrations of displaced populations in camps place excessive pressure on already degraded natural resources. This can endanger food security and livelihoods in nearby communities and foster resentment within the host population (FAO Forest Department brief prepared for SAFE, 2007). Charcoal and wood are needed for fuel, and branches and timber for shelter constructions and women are typically responsible for collecting them. Many who leave camp to collect forest materials are subject to gender-based violence (Miguel Trossero, personal communication 2007; SAFE 2007).

Alternative fuel, energy saving, and reforestation initiatives undertaken in the vicinity of displaced persons camps may help to reduce women's vulnerability. These can include establishing fast-growing woodlots immediately adjacent to refugee camps, promoting the use of "fireless" cookers, energy-saving mud stoves, and cooking techniques such as soaking beans before cooking them and covering lids while cooking.

Forested areas have been the stage for wars in some two dozen countries that are home to over 40 percent of the world's tropical forests during the last 20 years (box 15.2). Various reasons have been given for this. Forested regions tend to be inaccessible and easy for armies to hide in. Armies have been able to fund their activities by extorting money from petroleum, mining, and logging companies; drug dealers; and farmers in these areas. Some militias carry out mining, logging, and drug trafficking operations themselves. Soldiers often survive by hunting and fishing and preying on isolated farmers in remote forested areas. Many people living in these areas deeply resent the fact that they have been neglected or mistreated by national governments, particularly if they perceive outsiders as benefiting from the local natural resources. The influx of migrants of other ethnic groups often stirs conflicts with local people (box 15.3). Armed groups of various types and inclinations frequently earn a certain degree of local support or acceptance by filling the vacuum left by a national government with weak presence locally (Kaimowitz 2005).

Box 15.1 Firewood, Food, and Medicine: Gender, Forests, Vulnerability, and Rural Responses to HIV and AIDS

The Malawi country study (Kayambazintu and others 2005) found that because of the gender differentiation in woodland activities within households, the impacts of morbidity and mortality will depend on who in the household is ill or deceased.

Women household members predominantly carry out subsistence woodland activities; they also have the role of primary caregiver when a member of the household is sick. Their labor is therefore typically reallocated for care giving, decreasing subsistence collection of forest products.

In all cases, it was found that less laborious commercial activities remain a viable option for income generation during illness. These include products for which value can be added through home-based work and are less gender differentiated, such as reed mats, baskets, and food processing. The value of such commercial activities

Sources: Kayambazintu and others 2005; UNAIDS 2006.

to cope with expenses and productivity losses related to illness is supported by evidence from the case studies.

Commonly, firewood collection duties changed from the adult women to girls and boys when an adult family member was ill. In polygamous households the effect of adult illness on subsistence woodland activities such as firewood collection was less pronounced than in households with only one woman head. Households in which children are old enough to engage in woodland activities also offset the labor reduction caused by adult illness.

In those households for which the importance of woodland activities increased following adult mortality, children were often involved in the collection and sale of forest products. The types of forest products that households reported selling are also products that are typically collected by children and women.

Box 15.2 Some Tropical Countries with Armed Conflicts in Forested Regions in the Past 20 Years

Angola, Bangladesh, Cambodia, Colombia, Côte d'Ivoire, Democratic Republic of Congo, Guatemala, Guinea, Honduras, India, Indonesia, Liberia, Mexico, Mozambique, Myanmar, Nepal, Nicaragua, Nigeria, Pakistan, Papua New Guinea, Peru, Philippines, Rwanda, Senegal, Sierra Leone, Solomon Islands, Sudan, Surinam, and Uganda.

Source: Kaimowitz 2005.

Box 15.3 Rape: The Ultimate Weapon in a Decade-Long Conflict

Immaculate Birhaheka, head of the women's rights group Paif, in Goma, Democratic Republic of Congo, spoke of what happened in villages on the road south from Goma toward Bukavu: "The women who come from there tell us that every woman in every village has been raped over the years. Some were captured and taken into the forest for months, even two years. When they are released some are in such bad condition that they die."

Source: *Guardian Weekly*, November 16, 2007.

GENDER IN THE IMPLEMENTATION OF POVERTY-FOCUSED FORESTRY PROGRAMS

In 1995 the Forest, Trees and People program at FAO published a series of publications that set out practical methods for gender analysis in the planning and implementation of community-based forest projects and programs. Yet there is little or no indication that gender analysis is systematically

applied in projects and programs at the local level.³ The design and implementation of gender-equitable interventions that seek to strengthen rights and reduce vulnerability among forest-dependent communities remain a challenge (box 15.4). (Programs involving wood energy, fuelwood saving, and alternative fuels provide an important exception and do focus on women, although it is evident that women's roles in forestry are far more expansive than these programs' coverage.)

Box 15.4 Gender Analysis in Forestry Programs: Where Is It?

Any rural livelihoods-focused forestry program must analyze the activities and resources available to both men and women as men and women have different experiences, resulting from intergenerational knowledge transfer and years of experimentation in forest product harvesting, processing, and domestication. A few of the questions to be considered are as follows: What forest-related tasks are undertaken by men, women, boys, and girls? Who has access and the power to decide whether and how resources are to be used, and how they are to be allocated? How is knowledge of the forest and its resources gendered? Who has control over the output or product? Market access for harvested and processed forest products is not gender neutral: Who has access to which markets and why? What are the gendered barriers to adding product value and market access? In addition to the gender analysis, an inclusion analysis would shed light on many of the above issues in the initial phases of a forest and livelihoods program: How are men and women included in each aspect of decision making with regard to forest resources, and products for use by the community and by individual households?

Source: Author's adaptation from Feldstein and Poats 1990.

A number of factors contribute to gender blindness, both at the national policy level and in field project design. Field projects and forest offices are predominantly staffed by men forestry officers, who are therefore the majority of those responsible for running participatory rural appraisals and other types of participatory consultation in the villages. In many rural societies, village women are culturally restrained from speaking in public. In many instances it is not considered appropriate for men from outside the community to encourage women to participate in meetings or to suggest separate meetings with women participants. Combined with the common lack of frontline women forestry officers, these cultural proscriptions mitigate against women's perspectives being aired during village discussions and data generation exercises. Although women are ordinarily responsible for the nutrition and food security of their families, the products that women harvest and market to feed their families are generally not included in conventional forest inventories or data collection exercises.

POLICY AND IMPLEMENTATION ISSUES

Three examples illustrate a selection of the key issues facing policy making and the design and management of interventions that effectively capture gender.

Gender and wood energy in Asia

During the Regional Expert Consultation on Gender and Wood Energy in Asia in 1995, discussions raised a number of observations that would be endorsed by the participants. The burden of providing traditional energy supplies for domestic use is commonly the responsibility of women. Rising woodfuel prices, lower woodfuel quality, and reduced access to woodfuels increase this burden. Interventions in the energy sector, such as land use and fuel price reform, often have disproportionately negative implications for women, especially those from lower-income groups. In many Asian countries, the concerns of women are underrepresented in shaping wood energy policies and strategies.

Wood energy plays an important part in women's reproductive tasks. Access to inexpensive, less time-consuming, and sustainable sources of wood energy and to efficient cooking and heating devices will directly benefit women. Women also have increasing energy needs in their productive roles as bread winners. Many self-employed women depend on wood or other biomass energy for commercial activities such as food preparation for sale or are employed in establishments that rely on woodfuel. Others are economically dependent on trading in fuelwood and charcoal, and some have escaped poverty through this trade. The need to understand and to relate to women's needs in regard to these matters is thus of central importance in wood energy planning at all levels.

