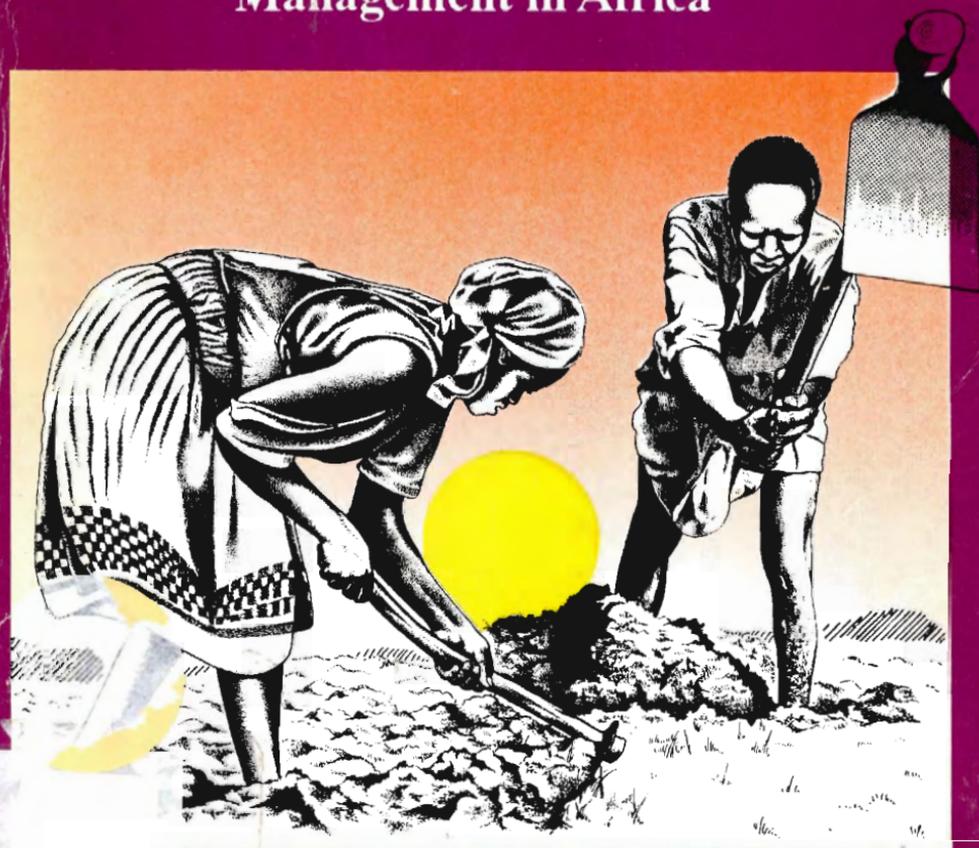


TOWARDS
Common
GROUND

Gender and Natural Resource
Management in Africa



Editors

Sigot, Lori Ann Thrupp & Jennifer Green

TOWARDS COMMON GROUND

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TOWARDS COMMON GROUND

**Gender and Natural Resource
Management in Africa**

Editors

**Asenath Sigot
Lori Ann Thrupp
Jennifer Green**

ACTSPRESS

**African Centre for Technology Studies
Nairobi, Kenya**



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Preface

In 1987, the Center for International Development and Environment of the World Resources Institute (WRI) in collaboration with a number of African development institutions and Clark University's Program for International Development and Social Changes, initiated a comprehensive programme in Africa known as From the Ground Up. The programme sought to increase local, national and international development institutions' capacity to strengthen management of natural resources in Africa. The guiding belief of From the Ground Up is that important insights can be gained by analyzing effective community level efforts in rural natural resource management. In practical terms, this programme involved identifying communities already pursuing a course in ecologically sound self-development and analyzing the reasons behind their success. A series of case studies was undertaken from 1987 to 1991, and several were published in the early 1990s. The cases highlighted issues such as local leadership, viable institutions and appropriate technology and identified the implications of these findings for policy-makers. The project uses the lessons learnt to influence policy towards greater support for grassroots efforts in natural resource management.

Many of the cases illuminated the importance of work by local women and men in environmental management and in agricultural production. It was realized that the specific roles and constraints of women, as well as men, deserved much more attention. Therefore, in the context of From the Ground Up, a project was begun in 1992 to focus on gender and natural resource management in local level initiatives. This encompassed "re-visitations" of case studies that were considered in previous years, with a new look at gender dynamics. The purposes of the project were to identify and analyze the different roles, responsibilities and interactions of men and women in the use, management and production of natural resources in each case; identify the key constraints and opportunities that women and men

PREFACE

face in natural resource management; identify implications for policy changes and local actions which can help to recognize and address gender considerations in natural resource management and policy-making; and strengthen the capacities of local women to analyze and address environmental conditions and policies that influence their lives. This volume shares the results of the case studies and their policy implications which were presented in a workshop on Gender and Natural Resource Management in Africa held in Nairobi, Kenya in October 1993 co-sponsored by WRI and the African Centre for Technology Studies (ACTS).

These findings are useful for policy-makers at all levels, community members, researchers, institutions, educators and the international development community. Over the long term, attention to these findings can promote natural resource management policies that are gender-sensitive, influence the allocation of development resources to the grassroots and foster self-reliance, equity and sustainability within the communities.

This book is designed for individuals and institutions in the development community—governmental and non-governmental development and environmental planners and field workers, international and national development assistance officers and concerned academics and students. It is intended to inform policy-making and stimulate discussion on gender and natural resource management. It is hoped that it will contribute to sustainable development and assist in training programmes for development officers and in local communities.

ACTS, based in Nairobi, and WRI are collaborating to publish this volume for distribution in Africa and elsewhere. ACTS is a non-partisan, not-for-profit institution established to conduct policy and practical research in technological innovation and natural resource management. ACTS promotes the view that technological change, natural resource management and institutional innovation are crucial to sustainable development and should be at the core of all development efforts. WRI is an independent, non-profit research and policy institute founded in 1982 to help governments, environmental and development organizations and private business address questions of sustainable development. WRI currently focuses on six broad areas—climate, energy, and pollution; forests and biodiversity; economics and technology; resources and environmental information and institutions and augments policy recommendations with field services for groups working on natural resource management. Resources for research conducted under this project were provided by the World Resources Institute's Center for International Development and Environment, with the support of the U.S. Agency for International Development.

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The editors are most grateful to the many women and men in Africa's rural areas who provided their time and information for this project.

Discourse on gender and natural resource management¹

1

ASENATH J. SIGOT

A gender perspective in the management of natural resources is related to everybody's right to influence and control their own lives and the conditions under which they live. Throughout the world, survival and socio-economic development directly depend on a productive resource base. As a result, all people—both male and female—have a significant stake in ensuring that natural resources are sustainably managed. This gender approach is not focused on “women's issues” as such; rather it helps to improve understanding of the roles and interrelations of men and women and the constraints they face and, using this perspective, helps to promote sustainable and equitable patterns of development.

Context and link to natural resources

The inextricable linkage between gender roles and natural resources has emerged as a critical concern in development throughout the world and can no longer be ignored. Consideration of these linkages will lead policy research and planning closer to success in natural resource management and sustainable development. Throughout Africa, women as well as men play a major role in managing such natural resources as water, soil, energy, food, wildlife and forests. Women's role in animal husbandry and agriculture, as well as fuelwood collection and a range of household tasks, makes them the daily managers of natural resources. In these contexts, women's work is,

therefore, vital for ensuring the basic community welfare and livelihoods. Women are also knowledgeable about management of resources. However, they seem invisible in these roles, since they are ignored in statistical accounting and in policies of government and non-governmental institutions. Seldom are they paid for their work, and often suffer an inequitable share of the labour burden. To correct this false perception of invisibility and to improve understanding of the realities, this book presents five case studies on gender and natural resource management. The studies give detailed descriptions and accounts of indigenous practices which are environmentally sound. The studies show male and female incentives to manage resources for their livelihood, and how households, extended families and closely-knit communities often have the vested interests, shared goals and economic dependence to facilitate environmental management. They also reveal the constraints and struggles faced by poor household members.

Gender issues refer to the asymmetrical relationship between men and women in the spheres of production and reproduction inside and outside the household. In this book, gender is used as a socio-economic variable to analyze roles, the responsibilities, constraints and opportunities of those involved in natural resource management. Gender perspective sees women and men as playing different roles in society and, therefore, often having different needs. Gender is an organizing principle in society as well as a source of differentiation and inequality. All societies have a gender system which includes a division of labour, power inequalities between genders, cultural concepts of *masculine* and *feminine* and other gendered social definitions.²

A gender perspective emphasizes that gender relations are socially constructed and not derived from nature or biology. Gender relations as social constructs are historically specific forms in a given society. Being socially constructed, these relations are neither necessarily nor obviously harmonious and non-conflicting.³

Kinuthia-Njenga notes that the integration of gender, environment and development is an essential goal of sustainable development as it brings into sharp focus the nexus between equity and sustainability in development.⁴ Furthermore, unequal status, inadequate education, low wages, overload in reproductive activities, land tenure systems and limited access to resources have effects that often extend beyond the conditions of women's lives and affect the lives of their families and communities. However, in the past two decades, efforts have been made to highlight and articulate women's contribution through various approaches that include Women in Development (WID), Women in Environment and Development (WED) and Gender and Development (GAD). WID, WED and GAD are variants of a theoretical framework that conceptualizes the interplay and participation of women and

men in the context and process of social, political and economic development.⁵

The WID framework can be traced from the concept of family welfare, which drew its orientation from a colonial model that viewed women primarily as mothers through which child welfare could be addressed. WID saw the need to integrate women in development. The approach viewed women as the problem, and sought to eliminate their exclusion from the development process. It aimed to increase their efficiency and productivity within the existing development framework through women-specific activities. Although WID's original aim was to gain equity for women *vis-à-vis* men in the development process, the approach had pitfalls brought about by the blind assumption that both the costs and benefits of economic development were gender neutral.

A breakthrough in the recognition of women's role in sustainable development occurred during the United Nations conferences on women in Mexico City (1975), Copenhagen (1980) and Nairobi (1985). The 1975 Women's International Year Conference in Mexico marked a turning point by advancing the theory of women as active agents of development and declaring the subsequent decade an era of women. The 1985 Nairobi Conference reaffirmed women's role as both beneficiaries of and contributors to economic progress. The conference report, *Forward Looking Strategies to the Year 2000*, along with the *Plan of Action* and the *Programme of Action*, charted, among other things, the growth in women's awareness of the policies needed to improve their status.⁶

The need to take account of the linkages between environment and development emerged during the work of the World Commission on Environment and Development (the Brundtland Commission). By virtue of women's closeness to and central roles in natural resource management, their special contribution to protecting and enhancing the environment assumed an important place in development theory and practice. Moreover, poor women often bear the major burden of environmental degradation, especially in rural areas. The recognition of such linkages led to the WED phase that characterized the 1992 United Nations Conference on Environment and Development (UNCED) process and is now being articulated in the post-UNCED period. The focus is not only on the environment but also on issues and problems of human resource development.⁷

During preparations for UNCED it was observed that a consistent gender perspective on environmental and development issues was missing. Furthermore, over and above the gender perspective, it was necessary to de-compartmentalize the environmental issues. The UNCED preparatory meetings demonstrated to the world community that women, because of their ex-

perience, roles and skills, have specific and valuable contributions to make on environmental and development issues. The meeting was the culmination of a series of regional assemblies between 1989 and 1991 sponsored by the United Nations Environment Programme. The themes centred on women, leadership and environmental management. These meetings and the subsequent powerful presence of women at UNCED emphasized women's role in achieving sustainable development and the urgency of ensuring their inclusion in programmes and policies everywhere.

In the 1980s it became imperative to look at women not as separate from society but in relation to men. This formed the basis for GAD, which is mainly concerned with integrating men and women in the development process. The GAD approach sees the problem as that of unequal relations and inequitable distribution of power and control, with women at the disadvantage. Its goal is, therefore, to challenge these imbalances and ensure that both men and women are able to make decisions, hold positions and benefit from development on the basis of personal ability. Its central strategy is, therefore, to address women's strategic needs, which would automatically encompass their practical needs. For example, where WID would give funds to women to start income-generating activities, GAD would opt for women's education and political empowerment because education and access to the policy-making process have long-term benefits; they enable women to diversify their economic activities and gain more equitable opportunities.