Forest law, nonwood forest products, and income-earning opportunities for women in Lao PDR

In the Lao People's Democratic Republic, policy makers recognize the importance of NWFPs in alleviating poverty and supporting national economic development. The lack of clear legal guidelines, enforcement mechanisms, support services, and institutional capacity has been recognized as a major constraint to realizing the products' potential in these roles. The government has strengthened a number of institutions and was encouraged in introducing new policies and a legal framework to promote NWFPs. The FAO assisted the government and other involved stakeholders by creating a model for the development of marketing systems for NWFPs

using the Market Analysis and Development approach.⁴ At the provincial level, stakeholder meetings were held involving local communities, the private sector, and local stakeholders. Between 30 and 50 percent of the membership of the local start-up NWFPP enterprises and community groups are women. National-level task forces were established to develop a framework for market information systems. These are the first step in reducing bottlenecks in legislative procedures and access to market information that have thus far restrained the development and application of women's entrepreneurial skills and their access to credit.

HIV and AIDS and national-level policy in the forest sector

The Department of Forestry in Malawi is a pioneer in developing and implemented a Forestry Sector HIV and AIDS Strategy. The government recently launched this strategy covering 2007 to 2011. The major goals of the strategy are as follows:

- To prevent the further spread and transmission of HIV and AIDS among workers, communities, households, and individuals that are dependent on forestry
- To improve sustainably the livelihoods and quality of life of those who are living with and affected by HIV and AIDS.

In line with the National HIV and AIDS Policy and the National Action Framework, the strategy focuses on both

the workplace and core mandate functions of the sector. The document presents the principles that guide the implementation of the strategy, including those that promote gender equality and greater involvement of men, women, and children living with HIV and AIDS, transparency, accountability, and evidence-based programming. The objective is to reduce the further spread of HIV and AIDS and mitigate its impact and to foster the sustainable management and development of forest resources (see also Government of Malawi 2007).

LESSONS LEARNED AND GUIDELINES FOR PRACTITIONERS

The key actions identified in a group of successful projects reviewed as part of the preparation of this thematic note were the empowerment and visibility of women in local-level decision making pertaining to forest resources. Women's self-help groups facilitated better access to and management of resources in all the successful projects. Self-help groups also enabled the women to better represent their views in community decision making and to receive technical and skills training. The North Eastern Region Community Resource Management Project for upland areas in India provides an example of the types of activities undertaken by self-help groups in forest programs (box 15.5). Along with income, the most highly valued components of

Box 15.5 India: The North Eastern Region Community Resource Management Project for Upland Areas

Along with natural resource management groups, self-help groups (SHGs) make up the bulk of the activities within the International Fund for Agricultural Development's North Eastern Region Community Resource Management Project for Upland Areas. In Nonglang village in the West Khasi Hills district, poor women have seen the benefit of forming SHGs and working together. Microcredit has been the focus, but women's organization into SHGs has brought other social benefits too.

Women members meet once a week and pool group resources for saving and lending purposes. These savings have been used for income-earning purposes as well as for health and education needs. Over time groups have recognized value in loans for the benefit of the village apart from those for individual members.

Source: Deseng and Yirmeila 2005.

SHG members see value in meeting every week to discuss common problems. While meeting to save and lend, women have the opportunity to discuss collectively other needs, such as health and education. Literacy has become one of the goals of the SHG. With the encouragement of the project, the group has organized a school for young children who previously either did not attend classes or did so only in the morning.

According to a survey conducted to assess the impact of SHGs, the most important aspects noted by the group members themselves were "empowerment," "increase in income," and "awareness," in that order. They also appreciated improved consumption patterns and skill development.

project support through the women's groups were empowerment and awareness.

A review of project experiences led to the following recommended sequencing of support to community-based organizations (CBOs):⁵

1. Identify existing women's groups (CBOs) in the proposed project area, their objectives, activities, successes, and constraints.
2. Provide demand-driven support and training to those groups that already exist following an analysis of problems and opportunities in forest access and resource use.
3. If there are no community-level organizations or associations in which women play an active role, assist local authorities in the creation of self-help groups and village-level development associations in which women can play a more active role.
4. Build capacity and provide management training based on the goals of the groups.

The Jharkhand-Chhattisgarh Tribal Development Program in India applied these steps to empower women and develop their technical skills (box 15.6).

When village-level groups have formed around a common purpose and are active, they are more effective in strengthening their rights and reducing the overall vulnerability of their members. They may come together in associations or more formally in federations (box 15.7).

SHGs do not function in isolation from other forest-related stakeholders, nor are all SHGs women's groups. Depending on the objectives of the group, CBOs and SHGs may have men, women, and youth members. Once a CBO is organized and embarks on an activity such as marketing NTFPs or lobbying for forest resource access, the group is likely to encounter constraints imposed by other forest stakeholders, as well as by forest policy and law beyond the immediate boundaries of the village. Conflicts may occur between the village associations and these stakeholders. Some CBOs have been set up in response to existing conflicts. CBOs often require the additional support of third parties to enhance their negotiation and marketing skills: for instance, when they set out to gain greater access to NTFP value chains. Many documented cases exist of this type of support.⁶

However, other types of conflicts that occur, for example, in the context of illegal logging, mining, or illicit crops, may be violent. CBOs benefit from advocacy by

Box 15.6 India: The Jharkhand-Chhattisgarh Tribal Development Program

The program focuses on tribal people in Jharkhand and Chhattisgarh, two of the three Indian states with the highest proportion of tribal people. Tribal peoples are among the poorest in India. The program targets marginal households, women, landless people, hill cultivators, and tribal people. The goal is to empower tribal people to participate in their own development through local self-government. In the Chhattisgarh area, women's productive work consists of agriculture, gathering forest products, and wage labor. Women's workdays are typically 16–18 hours of often physically demanding labor. Women generally go to the forest as a group to collect forest products. Tribal people depend on the forest for their livelihoods, including for nontimber or "minor" forest products. From these they obtain foods such as fruit and oil, as well as needed items for the home, such as bidi, brooms, baskets, mats, rope, home-made toothbrushes, leaf plates, and

Sources: IFAD 2006; see also <http://cjtdp.nic.in>.

medicines. Some forest products are also sold for a small cash income.

The program has two principal subcomponents:

- Grassroots empowerment and technical capacity building
- Livelihood systems enhancement.

The former component provides training to the tribal population, especially women and other marginal groups, on broad-based awareness of tribal rights, gender, and equity issues, as well as legal and managerial strengthening training. The latter component focuses more on technical aspects, such as establishment of nurseries and support for processing and marketing of NTFPs. It works with the village groups in a livelihoods context. A legal defense fund is planned to assist the tribal population in defending its rights.

Box 15.7 China: Household Forestry and Farmers' Self-Help Organizations

Historically, Huoshan County in China's eastern province of Anhui has been one of the country's poorest areas.

The county has abundant natural resources, such as bamboo, tea, mulberry, and medicinal plants. The area is best suited for forestry development because the mountainous topography is generally unsuitable for agriculture. It is not surprising that 75 percent of farmers' income is currently derived from forests.

The Sino-Dutch Forestry Program focuses on household forestry, farmers' self-help organizations, demonstration households, and training in participatory concepts and forestry techniques. It has three basic principles: participatory approaches, gender consciousness, and environmental protection awareness.

Groups created at the village level are subsequently federated into larger networks of groups according to their primary purpose: "farmers' professional associations," "community development fund management organizations," and "forest products processing associations." The primary aim of the farmers' self-help organizations is to improve the

Source: Chunguian 2005.

economic and social environment for farmers and their families. By empowering farmers to manage their farms according to their own livelihood preferences, their dependence on the government will hopefully be reduced. Women and men farmers are free to join or drop out of any organization they choose. Each self-help organization has its own rules and regulations, and the farmers themselves elect the management committee.

Xu Jiaqi, a community development specialist for the project, explained that "everyone is involved in project activities. Each person is allowed to share his or her ideas during meetings and discussions. A decision is made by the group by the end of the day. Women are given importance in all activities. In fact, in some groups such as the Bamboo Farmers' Association, most of the members are women (70 percent) are women."

More than 16,000 households have participated in the forestry activities. As a result, the forest cover of the county increased from 59 percent in 1989 to 70 percent in 2002.

third parties such as NGOs, which may, for instance, publicize their situation and concerns to a wider audience. Successful community-based organizations have been shown to be those that have taken the lead themselves, as they best know the complexities and nuances of the conflict situation and the strengths and weaknesses and history of the various stakeholders involved. The El Balcón, Mexico, case presented in box 15.8 illustrates the significance of different players and the complexities of developing a governable situation around communal forests. Yet it demonstrates how negotiation over confrontation, knowledge and employment over exclusion, and quality leadership, and transparency have reduced conflict and secured livelihoods.

Support for and creation of women's CBOs or subgroups in community-based organizations are not panaceas to mainstreaming gender in livelihood-oriented forestry programs. Women's groups themselves often have many problems in management, corruption, and elite capture such that poor women are marginalized by wealthier, more articulate, and more educated women in the community. Poor women often have less time, further distances to travel, and fewer resources with which to engage in group activities (see also Thematic Note 4, Module 2). However, if women are not organized into entities that represent their needs and rights in forest resource access and use, their voices will not be heard. Local organization is the first step to strengthening rights and reducing vulnerabilities of marginalized women.

The Ejido el Balcón is located in the highlands of the sierra, close to the Pacific Ocean in the region called Costa Grande in the Mexican state of Guerrero. The Ejido el Balcón was formed in 1966 when the Mexican government granted collective property rights to 136 family heads of over 2,400 hectares. In 1974 another 19,150 hectares of forestland were given to the ejido (Bray and Merino 2003). This was a time of permanent confrontations over the land. In the initial days of the ejido, nearly 20 percent of El Balcón's community members were widows under 30.

Within the context of Guerrero and rural Mexico, the case of El Balcón is remarkable for several reasons. The ejido has built a forest enterprise that uses modern technology to produce certified timber for export. The enterprise employs all ejido members who want to work for it. Profits have largely been invested in the social welfare of the nearly 600 people living in the ejido (health care, education, and public infrastructure).

Source: Merino 2005.

From satellite images or by simply traveling through high parts of the sierra, one can readily observe the deterioration of the forests, which constantly suffer from fires and illegal logging. El Balcón is the exception. Its lands are covered with well-preserved forests, and its forest management was certified under the Forest Stewardship Council in 2003.

The most important achievement of El Balcón is the climate of agreement, governability, and peace that it has built amid a region that has fallen victim to illegal logging and drug trafficking. A number of factors may be attributable for the extraordinary institutional development of El Balcón: the quality of its leaders, their preference for negotiation over confrontation in dealing with internal problems as well as with neighboring ejidos, their insistence on the importance of issues such as regulated forest management, transparency of the ejido's business, and association with other forest ejidos of the region.

Agroforestry Landscapes: Gendered Space, Knowledge, and Practice

Trees play a crucial role in almost all farming systems and terrestrial ecosystems; they provide a range of essential products and services and play a particularly pivotal role wherever people depend on fragile ecosystems for survival and sustenance. Integrating trees into agricultural landscapes provides a number of environmental services, some of which are essential. Trees maintain soil health and regenerate land that has been cleared of natural vegetation. They provide nutritious foods for human consumption and fodder for livestock, as well as timber, fuelwood, gums, resins, latex, and medicinal substances. Agroforestry is a system of natural resources management that integrates trees on farms and in the agricultural landscape to diversify and sustain production. Farmers throughout the world have practiced agroforestry for millennia. By World Bank estimates, over 1.2 billion people derive their livelihoods from agroforestry systems. Owing to its capacity to enhance multiple functions in agriculture, agroforestry will become increasingly important in land-use practices around the world (World Agroforestry Centre 2008).

Women's knowledge of trees and of tree genetic diversity is extensive, and their roles as both suppliers and users of tree germplasm and genetic resources make them critical agents in scaling up agroforestry practices to improve livelihoods. This is knowledge that is all too often neglected. Women are important to agroforestry, but agroforestry is also very important to them. Farm niches such as dairy fodder and domesticated indigenous fruit trees in home compounds are typically managed by women, and their engagement in these agroforestry activities provides them with access to the products of these activities.

GENDERED TREE TENURE AND ACCESS TO AND DISPOSAL OF AGROFORESTRY TREE PRODUCTS

In 1997 Rocheleau and Edmunds analyzed the gendered nature of resource use, access, control, and responsibility with

respect to trees and forests. What emerged from their analysis was a picture of highly complex, often negotiable resource tenure regimes. Women's rights remained substantial, although frequently tenuous and under pressure from a variety of changes in land use, family composition, and household structure (box 15.9). In some cases, evolving customary practices served to maintain women's access to resources and warranted protecting, enhancing, or reconfiguring customary law into more robust, equitable statutory law and administrative procedures. Resource tenure was also clarified when researchers realized that even within seemingly unitary blocks of private household property, complex structures and processes governed how resources were divided and shared by gender. These complex, gendered systems of tree use, access, responsibility, and control require the attention of field workers, planners, and policy makers.

Interventions in community forestry management, farm forestry, and agroforestry frequently invest all access rights in a single "owner," in part for the sake of project implementation simplicity and efficiency, in part on the assumption that such "owners" need exclusive rights to manage their land effectively. This is an erroneous assumption. The nested rights to trees and tree products within tenure domains need to be considered (box 15.10). Agroforestry and forestry projects and programs can better protect women's access rights by allowing for multiple uses of specific spaces and resources by multiple users. These projects and programs can also prioritize renewable uses, such as the gathering of fruits and harvesting of fallen wood, prunings, coppiced wood, and leaf fodder, which do not preclude most other uses (Rocheleau and Edmunds 1997) Women's rights are often negotiated and may, therefore, not be best served by formal titling of land, which often vests ownership in a single head of household.