GAD also rests on the realization that a lot of work to which women have been consigned by culture and tradition is not inherently female or biologically determined and, in fact, limit women's advancement. This leads to the recognition that gender is a social construct and suggests the need to share household roles. If this were done, women could be liberated from many encumbrances and given opportunities equal to those of men. Applied to specific national contexts, GAD emphasizes gender at all ages and the need to analyze and use concrete data to understand situations, determine appropriate strategies and design desirable interventions. By unearthing the root causes of disparities, it determines what factors can be influenced for change.

WID, WED and GAD have all affirmed the dignity and visibility of women's work. The current emphasis on GAD is based on overwhelming evidence that correlates power, control and responsibility over natural resources to political, economic and social empowerment. Such evidence is apparent in studies presented in the following chapters which clearly indicate a gender division of labour as well as differential access to and control of resources inputs and benefits.

Conceptualization

Environmental degradation is a gendered process, and a greater understanding of environmental change can be gained through the spectacles of gender awareness. Kinuthia-Njenga observes that over the past few years, a number of analyses have demonstrated the significance of social equity and inequity in natural resource management activities.⁸ They show that resource depletion is often related to the processes of accumulation, social differentiation and commoditization and that poverty drives rural people to exploit the environment. However, class analyses pertain to only one aspect of equity. People also carry gender identities which constitute another axis of differentiation of equal importance in understanding the changing environmental relations.⁹

The focus on women, the environment and development is important for various reasons. Women often have a special relationship with the natural environment by virtue of their direct and heavy dependence on such primary natural systems as soil, water and forests for survival; hence, they have vested interests in environmental protection and sustainability. The productivity of both nature and women is often unrecognized and, consequently, devalued. On the conventional balance sheets of econo-financial inputs and outputs of systems, women and nature have never figured since their work could not be easily quantified; only relatively recently have the proponents of development theory conceded that the definition of the classic development variables and factors have been based on false premises *vis-à-vis* roles of other less obvious factors, such as nature and women.¹⁰ Many studies and situations concerning men's and women's development roles reveal gender disparities in social interactions, access to natural resources, power relations and division of labour.

How do women and men relate to the natural resource base? One of the main ways is through agricultural production. Evidence shows that women in Africa are responsible for an estimated 70% of total food production throughout the continent. The farming women undertake is mostly for subsistence purposes, i.e. providing urgent needs of families. Specific farming tasks are divided by gender, and roles vary somewhat in different areas. In general however, in Africa, women have traditionally hoed, planted, weeded, harvested, stored and processed crop and foods. Furthermore, women and men have differential control of and access to land and natural resources.

Customarily, women in matrilineal societies enjoyed more secure rights to resources than those in patrilineal societies. In the latter, access was always

through male relatives. Matrilineal societies are now very rare worldwide and patrilineality dominates. Statutory law also excluded women from ownership of resources. Thus, in terms of access to and control of resources, women have always been marginalized in terms of inputs and benefits.

Access denotes the ability to get to and use a resource while *control* means power that goes beyond use. It includes explicit power in both management and decision-making regarding the use and benefit apportionment to beneficiaries. Whereas access can be "open" to many or all, control rests on one or a few individuals. Here inputs include land, labour, capital or funds, tools and machinery, seeds, fertilizers and water. Benefits include monetary incomes, harvested food and cash crops, gathered products and social and tenurial security.

Land access and control by women has been curtailed by the nature of the resource. Africa's land has very limited agricultural capacity. Only 19 per cent is free from inherent limitations, much of it in the hands of a few financially and politically powerful men. Forty-four per cent is classified as dry. In Ghana, for instance, men and women assert categorically that women do not have hereditary rights to land. However, in practice, women have usufructuary rights to the husband's farm. These subordinate rights relate to tree tenure and fuelwood as well as land titles.

Since women throughout the continent are responsible for preparing food, access to fuelwood is a major concern. The degradation of forest resources affects women when multipurpose tree species become increasingly scarce due to desertification and deforestation. Trees are controlled by local chiefs, who are mainly men, and women have to walk long distances in search of wood, thus increasing their workload. This affects accessibility to such forest resources for food, medicine and energy.

In most developing countries, women and children often spend three to four hours fetching water from supplies which drought has made increasingly scarce and distant. Despite their important role in preparing food, cleaning utensils and other household chores, women are not involved in the planning and implementation of water projects. In most projects, they have not been consulted, and this has led to impractical solutions to water problems and overall project failures. Men have often been consulted without understanding the real problems of the major users, the women. This neglect of women is pervasive concerning many other kinds of natural resource and agricultural projects and planning processes.

Strategies for enhancing sustainable resource management must incorporate a gender perspective. A gender approach points to a methodology encompassing and taking cognizance of community needs, structures and ecosystems.

Power relations in many agricultural and pastoral societies are based on patrilineal systems. Hartman defines *patriarchy* as a system of power relations in societies where senior men have authority over both women and younger men and where men act in collusion in order to keep their dominant position unassailed. Classical patriarchy is found in a geographical belt running from North Africa across the Middle East to parts of South and East Asia; it has been contrasted to the patriarchy practised in other parts of the world. Classical patriarchy tends to be strongly patrilocal and patrilineal, with women being married at a very young age to men outside their community, and property transmitted through the male line. Women possess little, if any, recognized claim to family patrimony. There is high female "subordination", with women confined to the domestic domain; they have no direct access to state or religious institutions. Conservative pressures keep social change within the bounds prescribed by tradition and orthodoxy.¹¹ In the Caribbeans, sub-Saharan Africa and indigenous North and South America, women's status tends to be high. Women's and men's worlds are complementary and their lives more closely interwoven. Women can own and manage their property and they can assume important social, cultural and religious roles.

Decision-making power and authority vary from culture to culture. At the local level, non-participation by local people in decision-making imposes difficulties on the ability of men and women to manage resources. Most programmes, projects and technological packages aimed at rehabilitating or preserving the resource base are developed outside local communities. Often non-local "experts" and capital-based national counterparts direct and evaluate community activities. The evaluators are normally men. The lack of gender perspective in environmental planning and implementation results because of women's absence or near-absence from the public domain, and society has failed to recognize that women have a valuable contribution to make. A gender-based framework, therefore, places both women and men at the centre of the development process and recognizes that men and women are affected differently by change, irrespective of heredity or environment.

In the context of gender relations, labour is divided into reproductive, productive and community. Reproductive work is associated with forming and maintaining a family. Activities in this category are thus geared towards attaining family welfare, not other tangible benefits, including water and fuelwood collection; child-bearing and child-rearing; family cooking and washing; husking, grinding and pounding grains. This cluster of activities is considered critical because it is the basis for all other forms of sustainable development.

Productive work has tangible outputs or benefits from specific inputs. Examples of outputs include food crops, cash crops and incomes from livestock and business activities. Productive activities include land preparation, cultivation, weeding, irrigation, planting and cutting fodder. Within this cluster are the non-wage-earning activities women undertake in the household, referred to as subsistence production.¹² In both rural and low-income urban contexts, these often “invisible” domestic activities are essential to maintaining and nurturing household members daily.

Community work includes construction of schools, churches or mosques; construction, repair or maintenance of access roads and irrigation facilities; soil and water conservation activities on public land; and cash or material contributions to a defined project. Community work is normally organized and administered by local institutions because the aim is to benefit every family in the community.

Third World men and women have distinctive roles largely based on social customs. Women make a large contribution to community support based on reproductive work, family food production and subsistence. Men, on the other hand, are in charge of activities such as supplying game and fish, periodic clearing of ground, cattle herding and community security. Dilemmas occur when family subsistence production gradually changes to specialized production of goods and services. These roles, according to social custom, automatically relegate women to producers of “valueless” goods and services for the household. Terms of “value” are obvious misconceptions. Both men and women are generally involved in a joint venture for their livelihoods and social development.

Gender and natural resource management policy

Natural resource policy and management in Africa does not get sufficient and timely attention. The roles of both men and women and women’s contributions to family welfare and overall development often go unrecognized in natural resource management policy. Maringa emphasizes the need to highlight certain factors, discussed below.¹³

The demographic trends indicate that at least 50 per cent of Africa’s population is female. Furthermore, 50 per cent is under thirty years of age. This trend is expected to continue in the next century. The bulk is rural-based but show a definite migratory patterns towards urban areas. Although well over half of the population is female and/or young, African policies and institutions generally glorify and entrench the aged and the male. This alienates over half the population from the decision-making process which determines their future and the fate of the natural resources on which they depend for survival.

Reproductive and productive roles in Africa are gender-based biologically, domestically and economically. At these levels, women have greater and more decisive roles and responsibilities. Yet at the national level, policies are devoid of any user perspective and, in most cases, work against women's interests in their fragile ecosystems. The top-down approaches often adopted for decision-making and policy processes undermine people's capabilities to use their knowledge and experience to manage their own resources. Gender differences go beyond the physical to the mental, emotional and intellectual. Each gender brings a different perspective to the human identity and fulfilment. Hence, effective policies and management structures are made from a combination of the two perspectives.

Any nation, society or institution that attempts to define or redefine gender differences or roles will find that its management policies are not only ineffective but also a constant source of tension. In order to counteract what continues to be a widespread and pivotal omission of women, acknowledgement of gender roles and accounting for women's knowledge is what can lead to social equity and environmentally sound and productive development. Sustainable development requires the restructuring of existing policies to make them gender-sensitive in natural resource management. Maringa lists a number of important areas in which action can be taken to incorporate the gender perspective in policies: positive legislation, education, capacity-building, representation, citizen participation in the policy/legal processes and positive socio-cultural changes within and outside of the individual. Africa, however, needs to recognize the importance of long-term integrated and interdisciplinary policy planning in order to conserve and manage natural resources for the benefit of present and future generations. We must deliberately move away from the short-term policy approach. Such a policy can be very effective politically but eventually prove disastrous in the long run. Other policy conclusions by the case studies are discussed in the final chapter of this volume.

About this book

Discourse on gender and natural resource management in this book is approached by analyzing five case studies. This introductory chapter highlights and weaves together the main concepts and common themes as a background for the case studies.

The first case study, on agroforestry by mobisquads in Ghana, sets the stage for the other studies by examining a local self-development co-operative in resource management. The Goviefe-Agodome experience illustrates how a government initiative and community institutions have successfully

turned land once considered infertile into productive farmland through various agroforestry practices. This is an example of popular participation in active community development that mobilizes the labour and resources of both members and non-members.

The second case study, on Oboto Community in Nigeria's Ondo State, explores gender relationships and roles in renewable resource conservation. It underscores the need to understand traditional attitudes and practices that may be useful in enlisting local participation. Outside the formal systems of natural resource conservation, traditional communities have successfully conserved natural resources of interest to them.

The third case explores gender issues, religious beliefs and environmental protection in sustainable development activities. It studies the Malshegu sacred grove in northern Ghana and identifies the major elements in the general traditional religious beliefs and practices which have constituted the basis for preserving flora and fauna.

The fourth case study presents gender relationships and roles in natural resource management in Lyamungo villages on the southern slopes of Mt. Kilimanjaro. It underscores the need to support the participation, equity and women's empowerment in sustainable development, including building capacities for women's integration in policy processes.

The fifth examines the practice of gender relations in resource development and management concerns in sustainable development. The study explores the gender division of labour, both productive and reproductive, the access to and control of reproductive inputs and benefits, constraints of effective performance of work and the factors determining the relationship among the people of Katheka, Kenya.

Proper natural resource management is an extremely complex matter; it involves the entire range of human activities and behaviour. Technical, legal, social, psychological, spiritual and economic aspects have been taken into account. Consequently, it is necessary to underline that both men and women play a central role in natural resource management and that these roles may at times be complementary and even contrasting. These case studies enable a better understanding of gender-based reality and thus deepen our comprehension of the intricacies of the gender significance in natural resource management. The final chapter explores policy implications based on the case studies and the outcome of the multisectoral workshop held in Nairobi.

Notes

1. This chapter draws from two papers presented at the WRI/ACTS Workshop on Gender and Natural Resource Management in Africa. One paper, by Cecilia Kinuthia-Njenga was on "Gender and Management of Natural Re-

sources in Africa: An Overview". The second paper, by Margaret Maringa, was entitled "Overview of Natural Resource Management Policy and the Role of Gender".

2. See Moser, 1989; USAID, 1989; Mogadam, 1993, p. 6; Wilson, 1993.
3. Whitehead, 1979, p. 10.
4. Kinuthia-Njenga, 1993.
5. Excellent review of these concepts can be found in Moser, 1989; Rathgeber, 1990; Project Reach, 1993; Bryceson, 1993; Geiser, 1993 and Parpart, 1993.
6. WRI, 1994.
7. Mwagiru, 1993.
8. Kinuthia-Njenga, 1993.
9. Jackson, 1993.
10. Mwagiru, 1993.
11. Hartman, 1979; Kandiyoti, 1988; Wilson, 1993.
12. Whiteman, 1979.
13. Maringa, 1993.

2

Women in the Goviefe-Agodome mobisquads, Ghana

CLEMENT DORM-ADZOBU AND

OKYEAME AMPADU-AGYEI

Historical background

As a joint effort between the Center for International Development and Environment of the World Resource Institute (WRI) and Ghana's Environmental Protection Council (EPC), a research team undertook a series of case studies on local activities in natural resource management under WRI's From the Ground Up (FGU) programme.¹ The studies were designed to identify natural resource management practices among local communities. There was particular reference to the core elements which have sustained such practices and the implications of these for policy-makers. Such activities as soil conservation practices through the adoption of agroforestry techniques, preservation of biodiversity through traditional religious practices and soil erosion control in traditional settlements were undertaken.

One study is on agroforestry activity by a local institution, the mobisquad, in the village of Goviefe-Agodome in the Volta Region where a self-development co-operative initiated by the government and local leaders and institutions has successfully turned land once considered infertile into productive farmland through various agroforestry practices.

Some of the proceeds from the communally run farms are ploughed back into community activities; the rest is divided equally among members. The

co-operative has emerged as the village's most active community development institution, capable of mobilizing labour and resources from both members and non-members.²

Four main reasons underlie the Goviefe-Agodome success. To begin with, the actions are designed, implemented and managed by a local organization acceptable to the community and supported by local leaders and institutions. The agroforestry efforts yielded immediate financial and other benefits to the members and their households. The resource management activities are locally sustainable and involve practices and techniques familiar to the members. The community has benefited from its accessibility to major urban areas and received much assistance in its development activities.

The Goviefe-Agodome experience has implications for the government and the development assistance community concerned with local level natural resource management. There are several policy and programming recommendations on popular participation in community development and the government's decentralization efforts.

The present study

The Goviefe-Agodome success could not have been achieved without women's participation. They have played an active role since its inception. The study analyzed the gender roles in the mobisquad success story, making abstractions on women's role in natural resource management.

The study aimed specifically at assessing the roles and needs of both women and men in natural resource management; identify core successful elements and key constraints regarding women's participation; and make recommendations on policy, research and practical action to overcome the constraints and support opportunities for the successful natural resource management at the grassroots level.

The researchers revisited the data collected for the FGU case study of the mobisquad. As the original study did not focus specifically on gender issues, a few structured questionnaires were prepared and administered by a female gender specialist from the 31st December Women's Movement (DWM), recruited to strengthen the EPC team in the two-day field study (January 7–8, 1992). A local research support committee made up of the village's queen mother, the DWM president and a mobisquad nominee was formed to spearhead the study.

The study covered 10 per cent (259) of the female population between the ages of 18 and 70 and a similar number (256) of the male population in the same age group. In addition, the village's two main identifiable female groups—the DWM and the queen mother and her elders—were interviewed.

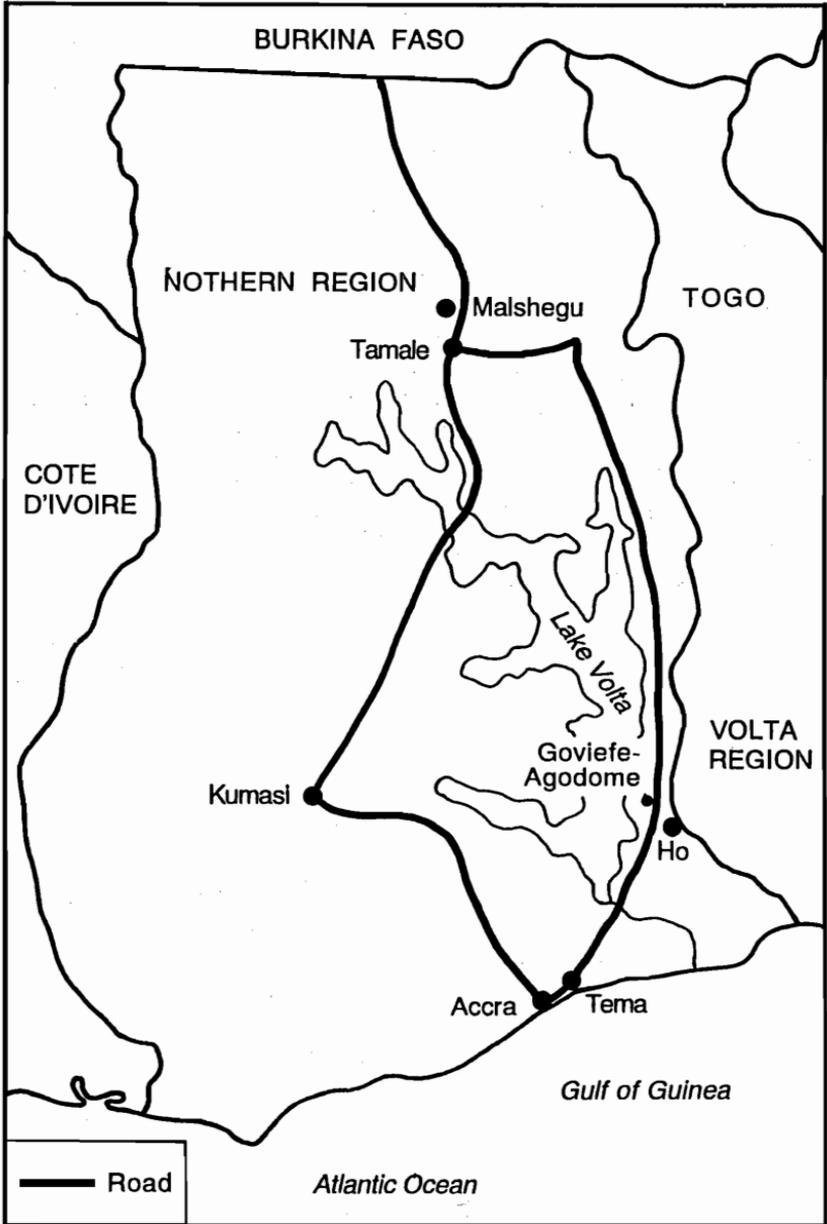
A few elders and opinion leaders were selected and interviewed. A semi-structured interview method was adopted, enabling the entire community and the local research support committee to share their views freely in interactive and uninterrupted discussions. The local research support committee led all the discussions and served as the bridge between the external research team and the community. The female consultant led the discussions into a gender focus. Generally, the interviews were carried out in two teams of two women and a man.

Goviefe-Agodome is situated in Hohoe district on the main road linking Accra with Buem and Karachi districts—major food producing areas of the Volta Region of Ghana (Figure 1)—at the base of the Akwapim-Togo mountain range. Geologically, the area has sandstones, with minor volcanic intrusions and ironstone concentrations underneath. The soils are of low to medium agricultural potential. The mean annual rainfall is 1,450mm, divided into two distinct wet seasons. The region, subject to periodic droughts, experienced severe conditions in 1976–1977 and 1982–1983.

There are no surface rivers or streams in the immediate vicinity, and the community has constructed an earth-dam to harvest run-off water for domestic use. The flatlands and foothills of Goviefe-Agodome are characterized by typical savannah vegetation. Most of the people are farmers; and most land is used primarily to support agricultural economic activity. Shifting cultivation is the most common practice. Most farms are located in the highlands, where such subsistence crops as maize, cassava, beans and okra are grown. Primary forests once covering the Goviefe-Agodome highlands have been converted over time to secondary forests. Communal agro-forestry/cassava and cotton farms provide the most important cash crops in the lowland areas. Due to a rapid population growth, farms have been fragmented and fallow periods shortened. Soil erosion and water run-off have increased to an extent that crop yields have declined. Resource degradation has led to widespread cassava and maize planting; they can tolerate the lower rainfall and poorer soils of the lowlands.

Work roles are similar in many Ghanaian societies, with reproductive work being traditionally in the female domain. There is a gender-specific division of labour in the village. Women are generally responsible for fetching food, fuel and water in addition to their reproductive tasks. They perform about 85 per cent of the storing and 95 per cent of food processing activities. On market days, it is their responsibility to market the farm produce and buy the basic household needs. However, the surplus income is kept by the husband or other men.

Figure 1 Map of Ghana



In the 1960s women provided 60–80 per cent of the household food needs. Men spent about 90 per cent of their time producing cocoa for export. In addition to providing food for the family, women assisted men in weeding, harvesting and drying the cocoa crops. The situation has changed since the beginning of the 1980s. The cocoa industry has collapsed because of soil infertility and deforestation. The land can no longer support cocoa or coffee. Both men and women are now involved in food crop production for cash and for family consumption. Cassava, a staple food, is also cultivated for money.

Women's traditional role as sole providers of food for the family is undergoing changes; however, they continue to carry out their reproductive functions. Goviefe-Agodome's women spend an average of six hours in farm production and an additional six hours fetching water, cooking, washing children and cleaning the house. Men spend a similar number of hours or more solely in the farm. Since the major measurable income is generated from the farm, the men have exclusive control over the family income. Disbursement decisions are nearly always dictated by men.

Goviefe-Agodome is a traditional Govie settlement. The Govie belong to the Ewe ethnic group. The village is headed by a chief selected by a council of elders from the village patriarch's extended family. The village chief reports to a paramount chief in Goviefe-Todzi, who has elders to help him to decide local matters. The women's traditional leader is called the queen mother. She maintains a supporting regent and a council of elders. Goviefe-Agodome is a comparatively literate community. Of the 58 per cent who can read and write, about 26 per cent are women and 32 per cent men.

The mobisquad concept

In 1983, over one million Ghanaians returned home, expelled from Nigeria. The sudden influx aggravated Ghana's social, economic and political crisis. Already protracted droughts and wild bush fires had caused acute food shortages in 1982. At 130 per cent, inflation was at a record high, coupled with massive unemployment and political instability. The government advised all repatriates to return to their home villages because it wanted to deploy the underemployed, the unemployed and the returnees to local agricultural activities to forestall invasion of the cities. In 1984, therefore, the government established the National Mobilization Programme (NMP) to marshal local human and material resources to revamp areas of the national economy badly hit by the 1982 and 1983 disasters.³

Throughout Ghana, the NMP organized volunteer citizens into development groups called *mobilization squads* or *mobisquads* to fight the bush fires, replant burnt cocoa and coffee farms and increase food production by establishing food crop farms. Many towns and villages established mobisquads to solve local problems and carry out self-help community improvement activities. When the immediate disasters, such as the bushfires, were under control, mobisquad efforts were redirected into a national economic recovery programme. Some of the mobisquads helped to construct access roads, schools and clinics. While some projects received government aid, most local groups raised their own funds to support income-generating activities, cash cropping, farm produce processing and fuelwood and charcoal production.

In 1987, the government established a separate Ministry of Mobilization and Social Welfare to oversee the NMP. The ministry sought to transform the mobisquads into agricultural co-operatives to help boost food production, improve the squad members' living conditions and help revive the traditional co-operative spirit inherent among the Ghanaian people. Today, village-level mobisquads made up of community residents and local leaders are active in many parts of Ghana.