Designers of agroforestry interventions should be prepared to disaggregate agroforestry products that are controlled by

Ethiopia: Gender Impacts of No-Free-Grazing Trial in Tigray

In the late 1990s a university department undertook an initiative to reduce soil erosion on arable land and to create vegetated soil conservation structures through controlled village-wide trials, which would require the animals that normally grazed on open land near villagers' homesteads to be moved to the low hills surrounding the village. The impact on some of the households was unexpected. One widow had previously used dung from the animals she kept close to her house for cooking and repairing the walls of her compound. Now she had to use the same dung as payment to a wealthier household near the hills where her cattle grazed at night. She was now also obliged to walk six kilometers a day to collect fuelwood from those hills. No complete gender and wealth analysis of space, tenure, agricultural, and forest product access and use had been undertaken before the trial.

Source: Author.

Niger: Gender and Customary Tenure in Agroforestry Parklands in Maradi

The village head allocates land to households periodically, and the allocations may change every 5 to 20 years or so. Changes depend on the needs of the village residents and on the number of households requesting to farm on land belonging to the village or village chief. From the allocation, the head of household (usually men) then allocates a portion of that land, usually nearer the homestead, to his wife for the production of domestic food crops and other portions of land to the production of his crops. The wife has a right to plant trees on her portion of land, but then only the right to gather the fruits, leaves, and firewood as by-products, not to harvest the whole tree. She has no right to plant trees on her husband's land. She may, however, have access to certain tree products such as fuelwood or fruits from his land. If, during her married life, she has planted a fruit-bearing tree in the family compound or on her land, she has the right to harvest the fruits from those trees, even after divorce.

men and by women. Attention to customary practices can also inform analysis of how men and women benefit from the products of the resources they use. Men often control and benefit from the products that women are responsible for producing. This is sometimes the case when women are involved in community reforestation projects, caring for nurseries and transplanting seedlings of trees that men ultimately use for poles. Project and policy interventions can make explicit reference to who disposes of tree products and can help women avoid situations in which their labor is exploited largely for the benefit of others.

GENDERED KNOWLEDGE AND HOME GARDENS IN THE SUBHUMID TROPICS OF SOUTH AND SOUTHEAST ASIA

Home gardening is a time-tested example of sustainable, multispecies, agroforestry land use practiced as a subset of farming systems, predominantly in lowland humid tropics. Home gardens contain a vast number of plants, with which the members of the household constantly interact, conserving

biodiversity, sequestering carbon, and providing valuable public and private goods. With their ecological similarities to natural forest ecosystems, they provide insurance against pest and diseases outbreaks. They also provide a variety of goods and services that people may otherwise rely on forests for and thus serve as a buffer against pressures on natural forests.

Home gardens are a prominent form of land use in traditionally matrilineal societies such as Kerala, central Java, and west Sumatra. They have remained engines of growth over long periods in these highly populated lowlands. Their productivity is modest compared to intensive monocultures, but they are a far more diversified source of production and income. Planting and maintaining home gardens also reflect the culture and status of the household, and especially women, in local society. In many places women play a vital role in the design and management of these land-use systems.

Growing and harvesting vegetables, fruits, nuts, medicinal plants, and fuel, and rearing animals are often the domain of women, especially in smaller gardens. The possibility of gender equality for participating in garden management and sharing of benefits is perhaps one of the major stimuli for

Box 15.10 Frequency of Trees on Women's Fields in Agroforestry Parklands

Trees located on women's fields generally belong to the men who lend them the piece of land but who may, however, concede women the right of access to them. In central Mali women have the right to trim branches and gather fruit and deadwood without permission from the landowner. Women are also usually responsible for the processing and commercialization of parkland products. Tree protection is as common in women's fields as it is in men's.

In Thiogou in southern Burkino Faso, the density of naturally regenerating trees was found to be significantly higher in women's fields, at 35 trees per hectare, than in the fields of men household heads, at 24 trees per hectare. Women in the area had long-term land loans. Various vegetables and spices as well as some cereals are grown in women's fields, whereas family fields are more exclusively oriented toward staple cereal production. With fields of similar species richness but about one-third the size of fields managed by family heads, the number of tree species per unit was twice as high in women's fields.

Source: FAO 1999.

continued household security enjoyed by home gardeners for generations. Nutritional security and income generation are other factors (Kumar and Nair 2004).

In Sri Lanka women played a key role in diversifying the food and nutritional base by using their knowledge of forest-based resources. Women's home gardens are best described as "genetic gardens." Women have made a significant contribution to the genetic improvement of crop plants and other economically important plants by a continuous selection process. They have also been responsible for domesticating food and medicinal plants that are now found in every home garden (FAO 1999).

However, with the transition of Sri Lankan agriculture from one based on home needs to one catering to markets, women have increasingly been relegated to unskilled work. This is particularly true in the plantation crop sector. Species losses from home gardens are said to be occurring at an unprecedented rate. In Kerala many local varieties of mango and jackfruit and other traditional horticultural crops that were once abundant in home gardens have now become extinct. In West Java 27 varieties of mango have

been reported lost during a 60-year period. Although precise data are not available, the forest diversity of home gardens in most parts of the world appears to have declined. The challenge is now to tie in conversion of the genetic wealth with the formation of economic wealth. The feminization of poverty will continue unabated if the role of women as managers of biological resources is ignored.

Women's knowledge in, and conservation of, genetic material could assist in identifying and promoting species adaptability and domestication to face the challenges posed by the adaptation to and mitigation of climate change. Trees act as reservoirs and potential sources of carbon. The role of tropical forest ecosystems in carbon storage and release is quantified in the global context and recognized in the regulation of atmospheric carbon. According to the Intergovernmental Panel on Climate Change, carbon fixation from forest regeneration, intensified planting and agroforestry, and reduced deforestation could equal 12–15 percent of CO₂ emissions from fossil fuels from 1995 to 2050. Unruh, Houghton, and Lefebvre (1993) estimated the amount of stored carbon in aboveground and underground biomass in 21 different agroforestry systems in sub-Saharan regions. They concluded that the environmental role of agroforestry in terms of retaining organic matter in the soil and reducing deforestation (and thereby reducing CO₂ emissions) is more important than its straightforward effect of carbon sequestration (FAO 2002).

GENDER, AGROFORESTRY TECHNOLOGY ADAPTATION, AND ADOPTION

Studies are regularly made on the adoption, adaptation, and impact of introduced agroforestry practices. This section gives results of studies that have considered gender aspects to the adoption of agroforestry practices that have been designed and tested to address soil fertility (box 15.11).

Improved fallows and biomass transfer in Kenya and Zambia

In 1999 Franzel and others (2001) surveyed 108 farmers in Kenya and Zambia who had first planted improved fallows in 1994 and 1995 to assess their experiences in managing the technology. Over time, the farmers had managed to increase the land area devoted to fallows from an average of 0.04 to 0.07 hectare between first and third plantings. Neither tree planting nor cutting seemed to be a problem, and the improved fallow system as a whole required 11 percent less labor than a continuous unfertilized maize alternative.

Throughout eastern and southern Africa, farmers cite soil fertility as an important constraint. The World Agroforestry Centre (ICRAF) and its partners responded by undertaking research into agroforestry-related options for soil fertility. Many agroforestry systems were tested, and the more promising systems have been tested in farmer-managed conditions.