Among the returning Ghanaians were a number of Goviefe-Agodome villagers. Some went home to farm; most owned or acquired land through their extended families. Those with vehicles started transport businesses, while those who brought financial resources established small businesses outside the village. In 1983, six returnees organized a local mobisquad at Goviefe-Agodome. By 1986, the group was solid and additional members were recruited. Obtaining political backing, the original members worked very hard, subsequently gaining the approval and support from the village leadership: traditional and institutional leaders, the queen mother, some members of the council of elders and the DWM chairperson.

At the mobisquad's first general meeting, the members were elected to take up cash crop farming since most members were farmers. An appeal was made to all members to contact landowners to provide land. However, no family or individual was prepared to part with any land in the highlands. Eventually, the queen mother offered the mobisquad free use of 40.5 hectares of nearly abandoned communal stool land in the savannah lowlands. This was considered wasteland because of its rocky, infertile soil and because every year it is devastated by bushfires. No member wanted to establish a farm there. However, in 1986, the mobisquad, whose membership had risen to 41, established a 4.8-hectare communal cassava, maize and cocoyam farm on the land. In addition to these food crops, the mobisquad planted 1,000 teak and 2,000 leucaena seedlings given free by the govern-

ment: At the end of the season, the group had earned US\$2,000 from the produce and fuelwood. Sale is normally carried out by women. Either they carry the goods to Kpeve market (the nearest town) or buyers come to the village. The mobisquad members divided most of the profits equally and spent the rest on launching two community projects—an improved pit latrine and a clinic.

In 1987, the mobisquad (now with 52 members) expanded the farm by 9.6 hectares to grow cassava, maize, pepper and cowpeas, and added a two-hectare cotton farm. (Cotton is sold directly to buyers from the Juapong Textile Factory, about 60 kilometres from Goviefe-Agodome). To ensure a continuous supply of tree seedlings for the various farming and woodlots projects, a nursery was established with assistance from a forestry extension officer. Over 5,000 teak and leucaena seedlings were raised in the community seed nursery in 1987 and transplanted to the enlarged farm. In 1987 the mobisquad earned about US\$4,000 from its farming activities. It spent some of it to train leaders, manage projects and mobilize youth. The remainder was shared equally among the members. In the same year, the mobisquad opened a bank account at the Agricultural Development Bank at Hohoe and set up a small loan scheme for members at reduced interest rates. At the end of the year all the scheme's beneficiaries of the loan scheme had repaid their loans.

The mobisquad made considerable progress in 1988. Membership grew from 41 to 61 and its farm by 12 hectares. The squad also raised and planted 5,000 tree seedlings on the agroforestry farm. Over US\$4,000 was realized, half of which was used as share capital to register as a co-operative. It received its co-operative membership status in 1989, and this entitled the mobisquad to receive loans from the National Agricultural Development Bank.

In 1989, the mobisquad expanded its farming area by 5.2 hectares of cassava and a 3.2-hectares of pepper and cowpea. The cassava and vegetable farms were intercropped with 4,000 new tree seedlings to expand the agroforestry farm by another 11.2 hectares. The 1989 profit was low because the rains had come late and were insufficient. Crops planted in anticipation of the rain were all adversely affected by the unfavourable climatic conditions. Due to the squads meritorious performance in rehabilitating the degraded Goviefe-Agodome lands, the EPC donated cassava-processing equipment enabling the mobisquad to earn higher prices. It spent funds on development projects, including building of a shelter for the cassava-processing equipment, and shared some among themselves.

The Goviefe-Agodome mobisquad membership grew from the original six in 1983 to 71 in 1990. During its first four years of operation, it developed a 37.6-hectare agroforestry farm, planted 19.2 hectares of cotton, nursed approximately 14,000 tree seedlings and transplanted about 17,000. From these

and other activities, the mobisquad netted more than US\$9,850 in 1990, sharing it among themselves. Part of the money was also used to improve the latrine and the clinic, to desilt the community's earth dam and repair the primary school's roof, which a storm had ripped off

The Goviefe-Agodome mobisquad was the first group in Hohoe district to be awarded a co-operative certificate. In 1989, the NMP presented it with a Certificate of Achievement for being the most visibly successful group in the Volta region. In June, 1990, Goviefe-Agodome was the site of the United Nations Environment Programme World Environment Day celebrations.

Gender roles in mobisquad activities

Initially, men outnumbered women members, but by 1990 women composed 56 per cent of the mobisquad. Every household/extended family is represented, but usually only one household member joins so that the other family members can maintain the family farm because the mobisquad operates all year long. Members work half day each week except during peak labour-demand planting periods (March–April) and harvesting (August–September), when they may work two to three full days each week. The work is divided along traditional gender divisions of labour. Men clear the land; women cook, collect water and sell the crops. Both men and women plant, weed and harvest.

By 1983, when the six returnees from Nigeria established the Goviefe-Agodome mobisquad, women had assumed full responsibility for the village's socio-economic development. They were responsible for farm work and resource management. Women's demographic might in the village and their acquired leadership roles obliged men to take them into account in the decision-making processes. In 1990, a woman was elected the president of the mobisquad; she was re-elected in 1991 for another one-year term. Men had come to recognize that it is much more effective for women and men to work as equals than the old gender division of labour. In addition, many women have joined the mobisquad because of its popularity and tangible gains.

Women's success in natural resource management

The unprecedented migration of the Goviefe-Agodome men to the cities or abroad in the late 1970s caused the number of female-headed households to rise dramatically. The entire responsibility for feeding, clothing and housing

children was now theirs. They now had to face the growing ecological degradation and the general local destitution. And they rose to the challenge.

Goviefe-Agodome is a traditional community with intricate age-old gender roles and responsibilities. The entire social, economic and political structure is built on the gender-specific division of labour, taking expression in the various village activities.

In the chieftaincy, farming, family, inheritance systems and other socio-economic institutions, women have well-defined roles. For example, in agriculture, while it is men's responsibility to clear land for cultivation, it is women who plant the crops, maintain the farm, harvest, store, process and market. The main staple food and income-earner is cassava, whose cultivation involves men and women, though women carry a greater share of the responsibility. After the land has been cleared, normally by men, women cut cassava into the required planting sizes and plant them individually. Women plant other (mainly leguminous) crops on the same land to enrich the soil and to provide the necessary additional ingredients for cooking. When the cassava matures, the women harvest, process and market the produce.

Women do not only assist in natural resource management activities. When an earth-dam was being constructed to conserve or store run-off water for domestic use, women worked hand in hand with men. Some carried sand, stone and water to the site; others prepared meals for the workers. Women maintain the community seed nursery (and have planted over 1,000 trees around the earth dam), the cassava-processing plant and the public toilet.

Women also work with men on the community's agroforestry farm. In the 1970s Goviefe-Agodome had many cocoa and coffee farms along the foothills. Production was carried out by both men and women. With the collapse of two cash crops, the community began to produce cotton and cassava for income. The gender division of labour has not changed. Many women have their own farms, provide extra hands at harvest time or serve as employees on large private farms.

Every villager has a stake in the land sustainability. The era when it was men's exclusive responsibility to initiate or spearhead development has passed. In Goviefe-Agodome the natural resources, be they rivers, soils or trees, are managed by all.

The DWM was established primarily to promote women's interests. Its objective was to raise women's political consciousness and ensure their participation in decision-making at all levels. It deplores women being sidelined and advocates that women be at the "war front" with men. While admitting that women have some traditional family roles, it strongly rejects the "unjustifiable built-in gender roles" which relegate women to the background or to kitchen. The DWM, which has branches all over Ghana, has

political support and receives financial and technical assistance from a number of donor agencies. The Head of State's wife is the DWM life president. Any woman can join by completing the membership registration form.⁴

Through various meetings, workshops and seminars, the DWM has raised members' level of awareness, particularly in the rural areas. In most rural communities women are at the forefront of socio-economic development. Many have taken up leadership roles and participate in community decision-making. All leaders are democratically elected annually, based on their charisma, inspirational qualities, decisiveness and ability to mobilize and work hard for the community's success. Since 1990, the Goviefe-Agodome mobisquad president has been a trained woman teacher, she is also the local DWM president.

The Goviefe-Agodome women do not really identify themselves with the mobisquad activities but have come to realize that they are equal, and not inferior to men. Apart from the president being a woman, women serve in all the sub-committees. The DWM has, therefore, provided a high level of inspiration to the Goviefe-Agodome women in terms of participation in natural resources management

In Goviefe-Agodome, most land is used primarily to support agricultural economic activities. Shifting cultivation is the most common practice. Most farms are located in the highlands, where subsistence crops, such as maize and cassava, are grown. In the lowlands, cassava is planted with some maize and vegetables. Communal agroforestry/cassava and cotton farms, being the most important cash crops, are in the lowland areas. A few small oil palm plantations serve as grazing grounds.

At the beginning of the 1980s, pressure on the natural resources base was evident in many ways. Farm holdings became fragmented; fallow periods were shortened; and cropping periods were extended. Due to the excessive deforestation, soil erosion and water run-off increased and crop yields declined. As a result, the lowlands community can only plant such cassava and maize as can tolerate lower rainfall and poorer soils. Yams, cocoyams and plantain can no longer do well because the flatlands and foothills have been invaded by secondary forest and savannah grassland.

Environmental conditions pose significant challenges, and decades of neglect have had an impact on women's daily lives; they now have to glean food, fuel and water from the environment. Many elders, particularly women who grew up in Goviefe-Agodome, remember the first signs of significant soil loss and land degradation in the 1970s, when they watched gullies enlarge and the nearby stream dry up and, consequently, water table disrupted. In the survey, more than 85 per cent of the households indicated that soil erosion had increased in the last ten years. All household respondents linked

soil and water conservation to food production. They all agreed that, without resource management, agricultural yields will continue to diminish and aggravate poverty. Women's participation in Goviefe-Agodome resource management practices was, therefore, born out of the request to meet the basic community needs.

Food crop farming is the main income-generating activity. The main crops grown are also the community's staple foods and every farmer knows how to cultivate these because the methods have been handed down from generation to generation. Similarly, tree planting and management are known, although not as widespread. Goviefe-Agodome farmers have always planted and tended tree crops, primarily fruit and nut trees, and have sometimes nurtured indigenous trees, especially for fuelwood, medicines and building materials.⁵ In addition, to encourage rapid re-growth during the fallow periods of their shifting cultivation system, farmers often leave certain trees standing on the farm and sometimes transplant seedlings to the fallow field or strategically position farms next to forestland to facilitate the forest vegetation's natural seed dispersal.

The village tree culture can also be traced to the Germans who occupied part of Ghana's Volta region from the 1870s to the end of the First World War. They began tree planting and actively involved the rural communities throughout the area under their jurisdiction. This influenced the Goviefe-Agodome people. After the First World War, the British also encouraged tree planting through educational campaigns and some extension services; many ornamental shade and fruit trees were planted in Goviefe-Agodome. With these developments, the tree culture became part and parcel of the community's socio-cultural life. Every house has a tree or two for shade, fruit or windbreak. Women are responsible for maintaining these trees. Goviefe-Agodome is uniquely under man-made forest. Tree planting knowledge, the love of trees and the maintenance and general sustainability, though not formally taught, are deeply ingrained in their life. Therefore, there were no arguments against rehabilitating the degraded lands through agroforestry, and women spearheaded the activities.

Despite the long familiarity with trees, modern tree planting efforts differ in species, maintenance and use. Species which grow very fast and are widely planted require new knowledge. Women would not actively participate in the environmental rehabilitation exercise without the mobisquad establishing a seed nursery to provide for the increased needs of seedlings. The Forestry Department's nursery in Hohoe, 70 kilometres away, supplied additional seedlings free of charge to the community. Some local farmers were already familiar with the basic nursery technologies because, as far back as the 1970s, some households had nurseries for private coffee/cocoa farms,

and women traditionally developed nurseries for their vegetable gardens. However, the establishment of the seed nursery encouraged everyone to plant trees. Women were no longer responsible for raising seedlings, but rather participated in planting. Seedlings were now available, accessible and free. Technical back-up services were provided by the Forestry Department, and planting became easier since the seedling supply was reliable.

Policy recommendations and guidelines

For the last 30 years, the symbiotic relationship between the Goviefe-Agodome community and its immediate environment has changed drastically due to recurring drought, bush fires, deforestation, soil erosion and the excessive population growth. The ecological equilibrium which has sustained the community has been broken by natural and human factors. Families can no longer trust their immediate environment to supply all their basic needs.

The period when women could supply adequate food, have a fair amount of leisure and carry out modest work for the day has been replaced with the ceaseless travails and suffering. Before the mobisquad advent the Goviefe-Agodome women's role as family food producers and household resources managers and providers of the welfare services of children were in question. Apart from the queen mother, women rarely took part in decision-making; nor were they formally recognized as partners in development. Men and women only appeared to live together in a non-exploitative manner; but men had maximum influence over land, property and income disbursements affecting the family.

Two major problems facing community women were the growing ecological degradation and the traditional power structures which subordinated women. With changes in Ghana's political and economic structures since 1981, women have been motivated to assume leadership roles in local socio-economic development. Through the DWM and mobisquad activities, awareness has been created.

Major lessons have been learned from the Goviefe-Agodome case study. Women can be encouraged to involve themselves in agroforestry or "socio-forestry" through education and political backing. Secondly, women can easily assert themselves through a popular non-governmental organization; the DWM and the mobisquad have been great emancipation channels for the Goviefe-Agodome women. Regressive socio-cultural regulations could be reviewed and overthrown through women's collective efforts.

Even though the women had profound knowledge of plants, animals and the ecological processes around them, they were restricted from playing any

leadership roles in environmental management due to male chauvinism and female subordination. However, men have come to recognize the need for women and men to work as equals. They can live together in a non-exploitative manner. However, men continue to have a maximum influence over decisions affecting family land, property and income. The father is the overall authority. Both parents guide the children, but the father has the final say. Keeping women in traditional roles, with little education, weakens their self-confidence and their ability to compete viably with the men. Along with this, women experience frustrations in land development due to the tenure system, which gives ownership and control to men. Although women do most of the farm work and make day-to-day decisions on how to provide for the family, the long-term and more important decisions are made by men.

The case study shows that any policy that seeks to motivate or mobilize women to participate in the management of the natural resources on a sustainable basis should:

- enhance women's productive capacity through reorientation of agricultural policies and programmes to increase women's economic productivity;
- reduce the burden imposed on women by their traditional role as food, fuel and water providers for the household;
- increase women's participation in decision-making;
- pay special attention to women's health needs and nutritional status in accordance with their workload;
- empower women by focusing on the social framework and other issues which cause marginalization;
- enact legislation that is gender-blind and insensitive to women's needs;
- expand women's educational opportunities by ensuring that young girls complete their primary education; and
- introduce non-formal education and literacy programmes to promote self-help activities.

Goviefe-Agodome is a traditionally-rooted community with well-defined age-old gender roles. These are entrenched in its socio-economic life. Even though women are indispensable in all activities, they were never given due recognition until the DWM and the mobisquad came into being. Now, some of the regressive traditions which relegate women to the background have been abandoned. The Goviefe-Agodome women are not fully politically

conscious, but they appear to know their rights and responsibilities. They contest leadership positions on a competitive basis in response to the government call that women participate in all activities. If the current education programmes aimed at raising women's political consciousness, environmental awareness and literacy levels are sustained, an increasing number would take up leadership roles in the management of natural resources in all of Ghana's communities.

Notes

1. Mrs Edith Hazel of the 31st December Women's Movement of Ghana is thanked for her assistance as resource person in the fieldwork.
2. Dorm-Adzobu *et al.*, 1991a.
3. NMP, 1983.
4. NMP, 1985.
5. Dorm-Adzobu *et al.*, 1991a.

3

Resource conservation in Oboto, Nigeria

D.U.U. OKALI AND F.O. AMUBODE

For the past ten years, the Nigerian Government has taken a series of actions to reverse the increasing environmental degradation and loss of natural resources. Significant among them, in 1988, it endorsed the National Conservation Strategy, in 1989 set up the Federal Protection Agency and the National Resources Conservation Council, and in 1991 promulgated the National Parks Decree. Prior to this period, the most significant conservation action was the establishment of forest and game reserves and forestry services to manage the reserves. An economic decline since the 1980s has denied the forestry service the necessary funds to manage the reserve effectively. Moreover, a burgeoning population and rising demands have increased pressure on environmental resources. The overall effect was general degradation and loss of natural resources now being redressed.

The new institutions are formulating appropriate policies for sustainable resource management. Similarly, the forestry service is implementing the Tropical Forestry Action Programme through extensive studies to help lay down the right policies for conserving forest resources. An emerging common trend is an increasing interest in decentralizing natural resource management to the community level, a lesson from experience in other parts of Africa, such as the successful involvement of local villagers in rehabilitating degraded land in Tanzania's East Usambara Mountains and game management initiatives in Zambia (ADMADE) and Zimbabwe (CAMPFIRE).¹

If natural resource management and conservation are increasingly involving local people, an understanding of the traditional attitudes and practices is

vital in enlisting local participation. Traditionally local communities have successfully conserved natural resources of interest to them. Lessons from their practices can help in designing approaches to natural resource conservation. An example of such practice is described in a study of the Oboto community of Nigeria's Ondo State.² It re-examines the Oboto community to elucidate gender-based divisions that might exist in community natural resource management. Better understanding of the traditional roles and competing local interests should help in designing effective approaches to community participation in natural resource management. The interest in gender issues stems from the well-known differences in involvement and perspectives between men and women in environmental resource management. Several reports stress that in the Third World's subsistence economies, women are the acknowledged experts in using and managing trees and other forest products.³

Studies on women, in general, and on African ones in particular, demonstrate the importance of women acting not simply as passive breeders but effectively as economic agents (particularly in farming and trading), active in creating new developments and in resisting oppression. Women's role in Africa has raised questions about whether the colonial experience and the development of capitalism and "modernization" in Africa were really beneficial. For most African women, these processes have frequently meant increasing economic dependency, diminishing access to resources and poorer status and security. Since women are marginalized, they cannot make a full contribution to progress towards social and environmental goals, such as preserving biodiversity and protecting forests for their role in maintaining water cycles. On the other hand, women's multiple roles can be exploited to enhance resource conservation.

Although women are a sizeable group in the Oboto community, their economic autonomy, their access to resource and benefits, and their status, security and specific roles in environmental management were not specifically addressed in their earlier study to clarify the roles of women and men in terms of access to and control of inputs and benefits in resource conservation and of identifying what determines the patterns observed. They did not identify the gender-related constraints and opportunities for effective biodiversity management or explore the policy implications of their findings.

Present study⁴

Before the revisit to the Oboto community, published and unpublished information on Oboto was assembled. The two groups then visited villages around Oboto to garner further information. The preliminary information

formed the basis for preparing the structured questionnaire used in the main study.

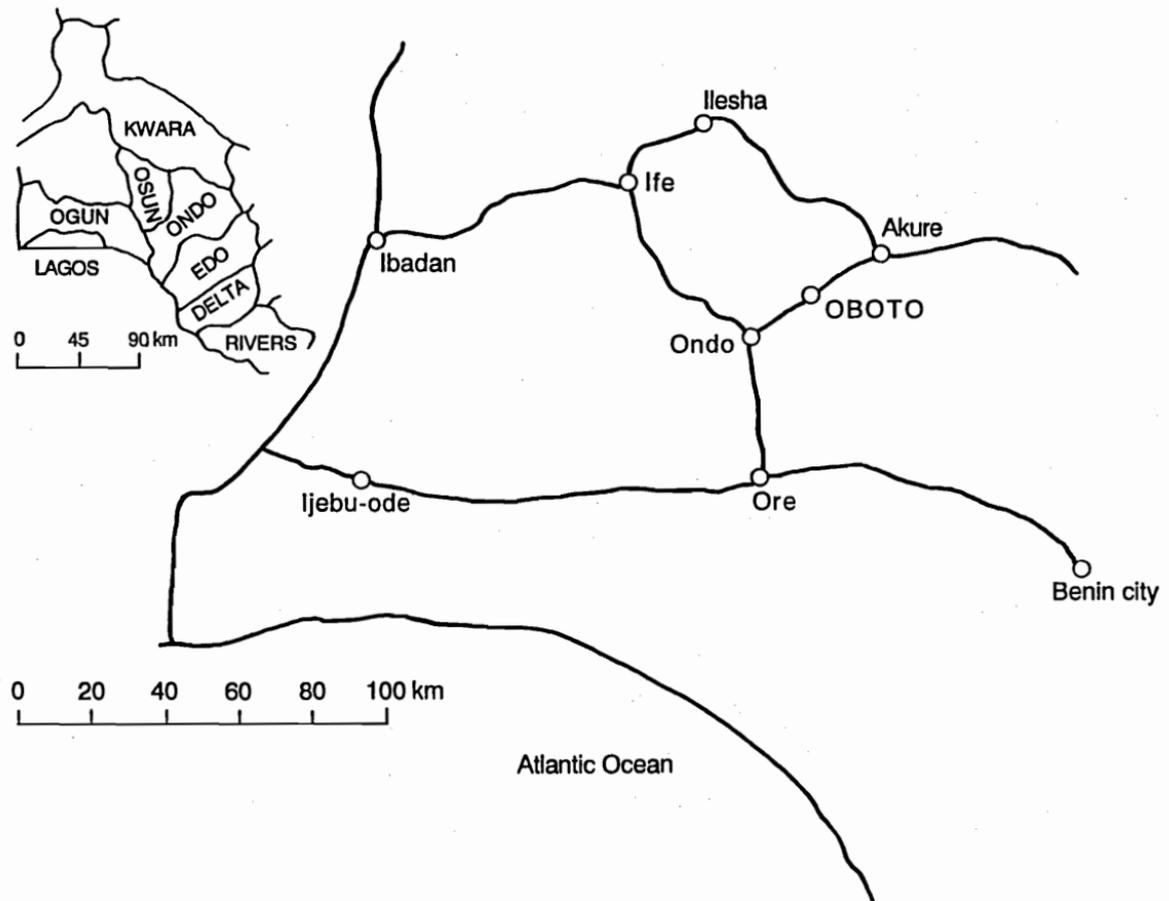
The main fieldwork was done from January 14 to 18, 1993, by three resource persons: a gender specialist, a rural sociologist and a resource conservation specialist. This study began with a courtesy call on the chief, the *oloja*, to brief him on the need for documenting information on gender roles in natural resource conservation and to enlist his support. A public awareness drive was then undertaken to the accompaniment of a tambourine throughout the community to put the members in a relaxed mood before group discussions. The members were then invited in groups to sessions with the study team. Groups distinguished for this purpose were men, women, a combination of men and women, youth, and custodians of tradition.

The seasonal calendar technique of participatory rural appraisal (PRA) was used for the interview proper. Five meetings were scheduled in which the gender specialist led discussions with a structured questionnaire for reference. Other resource persons recorded answers, explanations and reactions. Efforts were made to identify the time of year when the activities mentioned were carried out.

The meeting with each group lasted about five hours. The combination of men and women, on the third day, was used to verify earlier information. It was instructive to witness information from one group being contested by the other. All the divergent opinions were recorded, and the resource team emphasized what it judged to be the most probable position. Then the *oloja* and his wives were interviewed, shedding more light on women's roles and constraints in resource conservation. The information gathered from group meetings and individual discussions was collated by the resource persons, with particular attention given to division of labour, labour profile, access to and control of inputs and benefits, and constraints facing women. Both qualitative and quantitative data were analyzed manually.

Oboto lies well within Nigeria's moist lowland forest zone, where the annual rainfall is 2,000mm, distributed over a long wet season (mid-March to July) and a short wet season (September–October). The intervening periods are dry, with November to mid-March being the long harmattan season. Oboto is in the rural periphery of the Ondo Local Government Area, about 195 kilometres north-east of Lagos and about 10 kilometres along the Ondo-Akure road (Figure 2).