Improved fallows are the enrichment of natural fallows with trees. In Kenya most farmers plant improved fallow trees into an existing crop, whereas in Zambia most farmers establish them in an uncultivated field. The dominant crop for which fallows are used is maize in Zambia and maize and beans in Kenya. In western Kenya farmers direct-seed or broadcast at high density one or more of several species; *Crotalaria grahamiana* and *Tephrosia vogelii* are the most

Source: Place and others 2002.

popular. In eastern Zambia, *Sesbania*, the preferred species, is established in a raised bed nursery and then transplanted to the target field. In both countries the tree fallows are cut and the leaves incorporated into the soil during land preparation.

Biomass transfer systems in Kenya involve the growing of trees or shrubs alongside boundaries or contours on farms—or the collection of the same from off-farm niches, such as roadsides—and applying the leaves on the field at planting time and sometimes later in the season. In western Kenya, *Tithonia diversifolia* became the farmers' preferred species. This has been tested on maize, kale, French beans, and tomatoes. Given the small size of farms in Kenya, farmers generally utilize the green manure on smaller plots, often preferring those plots producing higher-value vegetables.

Cutting the fallows generally took less time than planting, could be done by women, and took place during a slack labor period. Analysis of the effects of the gender of household heads on household wealth in four pilot villages found little difference in the use of fallows between men and women; the percentages were 32 and 24 percent, respectively. The use of fallows was higher among wealthier households, who appeared to lead the process of trial and adaptation. Fifty-three percent of the wealthier farmers examined used improved fallows, compared to just 16 percent of the very poor households (Place and others 2002).

Two studies investigated the household characteristics associated with the use of biomass transfer among 747 farmers in the villages of Siaya and Vihiga in western Kenya. In Vihiga, 43 percent of the men-headed households examined continued to use the technology following extension services compared to just 14 percent of households in which the principal decision maker was a woman. Farming households that used biomass transfer were more likely to have a larger number of family members. The frequency of farmers' contact with extension agents was also revealed to be a significant relationship, whereas age, education, and reliance on non-farm activities were not related (Place and others 2002).

Improved fallows and biomass transfer have been available to farmers for only a few years. Place and his colleagues (2002) found improved fallow and biomass transfer systems

to be feasible and acceptable to farmers, at least at the modest levels at which they are initially used. Economic analysis also found the systems to be profitable to farmers in terms of return to land and labor. Unlike other soil fertility options, improved fallows and biomass transfer appear to be used by large numbers of women farmers. They are also used by poor households more than other agroforestry and soil fertility practices.

Agroforestry practices particularly adapted to farm niches managed by women

Some innovative agroforestry practices are adapted by women and customized to fit the farm niches and products over which they tend to have greater control. In the two examples in box 15.12, an estimated 60 percent of farmers using the technologies are women.

Gender and agroforestry germplasm supply

Improvement of livelihoods for smallholder farmers involves bringing more trees onto farms and into the agricultural landscape. This will require that efficient seed and seedling production and distribution systems reach larger numbers of scattered and relatively isolated small-scale farmers. A well-functioning seed system is one that combines

Gender and tree fodder production for small-scale zero grazing. The low quality and quantity of feed resources are major constraints to dairy farming in central Kenya, parts of Tanzania, and Uganda. In highland areas of Kenya, farm sizes average one or two hectares, and about 80 percent of households own one or two dairy cows. Most farmers grow Napier grass (*Pennisetum purpureum*) as fodder (cut and fed to the cows). Milk yields are low because Napier grass is low in protein. Commercial dairy meal is available, but farmers consider it expensive and most do not use it. In the early 1990s the World Agroforestry Centre (ICRAF) collaborated with the Kenya Forestry Research Institute and the Kenya Agricultural Research Institute to test a number of fodder shrubs near the town of Embu. Most of the trials were farmer designed and managed. *Calliandra calothyrsus* emerged as the best-performing fodder shrub and the one most preferred by farmers. Farmers tested the feasibility of growing *Calliandra* in a range of “neglected niches” on their farms. They found the shrub could be successfully planted in hedges along internal and external boundaries, around the homestead, along contours for controlling soil erosion, or intercropped with Napier grass (Franzel and others 2004). Subsequent to additional project support, it was estimated that 86,450 farmers were planting fodder shrubs in Kenya, Rwanda, Uganda, and Tanzania (Franzel, 2005). About 60 percent of these farmers are women. In Kenya most dairy-related activities are undertaken by women, and studies suggest that they have some control over income derived from these activities. Cash income from a zero grazing enterprise was found to contribute to improved household economies, including payment of school fees and purchase of food and clothing. However, the control of increased income associated with this technology might change hands from women to men. Women will benefit more from commercial dairying under zero grazing if they are better educated and if they have more access to land for planting forages and fodder. Access to credit will enable women to purchase improved dairy breeds and the feed supplements needed for a profitable dairy enterprise (Lauwo and

others 2001). Other benefits of fodder trees and shrubs are the provision of bee forage, fuelwood, stakes and poles, fencing, and shade.

Gender and the domestication of indigenous fruits. Many rural households rely on indigenous fruit trees as sources of cash and subsistence in the Southern African Development Community.

Using participatory research to examine domestication, product development, and commercialization, the ICRAF identified a number of priority tree species in each country, including *Uapaca kirkiana*, *Strychnos cocculoides*, *Parinari curatellifolia*, and *Sclerocarya birrea*. The goal of domesticating these trees is to increase their quantity, availability, and productivity and to create opportunities for marketing their products. An impact analysis indicated that a robust domestication program will create incentives for farmer-led investment in the cultivation of indigenous fruit trees as an alternative to collecting wild fruit. In Zimbabwe the returns to labor by women and children in collecting wild fruits are two to three times greater than other farming activities. In a survey of roadside market vendors of the indigenous fruit *Uapaca kirkiana* in Dedze, Malawi, the majority of respondents were women or children under 19 years old, and all of them had harvested the fruits from forests and communal lands in areas outside their homesteads and fields (Kadzere and others 2006). Fruits enable women and children to contribute to household income and to assist the household during seasonal periods of food insecurity. In the scaling-up component of this program, 60 percent of the 13,000 farmers reached were women. They were trained in domesticating and propagating trees, establishing nurseries, and managing farms. Indigenous fruit tree seedlings have been tested by farmers in four countries. Akinnifesi and colleagues (2006) found that 86 percent of the planting sites in Malawi and 98 percent in Zambia were located on homesteads. Women were the principal managers of these sites and were likely to benefit the most from production. Women were the principal recipients of training in the local production of fruit concentrates, jam, juice, and other products in Malawi, Tanzania, Zambia, and Zimbabwe (Ham and others 2008).

formal and informal, market and nonmarket channels to stimulate and efficiently meet farmers' evolving demand for quality seeds. The Improved Seed Systems for Agroforestry in African Countries project in Burkina Faso, Malawi, and Uganda was introduced to facilitate access to tree germplasm by men and women farmers.¹ The project entailed considerable analysis of the constraints and opportunities people experience in getting access to germplasm supply for agroforestry. A number of practical lessons from the project experience are discussed by Brandi-Hansen and others (2007):

- Centralized seed supply systems have not provided rural communities with agroforestry tree seed or with messages regarding the importance of seed quality or procedures for collecting quality seed.
- NGOs may be providing agroforestry tree seed, but tree growing is often one among many activities undertaken by an NGO, and their provision of seeds tends to lack the rigor required to ensure quality and adequate returns to the farmers they supply. The majority of large NGOs do not provide accurate and precise information with regard to seed collection and handling. The focus tends to be on volume of seed handled, rather than on quality and site matching. NGOs would appear to have limited connections to most grassroots CBOs. NGOs tend to serve their own clientele, especially "their own" CBOs, and seldom engage with or build on the capacities and networks of existing CBOs.
- A few specialized and highly focused NGOs are providing lessons in quality seed procurement.
- The great majority of persons surveyed who deal in tree seed are women, and members of CBOs that collect tree seed locally, growing trees for their own use.² These women and their CBOs are not reached by any of the NGOs.
- Large multipurpose projects or NGOs are therefore not the most appropriate targets of information disseminated about quality seeds. Improved germplasm and information on how to use it should be disseminated directly to women's CBOs, which lie at the heart of the sustainable tree seed supply network. Rural women should be placed at the center of *any* agroforestry tree seed supply system.