Figure 2 Map of Nigeria



The custodians of traditional and archival records testify that the community was founded by Prince Logbemiwa around 1780. The pioneers were Ondo natives who specialized in food production, especially palm-oil, and began to settle in farm houses. The number of farms increased as more people took up food crop production for livelihood and the settlement gradually grew, becoming permanent around 1890. As a farm settlement, Oboto attracted many former World War servicemen anxious to return to the land for livelihood. The influx of new migrants after 1945 and their impact on resources may have contributed to the revival of traditional conservation practices. Today many inhabitants have another home, the primary home, in Oboto town.

Around 1910, timber was extracted from the community forest to build the *oba's* palace in Ondo. This opened up the forest wealth to the colonial masters and a booming forest exploitation, especially for timber and industry and resulted in massive felling of the primary forests. The destruction encouraged more shifting cultivation until cocoa production was introduced to the community around 1939. Cocoa and kolanut farms gradually replaced the primary forests. Feeder roads were opened to enable timber merchants to intensify forest exploitation, thus aggravating the stream and river conditions and destroying wildlife habitat.

It took a long time before the community woke up to these destructive realities. According to the custodians of tradition, the traditional healing practices decreased as the sources of medicinal plants disappeared. Epidemics became rampant. Streams and rivers silted up, causing severe water scarcities during the dry season. Food shortages forced Oboto people to travel long distances to buy some. Equally serious, Oboto people's traditional annual homage to the *oba* of Ondo to supply timber for roofing or repairing his palace could no longer be performed. There was a series of traffic accidents at a bridge on the Ondo-Akure road over the Odo-Orisa stream because it had silted up. Venison became scarce, aggravating the protein deficiency.

All these calamities awakened the community to the folly of uncontrolled destruction of the natural environment and the abandonment of the traditional relations with it. Consequently, in 1945 the *baale* of Oboto, Prince Adebusuyi, revived the traditional taboos and forms of worship. The *baale* and other custodians of tradition consulted the oracles to proffer remedies. Eventually three forest reserves were set aside for effective protection.

First, the area surrounding Prince Logbemiwa's grave was named *Igbo-Itamafo* and all the Oboto gods were deposited there to be worshipped. Today, the most sacred community forest is *Igbo-Itamafo*, which the custodians of tradition, the traditional medicinemen and the traditional chiefs enter once a year, during an annual festival (*odunmoko*) in November. *Igbo-*

Itamafo is the main plant reservoir for traditional medicine, about five hectares in area. Another area, Igbo-Orisa, around the partly silted main stream through the community's Odo-Orisa land, was set aside as a burial ground for motor accident victims, especially those killed on the Odo-Orisa bridge and those who died "mysteriously"—from small pox, lightning, pregnancy or unknown diseases. The Odo-Orisa flows past the farmhouses.

The forest lining the stream is on average 200 metres wide on either side of the stream, and the conservation length is about two kilometres. A third forest, the Orisagogoro, was set aside primarily because of its rough terrain and the difficulty of working it with traditional farm implements during shifting cultivation. It constitutes the boundary between the Oboto and the Ie-Oluji communities.

The Orisagogoro forest is part of a more extensive area, perhaps a wildlife migration corridor between the Aponmu and the Oluwa forest reserves. Bye-laws were passed forbidding entry into the three special areas except at specific times.

All the areas were further protected by continuous public announcements of certain evils befalling those contravening the bye-laws. Today the community is a mixture of traditional forest reserves, cocoa and kolanut farms, arable farmlands and residential structures.

The three forest reserves, which are representative areas of the lowland tropical rain forest set aside and developed for their traditional community benefits, are the main focus of this study. The main features are summarized in Table 1.

Table 1 Features of traditional forests in Oboto, Nigeria

Features	Orisagogoro	Igbo-Orisa	Igbo-Itamafo
Area	>900 ha	ca 100 ha	ca 5 ha
Location	Oboto north-east	Oboto central	Oboto west
Terrain	ruddged and highly undulating	sloping gently	flat
Altitude	ca 340 metres	ca 140 metres	ca 140 metres
Soil	sandy	loamy	loamy
Annual rainfall	1,800mm	1,800mm	1,800mm
Forest type	secondary	secondary	secondary
Fauna	bushbuck, duiker, mona-monkey, porcupine, red-river hog, tree hyrax, grasscutter		
Population size of culled wildlife	<10%		

Survey results

Twenty people participated in the male group, 22 in the female group, 36 in the combined group, 40 of both sexes among the youth and ten custodians of tradition, the ages ranging from 24 to 65 years for the men, 26–60 for the women, 35–70 for the combined group, 6–12 for the youth and 48–61 for the custodians of tradition. About 84 per cent of the men were Christians, primarily farmers, and secondarily hunters, blacksmiths or traditional healers. As many as 70 per cent of the men had formal primary education, while 10 per cent had secondary education. The group's family size ranged from four to 11, with a mean sex ratio of two males to three females. The women practised the same religion as their husbands. Thus about 82 per cent were Christians, 13.5 per cent Muslims and 4.5 per cent traditionalists. Until recently, the religious distinctions appeared to have no influence on the socio-economic status, observance of tradition or the natural resource management. Nowadays, however, some charismatic and militant Christians and Muslims increasingly question restriction from such sacred forests as Igbo-Itamafo or Orisagogoro. This might in future weaken resource conservation in these forests. Only 45 per cent of the women had formal primary education, while nine per cent had secondary education. As many as 70 per cent of the women farmed as a primary occupation. The rest were petty traders, food vendors or full-time housewives. The family sizes ranged from four to 13, with a mean sex ratio of two males to three females.

Two elders in the combined group were produce buyers, and Christians, with a family of six, each monogamous. The youth largely took their parents' religion. All were in primary school, aspiring to attain higher education. The custodians of tradition were specialized, but with no formal education. They were all farmers, the second occupation being custodians of tradition. Members of the group have lived all their lives in the community and are considered very knowledgeable about its traditions.

The *baale* is the head and represents the interests of the *oba* of Ondo, to whom Oboto owes allegiance. Very recently, the *baale* was upgraded to a titled chief (*oloja*) and the incumbent is chosen from among male descendants of the community founder, Prince Logbemiwa. Female members of the ruling house may function only as regents. Immediately under the *baale* are the traditional chiefs, usually selected from the elders irrespective of their sex. The ranks immediately below the traditional chiefs were, however, all male. The ranks immediately below the traditional chief are the custodians of tradition, mostly herbalists and responsible for rituals during traditional festivals or pestilence. The rituals in Odo-Orisa are led by women.

Generally, there are five annual festivals. Orisa-Lerinla is the goddess of children, worshipped annually around July in Odo-Orisa, when barren women are brought before the goddess and a special appeal made. Those afflicted with disease come forward to be cleansed of their iniquities. The festival provides a forum for stock-taking and rededication to doing good. At the end of the festival, a cow is slaughtered for the goddess. This is followed by a pageant, and some pleasantries are exchanged among the friends, relatives and custodians of tradition. This is the only festival led by women in the Oboto community; it emphasizes the need to conserve the Odo-Orisa stream. The Igbo-Orisa bordering the stream is protected as a watershed, and fishing is prohibited, all to ensure the stream does not dry up from siltation and that water is clean for domestic use.

The custodians of traditions are also responsible for invoking evil spirits against those who contravene taboos and bye-laws. They are consulted to explain all mysterious events in the community. At the lowest rung of the Oboto structure are the specialized men or women farmers, hunters, and freewill or tenant farmers. Freewill people are single men and women, not tied down by family responsibilities, while tenant farmers are usually migrants from other communities. Women may be specialized, freewill or tenant farmers.

Oboto women belong to such societies as a co-operative consumers association and *Agbe* (a women's self-help group). *Agbe* membership is open to all women, irrespective of socio-economic status or religion. The group meets once a month and members pay a small mandatory contribution. The monthly collection is loaned to members in difficulty at 10 per cent interest per annum. At the annual general meeting in December, members repay their loans and the accumulated money, together with the interests, is shared among members. The *Agbe* provides capital credits to women, which enhances their economic status. This gives women a measure of independence and a greater voice in decisions affecting natural resource conservation. Credit may enable a woman to acquire the necessary utensils and equipment for using such alternatives to fuelwood as kerosene, thereby reducing the pressure on forests for firewood.

The Oboto community practises the bush-fallow/planned rotation system typical of Nigeria's forest zone. The forest, nowadays usually secondary, is cleared and the trash burnt (except on newly opened farms). The land is cultivated with light implements to make ridges or earth mounds. Crops are sown, tended and weeded before harvesting. The land is allowed to lie fallow for a number of years before cropping again. Crops include cocoa, kolanut, cashew, mango, oil-palm, cassava, yam, maize, cocoyam and vegetables. The average farm holdings per family are six hectares for cash crops and two for arable crops.

There are five major labour categories: family, child, hired, community and institutionally arranged. Family labour includes adult males and females, youth and children. Youth and child labour, sometimes collectively referred to simply as child labour, is most useful during weekends when schools close. The disaggregation of family labour is summarized in Table 2. Women devote up to 80 per cent of their daily activities to providing labour for both reproductive and productive activities. Men, on the other hand, spend about 60 per cent of their time providing mainly productive labour. Women are busy for 14 hours each day. The youth spend about 50 per cent of their time on school work, 20 per cent helping their mothers and five to ten per cent on productive labour for both parents. Hawking is almost exclusively done by children.

Table 2 Disaggregation of family labour by gender and age in Oboto, Nigeria

Types of labour	F adult	M adult	F youth	M youth	F child	M child
A. Household						
Fetching water	+	-	+	+	+	+
Firewood gathering	+	-	+	+	-	-
Cooking	+	-	+	+	-	-
Washing clothes	+	+	+	+	-	-
Washing dishes	-	-	+	+	+	+
Child minding	+	-	+	-	+	+
Mending and making clothes	+	-	+	+	-	-
Grinding cassava and veg.	+	-	+	+	+	+
Hawking	-	-	+	+	+	+
B. Others						
Land prep.	-	+	-	+	-	-
Sowing	+	+	+	+	-	-
Weeding	+	-	+	+	-	-
Harvesting						
cocoa	+	+	+	+	+	+
kolanut	+	-	+	+	+	+
pepper	+	-	+	+	+	+
pineapple	+	+	+	+	-	-
vegetables	+	+	+	+	-	-
yam	-	+	-	+	-	-
Selling						
cash crops	-	+	-	-	-	-
food crops	+	-	-	-	-	-
bush meat	+	-	-	-	-	-
farm impl.	+	-	-	-	-	-
Trad. healing	+	+	+	+	+	+
Manufacture of impl.	-	+	-	+	-	-

Hired labour is used to clear land, make ridges or heaps, weed and harvest, particularly cash crops such as cocoa. Men are usually hired to clear land, ridge or make heaps, weed or harvest farm crops, while women are hired to weed, gather and ferry harvested produce to designated processing

areas on the farm. Both men and women may be hired to process crops such as cocoa. The division of labour assumes that such work as land clearing and cultivation are not only hazardous but tedious and can be most safely and profitably undertaken by men. On the other hand, the invocation of the tradition and local belief that ill luck will befall men who perform tasks reserved for women only serves to maintain the *status quo* and load women with less pleasant tasks. The source of the labour force is the pool of freewill and tenant farmers. Labour is paid on a unit basis. The specialized female farmers rely heavily on hired labour; for they cannot mobilize as much family or institutional labour as the men can. The numbers and sexes of hired labourers are influenced by season. More men than women are available during the wet season, and vice-versa when it is dry. When a family's farm holdings are over six hectares and the members cannot cope with some of the productive work, labour is hired to reduce the burden on both sexes. Although the man hires the labour in most cases, the woman has liberty to do so, either on behalf of the family or to do her own productive work. Labour is sometimes used on a co-operative basis; a number of families pool their hands to work in turns on their farms. Community members are occasionally summoned by the *oloja* to repair community property, such as a town hall, a maternity home, roads and other common facilities. Men, youth and middle-aged women usually do such community labour. The traditional chiefs and the *oloja* decide the work to be undertaken, usually during the rainy season. Men are active participants in the community work, while women provide support services, in accordance with the division of labour. Community work usually includes road repair and maintenance, construction and repairs to buildings or culverts and land clearing. These are tasks traditionally allocated to men. Women contribute by fetching water, sand or stones, and by providing food for the workers.

Institutionally arranged labour falls into two categories. In a traditional practice called *owe*, the son-in-law gets his friends to work on his father-in-law's-farm. The workers receive food in lieu of cash. The other type of institutional labour is practised by bachelor or male tenant farmers, who work collectively by taking turns on members' farms. Not being married, this group obviously cannot mobilize family labour and are not economically strong enough to hire labour.

Gathering firewood and medicinal plants is closely related to farming in Oboto. Firewood is collected mainly by youth and their mothers. It is taboo for men to carry firewood. Children and women collect snails and mushrooms when these are in season, but men may also pick up snails when clearing forest for farming. Snail gathering is enhanced by planting *Sanseveria trifasciata*, done mostly by men. *Sanseveria* is planted by men primarily for this purpose.

Medicinal plants are protected when found on farms. They can then be collected by anyone in need. Collection from the sacred grove forest, Igbo-Itamafo, is prohibited except in war or during the Odunmoko festival. Knowledge and use of medicinal plants are secrets handed down through a complicated process of apprenticeship accompanied by rituals. Family members are usually favoured in selecting apprentices, and there is no gender discrimination. Training in traditional medicine is open to any who display the aptitude, but elderly people are particularly favoured.

Hunting is another major occupation in Oboto; mainly in the reserved forest of Orisagogoro. While men do the hunting, women process (mainly by smoking) and market the meat. Fishing is most active during the dry season, mainly by youth. Hunting and fishing are the primary sources of protein, which is not readily available or affordable in Oboto. Specialized hunters also earn cash from their quarry during the open season.

Practices, adaptations and gender mix

Certain gender-biased practices and adaptations in Oboto are relevant for understanding gender roles in resource conservation. The natural resources include soil, water, fish, terrestrial fauna, forest trees and medicinal herbs. The application of indigenous knowledge in conserving these resources is led by men so that the traditional decision-making process is dominated by them. The fundamental communal step to promote natural resource conservation is to allocate land for various uses. Thus the "sacred" forests of Igbo-Itamafo, Igbo-Orisa and Orisagogoro, respectively set aside primarily for medicinal herbs, watershed preservation and hunting, are strategically located where they make the most ecological sense. Farming land is similarly recognized. The community body doing the allocation is dominated by men. Male dominance in farming, traditional healing and hunting is also evident.

Indigenous knowledge

Farming is the predominant occupation of both men and women in Oboto. As is common in Nigeria's forest regions, crop farming is the dominant activity, about 70 per cent of it devoted to cocoa, kolanut and oil palm as cash crops, dominated by men; the rest goes to food crops, dominated by women.

Mixed cropping involving yam, cassava, maize, pepper and vegetables is common for the food crops until they close the canopy. Land preparation, including forest clearance and tilling, is a male task. The major soil fertility conservation method is fallowing. In addition to this, ash from burnt forest clearing is broadcast on the farmland before mounding or ridging. Up to this point, the farming application of indigenous knowledge and the contribution

this makes to conservation are dominated by men. In fact, when land is being prepared for farming, women are not allowed there until the first rains have soaked the ashes. Thereafter, women take food to their husbands on the farms and collect household fuelwood. Banning women from farms under preparation prevent them from "contaminating the land and driving away good yields."

Male dominance in the application of indigenous knowledge to enhance conservation is evident in the practice of cash crop farmers filling open spaces with food crops. This serves the dual purpose of covering the land against erosion and augmenting food crop production. Oboto has learnt from experience that the cocoa, kola-nut or oil palm monoculture leads to acute food shortages. The very practice of growing trees as cash crops and allowing some trees to stand during land preparation for food cropping helps conserve the soil structure and the water-holding capacity.

Land ownership

The main farming input is land, which is controlled by men. Apart from areas set aside for settlement and conservation, ownership is mainly inherited. Throughout Nigeria inheritance is "controlled" by the Land Use Act 1978, which provides for a gradual transition from traditional practices.

Although women are not excluded from inheriting land, theirs is the exception rather than the rule. Women may inherit land but this does not erode men's authority. There are instances when men use land inherited by their wives for farming. Land may also be transferred by mortgage or sale, particularly cash crop plantations or farms. Irrespective of family ownership, the head of the family can mortgage or sell the land to raise funds for the family. Ownership of such land automatically transfers to the mortgage owner or purchaser, notwithstanding the original ownership. As a rule, purchasers legalize their property by obtaining a certificate of occupancy from the state government. This brings the land under the Land Use Act.

Most women work on their own farms and on land allocated to them by their husbands. The latter practice is to enable the woman to discharge her responsibility of feeding the family.

Men also cut forests for farming. This means that they are more likely than women to encounter useful plants that may have regrown in the fallow forest and which may require protection or preservation. Certainly, desirable trees are preserved and the seedlings marked out for protection when forests are cleared. It is not uncommon for men to return from cutting work with collections of wild plants, such as fruits, edible leaves, chewing sticks or medicinal plants. In this way men play a special role in keeping communal memories alive of plants that might have become uncommon in cultivated areas.

Traditional healing and wildlife hunting

The traditional village healers—who are men—receive most of their clients every workday evening and throughout the day during the weekend. The healers select the required herbs while the wives carry out the pre-preparation (charring, grinding, mixing) work before the final preparation by men. Where animals (goats, chicken, snails, tortoises) are to be slaughtered, men do the killing, while the youth do the processing and women the cooking. The pre-preparation enhances their familiarity with, and ability to preserve, medicinal plants when weeding.

Hunting is men's work, done during the dry season (October–March) which is declared the open season. It takes place mainly, but not exclusively, in the reserved forest (Orisagogoro). Bushbuck, duiker, squirrels, giant rat and bush pig are the main quarry. The hunter's wife processes it by smoking for domestic consumption or sale, mostly to urban consumers. There are also processing centres where groups of women smoke venison for wholesalers and to retail. The practice of disposing of kills openly in collection centres and of women processing the kills, in some way, deters hunters from contravening hunting regulations, and underlines an additional way by which women contribute to wildlife conservation. The main regulations are against off-season hunting, killing immature or pregnant animals and control of bag size.

Resources

The distribution of tools—cutlasses, hoes, knives, mattocks and shears—also reflects a gender bias. Men provide them to the entire household. Even when a woman has become semi-independent, with control over purchased land, the man still provides the tools to be used by hired labourers. But this information was contested in the interview with the men and women combined. Whereas the male group claimed men were solely responsible for providing tools, up to 50 per cent of the women in the combined group challenged this, maintaining that tools are provided by the whole family, since it is financed from selling the family's crops.

The government agricultural services unit in Ondo town is consulted for seeds, nursery plants, fertilizers and pesticides. The husband and wife jointly decide on the family requirements for these inputs. The estimation is based on experience. The main defrays the cost of inputs from selling the previous year's cash crops, notably cocoa. The actual purchase can be done by a man or a woman. A consumer co-operative society has been formed to purchase

in bulk Oboto's agricultural input requirements. The society's executive committee is composed of four men and one woman.

The aggregate of what is realized from selling farm produce is the family's income, supervised by the man. However, it is accepted that proceeds from kolanut, pepper, okra, tomato and pineapples belong exclusively to women. Women can also add to the essential household purchase from the proceeds from other food crops without prior discussions with the men. Unspent cash is, however, returned to the man. Income from cocoa is considered the main family income. From it the man buys agricultural inputs, pays school fees and provides other family needs. The woman has no knowledge of how the remaining money is spent, but she is able to clothe herself and her children from selling the permitted produce from the land allocated to her. Heavy family expenditures—burial, naming or marriage ceremonies—are largely the responsibility of the man, whose task it is to mobilize the funds, by various means, including borrowing, mortgaging or selling property.

Men clearly play the leadership roles in managing household affairs connected with land use. Women are burdened with the responsibility of meeting the household needs. A good proportion of these needs are met by supplementing the conventional foods with products collected from the non-wild-non-timber forest products that yield foods. Women are more likely to know the plants yielding such supplements and protect them when they encounter them during farming. For example, many peppers, leafy vegetables and plant condiments naturally sprout on farms. Because they are useful food supplements, such sprouts are likely to be readily recognized and not weeded out. Even more important than the mere knowledge of wild plants is that women are well informed of their seasons, quality and locations. In this way, women probably make a greater contribution than men to conserve wild plants of culinary value.

Benefits

Both men and women have access to child labour, but men are in control; they determine whether youth should stay back to help with household chores or follow them to the farm. All family members have access to land, tools, seeds, chemicals, skills, farm produce, medicinal plants, bush meat and money. The use of resources and products is, however, controlled by men. This level of control makes it possible for them to derive more benefits than any other family member.

Determinants of emerging patterns

Several patterns emerge from the above information. Farming is the predominant economic land activity in Oboto. But each nuclear family has a cash-crop plantation and small farms for food. The economic base of a typical family is, therefore, small, forcing the community to eke out their living from nature's offerings. Secondly, the overall division of labour, access to and control of input resources and benefits from productive and reproductive labour are determined by custom, tradition and religious beliefs. All this places women at a disadvantage, making them subordinate and submissive. For instance, women devote 80 per cent of their time to reproductive and productive work; yet they have little control over the expenditure of money from selling of cash crops like cocoa. Women have a lower level of literacy. Their poorer educational background is a major contributor to their poorer economic status and subsistence mode of operation.

Women's educational and economic disadvantages, which tie them strongly to tradition, are held to favour renewable resource conservation in Oboto. But aspects of tradition, such as the taboo restricting women's entry into Igbo-Itamafo, thereby curtailing their participation as herbalists, do not allow women to play their full role in resource conservation.

Constraints in resource management

Oboto's effective management of flora and fauna is attributed to four core elements: a strong adherence to traditional village organization, with its clear chain of command and distribution duties; a high level of respect for the traditional law; increasing understanding of the local ecology and conditions, incorporating this understanding into local land use, game-hunting and conservation practices; and a high value attached to medicinal plants.⁵

Despite Oboto's apparent success, women face a number of constraints in resource management. Taboos, traditions and customs limit women's participation in the preservation of flora and fauna in Igbo-Itamafo. The reproductive burden takes a great deal of women's time, disabling them from participating fully in productive work and farm resource conservation. The family's weak economic base is another constraint. Inadequate funds for production inputs and general family care entails over-exploitation of resources like firewood, farmland, wild food plants and medicinal plants.

The land tenure system is based largely on traditional ownership, and in allocation men are favoured to women. Where women are allocated their patriarchal share of family land, the ownership often passes on to husbands.

Because farm holdings are small, patchy and scattered, much energy is expended on trekking between farms. Women slog long distances in search of firewood.

The community women complained that they had no access to formal agricultural training. Consequently, they lacked the skills and knowledge of improved agricultural technology. Although the men admitted that agricultural extension agents teach them new skills and technologies, they also said indigenous knowledge is preferred. True, skills and technologies for improved agricultural production can be extended to tending other non-crops or medicinal plants but the opportunities for improvement and conservation of useful wild plants could be diminished if men do not adopt them and women are not exposed to them.

Core elements in women's participation

For the Oboto community as a whole successful conservation of flora and fauna was attributed mainly to social organization, where distinct groups play recognizable roles; adherence to traditional institutions facilitated by the small community's size, which makes it possible to exert societal controls; and wide application of indigenous ecological knowledge to land-use. Profit and fame from using medicinal plants to heal members as well as outsiders must contribute something. Women's contribution to this effort must also be taken into account. The core elements of this contribution are the gender-based divisions typical of traditional Nigerian societies.⁶ In some cases the division limits women's contribution to the conservation effort; in others, adds to it.

The basic environmental framework to which Oboto people relate is the social organization. Leadership is firmly with men. It is true women may serve as regents, become traditional chiefs and be counted among the custodians of tradition; but they can never become the *baale*, the pinnacle of authority over the community; none is currently a traditional chief; of the custodians of tradition, only one is a woman. Women, including custodians of tradition, are excluded from entering the Igbo-Itamafo during the Odunmoko festival. The family head is the man.