Establishing associations and networks of small-scale entrepreneurs is also recommended (Graudal and Lilleø 2007). Yet most such entrepreneurs are men, and focusing on them would likely lead to women being excluded from training opportunities. Youth, who often lack other

employment opportunities, also have a role to play in the seed supply system. However, the greatest leverage in terms of quality seed supply and the quality of trees planted on farmland will be in finding mechanisms to train and mobilize the efforts of CBOs, particularly women's groups. These local grassroots institutions already exist.

LESSONS LEARNED AND GUIDELINES FOR PRACTITIONERS

The division of landscapes, farm niches, and products between men and women makes the issue of germplasm access and preference a deeply gendered one. Under the misconception that men are the principal, or only, decision makers with regard to tree planting, management, and use, the basis of women's differentiated decision making is often not recognized in farmers' trials and scaling-up activities. Women require specific targeted information and training as well as access to credit and other services, adjusted to their particular landscape niches and agroforestry product needs. Gender analysis should therefore be considered as nothing less than an essential element of designing and planning agroforestry interventions and should be required periodically throughout the life of an intervention. Women's roles in traditional complex agroforestry systems are acknowledged. Yet their knowledge and experience are not being adequately garnered by policies that will guide the future of traditional agroforestry systems. With the growing influence of the market economy, and the consequent focus on a narrow range of home garden species, a real risk exists that this gendered knowledge, and even certain plant species, will not be passed onto future generations. With regard to the development of innovative agroforestry practices, far greater efforts in considering the gender implications of these developments are required. Recruiting women farmers to participatory agroforestry practice groups, farmer-managed trials, and farmer field schools warrants strong priority. Numbers and categories of individual women and women's CBOs who practice innovative agroforestry should be carefully documented, along with the adaptations they develop.

Agroforestry parklands are widespread throughout much of semiarid Africa. The variety of different types of agroforestry parklands reflects the dynamic nature of these systems and the ability of farmers to adapt them to changes in the natural and socioeconomic environment (FAO 1999). The importance of these parklands as a livelihood buffer and as a pool of forest genetic diversity has brought them to the attention of the policy makers and

researchers in recent years. Research into biophysical interactions upon which parkland productivity is based can build on indigenous knowledge to provide management prescriptions more precisely attuned to the needs of different environments. Parkland agroforestry projects could focus on promoting practices and technologies that require minimal labor and capital investments to produce rapid returns, and on increasing opportunities involving parkland tree products (FAO 1999). The promotion of markets and improved processing for parkland products will encourage farmers to invest in the further development of their parkland systems. However, it has been reported that when products such as *Vitellaria* nuts have increased value as a cash crop, men have reduced women's access to the resource. A similar trend resulting from the introduction of domesticated materials or improved processing technologies might develop to the detriment of women. Changes in tree tenure, therefore, need to be monitored and consequences anticipated (FAO 1999).

Finally, although formal credit may be a necessary step for women to adopt efficient forest-related technologies, insecurity of access to land resources currently limits availability to credit collateral. Building the capacity of existing social organizations such as women's groups may be a way

of increasing women's access to land resources (including agroforestry tree germplasm and products), making credit more affordable, improving access to markets, and making labor more efficient by task sharing within the groups.

This Note focuses on women practitioners of agroforestry, although the importance of women's representation among professionals who engage in decision and policy making that relates to agroforestry at local, regional, and national levels should not be underestimated. Currently few women agroforestry field workers, scientists, and policy makers are available. Strategies to enhance gender-conscious implementation of agroforestry may be achieved through the following steps:

- Support to existing women's groups active in agroforestry, including tree nursery groups, zero grazing and dairy fodder groups, indigenous fruits marketing groups, and horticulture associations
- Posting of more women frontline staff by the relevant ministries and partner NGOs
- More consciously gender-oriented research, outreach, and scaling-up strategies
- Greater educational opportunities for women in land law and agricultural and forest sciences (box 15.13).

Box 15.13 Examples of Gender Initiatives from Research and Education Institutions

In science and research: Consultative Group on International Agricultural Research (CGIAR) Gender and Diversity Program exists to help the CGIAR Centers leverage their rich staff diversity to increase research and management excellence. The program also has a mentoring and sponsorship program (including a Women's Post Doctoral Fellowship program at the World Agroforestry Centre) and is promoting the education and career of women agricultural scientists.

In education and institutional capacity building: Crucial among the strategies of the Centro Agronomico Tropical de Investigacion y Enseñanza's (CATIE's) gender policy are the following:

- Integrating gender aspects in the design and implementation of research proposals
- Including women farmers in all phases of the outreach strategy
- Steadily increasing the number of women professionals
- Promoting and facilitating the participation of women in graduate education
- Advancing the understanding of gender among students (graduates and courses)
- Developing understanding and implementation of gender focus by CATIE's staff
- Improving CATIE's role in the exchange of knowledge, experience, and expertise.

Sources: Centro Agronomico Tropical de Investigacion y Enseñanza, "Gender Policy," www.catie.ac.cr; World Agroforestry Centre 2008: 45.

Bwindi Impenetrable National Park Enterprise Development Project: Protected Areas and Ecotourism

“**P**rotected areas (PAs) are specific and unique natural habitats, where human encroachment is restricted in order to preserve biodiversity for present and future generations. In many protected areas around the world, however, people with legitimate or historical land ownership rights live within the established boundaries. Women’s and men’s relationships with the environment in the protected areas and their buffer zones, in the context of their respective gender roles, are crucial for the very survival of these natural habitats. . . . Women and men have very different approaches to managing the environment: addressing these concrete differences will make people’s relationship with the environment more sustainable” (IUCN 2003b: 1).

The Bwindi Impenetrable National Park (BINP) covers 32,092 hectares in southwest Uganda. Its rare afro-montane vegetation provides one of the richest habitats for birds, butterflies, trees, and mammals in East Africa. Its mammal populations include chimpanzees and more than half of the world’s remaining mountain gorillas—more than 300 individuals. Sections of BINP have been protected since 1932, and the national park itself was established in 1991. Because of BINP’s rare and wide biodiversity, United Nations Educational, Scientific and Cultural Organization accorded it the status of World Heritage Site in 1994.

What’s innovative? The project collected gender-disaggregated baseline data, which were incorporated in its design, monitoring, and evaluation. Gender analysis and gender-sensitive framework and criteria were adopted in its microenterprise development component to ensure that priorities of women and other disadvantaged groups were properly taken into account. Women field staff and women entrepreneurs were hired as mentors to encourage more effective women’s participation in the project.

Next to the protected area of the BINP are multiple-use zones in 13 of the 21 parishes (some 18 percent of the park area). However, less than 10 percent of the population of these parishes holds licenses to harvest honey, weaving materials, and medical products from the multiple-use zones. Based on the existing harvesting quotas of natural resources, multiple-use zones have limited scope for enterprise development, even among current license holders.

Community-Based Enterprises for the Conservation of Biodiversity at Bwindi World Heritage Site in Uganda was a project carried out by the Mgahinga and Bwindi Impenetrable Forest Conservation Trust Fund from 2001 to 2004. The project was funded by the United Nations Foundation and FAO. It was intended to demonstrate that community-based tree and forest product enterprises can contribute to both poverty alleviation and the conservation of biodiversity.

The project included gender disaggregation of baseline data. During the participatory appraisal, particular attention was devoted to identifying women-headed households and to reviewing educational levels and household livelihood strategies. This included sampling women’s and men’s daily time profiles. Focus group discussion examined differentials in education, access to training and employment, and access to information and communication. The project also examined management of savings and credit funds by women’s groups and identified women entrepreneurs, who were purposefully included in project activities.

FAO’S MARKETING ANALYSIS AND DEVELOPMENT METHODOLOGY

The project employed the Market Analysis and Development approach developed by FAO.¹ This is a step-by-step iterative process that provides forest community members with the capacity to identify and develop viable and successful tree and forest product enterprises and to manage them independently.

The initial idea of the project was to use Market Analysis and Development to improve local livelihoods through the development of income-generating tree and forest enterprises, while protecting those resources. This idea proved to have limitations from the outset of the project because participating communities enjoyed only very restricted access to the park. The project, therefore, had to shift its focus away from “giving value to the forest—and thus protecting it—by using its resources” and toward finding options for reducing pressure on the park (FAO 2006a: 29). These included using products that depend on the biodiversity in the park but that do not come out of the park itself.

During the first two years of the project various products and services were identified, including community-based tourism, support to a local campground, handicrafts, bee-keeping, and enterprises dealing with passion fruit, avocados, and mushrooms. Through these enterprises a significant proportion of the local community was able to participate in enterprises that were linked to the conservation of natural resources within the park.

GENDER STRATEGY

During the participatory appraisal undertaken in preparation for the project, particular attention was devoted to identifying women-headed households and the livelihood strategies they employed. Planners reviewed education levels and used focus group discussions to examine differentials in education, and access to training, employment, and information and communication. They also examined the management of savings and credit funds by women’s groups. Women entrepreneurs were identified and included in project activities.

A gender strategy was developed to ensure that benefits are equitably shared and that those people with the least access to education, training, and information were provided with opportunities to participate in the project. Hiring women as field staff was deemed crucial to maintaining balanced gender participation. Planners developed a framework and criteria for microenterprise development to ensure that the priorities of women and other disadvantaged groups were properly taken into account, and they applied during the life of the project.

Planners promoted the sustainability of the income from enterprises by building individuals’ entrepreneurial capacity through a process that involved the local population in action research and participatory data gathering and analysis. Business literacy and enterprise development stressed negotiating skills. Results of the initial phase of the project indicated that the success of business endeavors undertaken

Box 15.14 Other Features of the Project’s Gender Strategy

- Gender disaggregation of project background and baseline data.
- Special attention in the participatory appraisal to identify women-headed households and to review educational levels and household livelihood strategies, including sampling of women’s and men’s daily time profiles.
- Focus group discussion examining education differentials, access to training and employment, access to information and communication, and the structure of women’s groups’ management of savings and credit funds.
- Recording of numbers of women’s enterprises, women-headed households, women’s saving and credit groups, and women’s forest user societies, and development of indicators for monitoring and evaluating the participation of women and disadvantaged groups.
- Identification and inclusion of women entrepreneurs in project activities (for example, as mentors to women’s enterprises and making presentations to encourage role modeling).

Source: FAO 2006a.

by women entrepreneurs depended on the support of the entire household. The project strived for gender balance rather than focusing exclusively on women or men and took steps to ensure that women and disadvantaged groups were not excluded from extension, marketing, credit, and other activities (box 15.14).

Gender analysis was used as a tool during the initial survey of potential economic opportunities. Both men and women developed criteria; they then decided which enterprise to adopt. When community members were assessing enterprises, the gender strategy ensured that the poorest groups and women participated in the final selection. It was also necessary, however, to involve more educated and experienced community members to promote trade linkages and ensure the proper accounting of finances.

THE BUHOMA VILLAGE WALK: COMMUNITY-BASED ECOTOURISM

The Buhoma village walk was one of the initial community enterprises identified as a result of applying FAO’s Market

Analysis and Development approach and the project's gender strategy. In total the enterprise development project worked with 304 entrepreneurs in a range of start-up businesses; 179 of these entrepreneurs were women, and 125 were men.

The Buhoma village walk starts and ends at the Buhoma Community Rest Camp located at the entrance of BNIP. It passes through a typical African village with traditional rural homesteads. The sites along the walk include a local women's handicraft center for a 15-minute craft-making demonstration, a waterfall, tea plantations, a local traditional medicine healer, a school, bird watching in a community woodlot, Batwa (pygmy) music and performance, and brewing facilities for banana beer and a local gin called *waragi*. The walk lasts approximately three hours. The enterprise is made up of eight guides from the local community and a representative for each of the households that manage sites along the route. It is registered under the Buhoma Community Rest Camp Association (BCRCA) of Mukono parish, Kanungu district. The Culture and Tourism Development Committee of the BCRCA supervises its activities. The income earned is shared according to a breakdown that was agreed among all the stakeholders (FAO 2006b).

The aim was to attract an average of five tourists a day (half the people who visit the park), who would pay \$7.50 each. The monthly sales target was \$750. Promotional strategies included developing a brochure about the walk, listing the walk as one of Bwindi's tourist activities in the Uganda Wildlife Authority (UWA) brochure, and marketing the walk by guides at local tourist lodges. The enterprise received 2,295 visitors between January 2003 and August 2005. In 2004 the village walk generated an extra \$27 per month for each guide, \$17 per month for each site owner, and \$74 per month for the 11 Batwa households (45 households) that managed the sites. This represents significant earnings for people who did not have any access to cash income before, such as the Batwa. Each site owner contributed \$1.70 for trail maintenance every month, which was carried out by Batwa community members. All the site owners inspected the trail every fifth day of the month, when there is a general meeting. Site owners have formed a small committee to oversee maintenance of the walk. The village walk guides attend regular training and briefings with UWA rangers. A good working relationship exists among UWA, the community, and the guides.

LESSONS LEARNED AND ISSUES FOR WIDER APPLICABILITY

The project resulted in the establishment of 13 enterprise groups. For each enterprise group, a business plan was

developed, technical and entrepreneur capacities were improved, and pilot enterprise activities are up and running. The Mgahinga and Bwindi Impenetrable Forest Conservation Trust Fund is committed to continue giving support to these enterprises, together with a number of local service providers linked with the specific enterprise groups. Some of the enterprises and value-adding technologies that emerged during product selection were of particular interest to women. Yet the support and involvement of the men in their households were found to be critical by the project staff. The design and timing of the training workshops took into account the availability of both men and women. Gender balance was actively sought in market study tours and other enterprise-related activities. All monitoring information was disaggregated by gender so that the impacts of the project for both men and women could be evaluated. The project gave clear indications of the types of strategies necessary to ensure the full participation of women and men (FAO 2006a). There was a common consensus among the stakeholders in the project area that focusing on women yielded better results. The overall attendance and participation of women in workshops was at least 40 percent.

A gender-equitable perspective in the sustained management of protected areas enables practitioners to recognize the following (see also box 15.15):

- Communities are not homogeneous—consultation with a variety of stakeholders is necessary.

Box 15.15 Maximizing Conservation in Protected Areas: Guidelines for Gender Conservation

Conflicts between community interests and conservation interventions in protected areas are common but not inevitable. Research shows that access to education and training can reduce such conflicts. A gender-equitable perspective additionally asks if both women and men are in a position to participate actively. The poor, who are often women, need education to develop their capacity to manage the environmental resources of protected areas in ways that are sustainable for them and the environment. To invest in the environment is to invest in people.

Source: IUCN 2003b.

- Men and women use and manage different natural resources in protected areas differently.
- The different interests, knowledge, and behavior of women, men, and children have important ramifications for conservation initiatives.
- Strategies to include and facilitate women in extension, entrepreneurial, managerial, and decision-making roles will enhance the sustainability of protected area management initiatives.

NOTES

Overview

This Overview was written by Christine Holding Anyonge and Natalie Hufnagl (Consultants), with inputs from Sophie Grouwels, Simone Rose, and Dieter Schoene (FAO) and Katuscia Fara (IFAD); and reviewed by Chitra Deshpande and Catherine Ragasa (Consultants); Deborah Rubin (Cultural Practice); Dan Rugabira (FAO); Ilaria Firmian, Maria Hartl, and Sheila Mwanundu (IFAD); and Diji Chandrasekharan Behr and Eija Pehu (World Bank).

1. See also Food and Agriculture Organization, “Gender Analysis and Forestry Training Package,” www.fao.org/forestry/foris/pdf/gender/tr-e01/tr-e01.0.pdf.

2. SAFE: The Interagency Standing Committee Task Force on Safe Access to Firewood and Alternative Energy in Humanitarian Settings, Coordinated by the UN Women’s Commission for Refugee Women and Children.

3. This contrasts with the European report, which states that “the relatively low level of female representation—both in terms of critical mass and levels of seniority/professional roles—is in stark contrast to the feedback from responding countries that gender/equality is perceived as an important issue in society, [and furthermore] an ‘issue’ within the forest industries of the respective reporting countries” (FAO 2006b: 11–12).

4. Program on Forests, “Poverty and Forestry Linkages: A Synthesis of Six Case Studies,” www.profor.info.

Thematic Note 1

This Thematic Note was written by Christine Holding Anyonge (Consultant), with inputs from Chitra Deshpande and Alessandro Spairani (Consultants), Maria Hartl (IFAD), and Sophie Grouwels and Miguel Trossero (FAO); and reviewed by Catherine Ragasa and Deborah Rubin (Consultants); Simone Rose and Dan Rugabira (FAO); Katuscia Fara, Ilaria Firmian, and Sheila Mwanundu (IFAD); and Diji Chandrasekharan Behr and Eija Pehu (World Bank).

1. NWFPs consist of goods of biological origin other than wood, as well as services derived from forests and allied land uses (FAO 1995). NTFPs are nontimber forest products (including wood not sold as timber, such as fuel wood/wood energy and wood-carving materials).

2. The *miombo* woodlands, recognized for their floristic richness and widespread occurrence of the genera *Brachystegia*, *Julbernardia*, *Isoberlinia*, and their associates (Malaisse 1978), form the dominant natural woodland type in southern Africa. They extend across about 2.7 million square kilometers of the African subhumid tropical zone from Tanzania and Democratic Republic of Congo in the north, through Zambia, Malawi, and eastern Angola, to Mozambique and Zimbabwe. It is estimated that over 75 million people live within the miombo biome and that the woodlands directly support the livelihood of over 40 million people in this African region (Bradley and McNamara 1993; Dewees 1994).

3. FAO, “Regional Wood Energy Development Programme in Asia,” Expert consultation in Gender and Wood Energy, <http://wgbis.ces.iisc.ernet.in/energy/HC270799/RWEDP/rm22.html>.

4. FAO (2006).

5. Thematic Note 4 on Gender, Self-Help Groups, and Farmers’ Organisations (Module 2) refers to six types and functions of women’s groups in the agricultural sector: producers’ associations and cooperatives, self-help groups, rotating savings and credit associations, women’s subgroups in village development associations, women’s groups in watershed management associations, agricultural extension field schools, or farmer research groups. Terms used in other texts are “farmer’s professional associations,” “community development fund management organizations,” “forest products processing associations,” and “agroforestry nursery entrepreneurs.” In the context of this Note, the natures of the women’s groups to which we are referring are those focused on collective action in relation to their livelihoods and forest resources and may therefore be a range of these alternatives, including self-help groups and village development associations. For the purposes of this Note, we will use the collective term *community-based organizations*.

6. FAO marketing analysis and development methodology, IFAD program support to Phytotrade, and INBAR bamboo and rattan field projects. See Elsie Yang and Yangjing Sucuiwei, “A Gender Assessment Study on Bamboo-Based Rural Development and Utilization Activities—A Case Study in Yunnan, China,” Working Paper 53, International Network for Bamboo and Rattan, www.inbar.int/publication/txt/INBAR_Working_Paper_No53.htm.

Thematic Note 2

This Thematic Note was written by Christine Holding Anyonge (Consultant), with inputs from Festus Akinnifesi,

Aichi Kitayli, and Jens-Peter Barkenow Lilleso (ICRAF); and reviewed by Chitra Deshpande, Catherine Ragasa, and Deborah Rubin (Consultants); Michelle Gauthier, Sophie Grouwels, and Simmone Rose (FAO); Katuscia Fara, Iliaria Firmian, Maria Hartl, and Sheila Mwanundu (IFAD); and Diji Chandrasekharan Behr and Eija Pehu (World Bank).

1. This is a collaboration between DANIDA Forest Seed Centre (now part of Forest and Landscape Denmark) and ICRAF, World Agroforestry Centre, and National Tree Seed Organisations in Burkino Faso, Malawi, and Uganda.

2. In the Uganda study, 602 CBOs were identified, of which most were women's groups, with an average number of 30 members. Some had a small number of men as members. In other words, this survey recorded in two districts of Uganda about 18,000 women as being active in tree seed systems. Most CBOs (82 percent) had no direct affiliation with any organizations, such as NGOs, but nevertheless demonstrated a remarkable level of activity (Brandi-Hansen and others 2007).

Innovative Activity Profile I

This Innovative Activity Profile was written by Christine Holding Anyonge, with inputs from Sophie Grouwels (FAO); and reviewed by Chitra Deshpande, Catherine Ragasa, and Deborah Rubin (Consultants); Simmone Rose and Dan Rugabira (FAO); Katuscia Fara, Iliaria Firmian, Maria Hartl, and Sheila Mwanundu (IFAD); and Eija Pehu (World Bank).

1. FAO's Market Analysis and Development approach: www.fao.org/forestry/site/enterprises/en.

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