If women are denied the opportunity to exercise a leadership role, their influence on decisions affecting land-use practices, and hence flora and fauna conservation, is correspondingly diminished. Consider, for example, a woman objecting to the conservation of a particular piece of forest because it is valuable to her for non-timber forest products. The objection would be readily ignored by the husband, insisting on expanding his cash-crop holdings. The existing arrangement, whereby women, even as custodians of

tradition or herbalists, are, in the name of tradition, excluded from entering the sacred forest, richest in medicinal plants, is sustained probably because of women's weak decision-making positions.

However, women had a greater influence in the traditional system than in the modern one in social governance because entry into the latter depends on the level of modern education, where women are far disadvantaged. Priority is given to males. There is the erroneous idea that formal education is incompatible with the woman's domestic responsibility. It is even assumed that early pregnancy prevents the female from successfully completing a professional career. Keeping the woman uneducated, however, ironically intensifies her adherence to tradition, which is believed to have contributed to Oboto's successful conservation activities. But education should increase their self-confidence and give them a greater voice in decision on matters concerning the community, including conservation of flora and fauna. The real fear is likely to be to upset the *status quo*, which would threaten men's leadership position.

Conservation of biodiversity is most closely related to land use practices and it is here that the differing roles of men and women can be seen. Even though women may inherit land, control in practice lies with men. However, this does not imply that women necessarily have less access to land to farm and contribute to flora and fauna conservation. In addition to operating as freewill, tenant or specialized farmers, women are allocated land on their husbands' farms. The earlier study⁷ estimated that 60 per cent of the women-foci were farmers as a primary occupation, suggesting that, through farming, more women than men are in contact with the land. This implies a greater opportunity for the women to interact with the land and to conserve useful wild plants. The division of labour excludes women from participating in forest clearance, which denies them the opportunity to encounter some fallow re-growth plants of potential value. However, they have a greater opportunity to discover the diversity of crop and non-crop plants. They encounter these during planting, tending, weeding and harvesting. Their awareness of useful plants is heightened by their dependence on these for supplementing conventional foods. Women are almost solely responsible for gathering food, even if men sometimes provide the money to buying some. Useful non-crop plants are frequently protected by weeding around them, staking them or tending them as conventional crops are managed.

Tying women to traditional submissiveness and denying them education serves to weaken their self-confidence and their ability to compete economically with men. The submissiveness and the "fear" to offend husbands are reflected in the readiness with which they concede land to their husbands. Even if they did not yield the land, they would hardly put it to cash-crop

production that might set them against their husbands. Only freewill or specialized farmers with a degree of independence might venture into competition with men. Submissiveness in the name of tradition explains why there are such few female herbalists. Only two are now in this most lucrative business. Even though farming does not deny women access to land, it limits their ability to acquire economic muscle. Being unable to control the family finances, and in the absence of ready credit facilities, women cannot hire labour or acquire other inputs. The low economic power diminishes the influence they can exert on community decisions, including on flora and fauna conservation.

It can be argued, however, that women, by readily submitting land to their husbands, increase the family holdings, thus reducing the necessity for men to pressurize the community leader into reserving part of the conserved forests for farming. It is suggested that women contribute indirectly to promoting the preservation of traditional healing practices and medicinal plants because women and children constitute the bulk of the clients of herbalists.

The need to preserve firewood may be a motivating factor for not burning trash on newly opened farms or for heaping before burning in other places. The extent to which women have influenced this practice is not known, but it reduces their burden in firewood collection. The availability of firewood in farm areas helps to minimize encroachment on reserved forests in search of firewood.

Women's household chores include fetching of water. The story has been told of how abuse of the catchment area of the stream that supplies water to the village once led to a severe water scarcity. Preserving the strip of forest on the banks of the Odo-Orisa as the Igbo-Orisa and the cult that protects this is, in fact, a direct result of that experience. It is significant that the Odo-Lerinla, the festival performed annually in honour of the stream's deity, is led and celebrated by women. Among the ailments believed to be relieved by supplication to deity is barrenness. There are also taboos against fishing in the stream. It is difficult to resist the inference that protection of a vital source of water, the most important for women's household chores, is the real rationale for this woman-led water conservation tradition.

Women's role in traditional resource conservation must include the part they play in passing on the traditions from generation to generation, largely through telling children moral-laden folk stories. The impacts of such stories are reinforced by the traditional festivals and rituals and by the enforcement of domestic discipline. Men do not feature predominantly in storytelling; child minding in general is traditionally a women's province.

Policy aspects

Owing to the short time allocated to this study, the conclusions must be considered tentative. The value of the work would have been greatly enhanced if we had made direct field observations and carried out time studies to verify the information gained from the interviews, especially on labour divisions and time allocation. A field study of farming operations could not have been carried out even if more time had been available; for the study was made during the dry, non-farming season. The findings, however, are consistent with well-known patterns of gender relationships in traditional Nigerian societies, particularly among the Yoruba.⁸

The examination of the Oboto gender issues draws lessons that can help to improve the design of policies for renewable resource management. The relevant Nigerian institutions are now making efforts to revise such policies, and attention is increasingly turning to options that decentralize management to the grassroots. The previous study made the point that conservation can be successful if grassroots interests are committed to the process because it gives them direct benefits.⁹ Tailoring policies to address the interests of specific groups requires knowledge of such interests and the factors affecting them. This study shows that women's interests are distinguishable from men's in practices that contribute to renewable resource conservation, and this difference should be taken into account when designing policies for communities like Oboto.

Oboto women's interests derive mainly from their roles as providers of household food, firewood, water and health-care for themselves and their children. They supplement conventional food items with non-timber forest products; firewood comes mainly from natural forest regrowth connected with farming activities; water comes from natural sources, whose maintenance depends strongly on proper watershed management; health-care relies heavily on medicinal plants, abundant mostly in natural forest conditions. Any conservation or natural resource management policy that seeks to enlist women's support must contain elements that facilitate their efforts at meeting these needs. In forestry development, this implies ensuring that sufficient natural vegetation is conserved as ready suppliers of these needs. The urge to till fast-growing exotics often leads to destruction of natural vegetation and its replacement with species of little relevance to women's needs. The experience from such developments has invariably been alienation of local interests and sometimes vandalization of expensively tended plantations. New policies seek to avoid such alienation.

The second finding with policy relevance is that Oboto women's contribution to biodiversity conservation can be constrained by their disadvan-

tagged community status. That women are disadvantaged is well known and is not peculiar to Oboto. It has been reported widely in Nigeria and other contexts.¹⁰ The issue here is that any conservation policy that fails to address the problem of gender equity will achieve only limited results. By denying women leadership opportunities in the social organization, by discouraging their education and by keeping them bound by tradition, society fails to allow women their full contribution to conservation. Any policy that raises the status of women helps to raise their economic power, self-confidence and voice in decision-making on conservation and other matters.

Actions that seek to give women greater power—free education for all children; credit facilities to give women greater freedom to access capital for farm inputs; income-generating activities; organizations that bring women together in self-help activities and help to increase their influence in society—all these should enhance women's status and their contribution to decision-making. In addition, there is a need to review or eliminate those traditional taboos and enjoinders that prevent women from expressing their full potential in natural resource conservation.

The major impediment is that changing the *status quo* with regard to women amounts to an assault on tradition, and is usually firmly resisted by men. It has been found in some situations that such resistance can be broken, by making the participation of women in decision-making a necessary condition for the offer and funding of a development project. This was the case in the implementation of an integrated rural development project, with the development of water resources forming the leading edge, in another part of Ondo state recently. The donors of the project insisted, and the communities agreed, that participation of women in decision-making was a necessary condition for offering the project. In this case all taboos against women joining in council with the men were set aside. Similar strategies may need to be adopted in introducing measures aimed at enhancing women's contribution to flora and fauna conservation.

Notes

1. WWF, 1990.
2. Okali and Amubode, 1991.
3. Guyer, 1986; Imam, 1990; Palmer, 1987; Jacobson, 1992.
4. The Nigerian Environmental Study/Action Team (NEST) thanks WRI for making it possible to document information, first on grassroots activities that enhance natural resource conservation in Oboto community, Ondo State, Nigeria, and second on the position of women in natural resource management practice in Oboto. NEST acknowledges also the co-operation and hospitality of the Oloja of Oboto, his traditional chiefs, custodians of

tradition and the entire cross-section of the Oboto community, who were very helpful in their discussions. The experience and understanding of Miss B. Mordi, the gender specialist, greatly facilitated the data collection exercise. Dr T. Ogunfiditimi and Dr F.O. Amubode provided the sociological and technical resource survey inputs, while Professor D.U.U. Okali and Dr F.O. Amubode contributed the conservation perspectives and prepared the draft report.

5. Okali and Amubode, 1991.
6. Imam *et al.*, 1985.
7. Okali and Amubode, 1991.
8. Imam *et al.*, 1985.
9. Okali and Amubode, 1991.
10. Imam *et al.*, 1985; Jacobson, 1992.

4

The Malshegu sacred grove, Ghana

CLEMENT DORM-ADZOBU AND
OKYEAME AMPADU-AGYEI

Historical background

A second WRI/EPC case study in Ghana focused on the traditional religious practices associated with Malshegu's Kpalevorgu sacred grove, six kilometres north of Tamale, the Northern Region's administrative capital. Generally known as the Malshegu sacred grove, this unique vegetation, about four hectares in size, has been preserved for over a century through strict adherence to traditional religious enjoinders. The grove is believed to be the revered abode of the Kpalevorgu fetish, the custodian of the Malshegu village. Traditional beliefs and practices handed down over five generations are still observed with total studiousness by the local people, a custom respected by the central government's development authorities. The case study, therefore, identifies the major elements of the traditional religious beliefs and practices constituting the basis for preserving the flora and fauna at the grove.

The present study

In traditional societies throughout Africa, women feature prominently in natural resource management. Specifically, women play a major and increasingly crucial role in managing soil, water, forest and energy resources. In

playing these traditional roles, they have gained knowledge of their environment. Women's involvement in natural resource management and the constraints they encounter in doing so should be central factors in sustainable development, the focus of the decision-making process. The study is based on data collected during a revisit to the Malshegu sacred grove and other relevant literature. It outlines the respective roles of men and women and emphasizes the constraints women face. The policy implications and recommendations are expected to help improve natural resources management at the grassroots level. The study aimed specifically at assessing men's and women's roles and needs concerning natural resource management; identifying core elements of success regarding women's participation; identifying key constraints and make recommendations on policy, research and practical action to overcome constraints and promote and support opportunities for successful natural resource management at the grassroots.

The original FGU case study series did not specifically include gender issues. However, women's role in all grassroots activities was prominent and received the treatment required in each study. The present study, however, is designed specifically to assess gender issues relating to sustainable development at the grassroots.

In addition to the EPC team which originally conducted the case studies, a 31st December Women's Movement gender specialist was recruited to gather a new team of three to revisit the Malshegu sacred grove. The team made a two-day visit to the village at the peak of the harmattan season, from January 2 to 3.

Relying on previous knowledge of the village and its key inhabitants in terms of their relationship with the fetish grove, the team initially contacted the village chief and elders, as custom demands. The chief's entourage was made up of five elders, including the spokesman/interpreter. The introductory remarks were brief, and since the female member, the gender specialist, was the only "unfamiliar face", she was introduced as the one to speak to her counterparts about their activities in connection with the grove. Since it is not customary for a woman to interact directly with the chief and elders, the men members of the team put the questions about developments related to the grove. After lively discussions, the chief allowed the female team member to talk to the traditional female custodian of the fetish and the grove.

The chief's spokesman is a brother to the female custodian and, therefore, acted as the interpreter. The team spent nearly three hours in an extremely fruitful session with the traditional fetish priestess. Much of the interaction was between the two women, and, although no formal questionnaire was issued, it was possible to record some of the vital new information provided by the priestess.

Inquiries focused on gender issues, such as social, religious, economic and other roles assigned to women, and the specific traditional roles played by the priestess and womenfolk in general. Although the brother gave direct interpretation, he provided additional information and explained certain points after the interview.

The main source of information on women's role in protecting the grove was the priestess and custodian of the grove. The three-member team later made a guided tour of the two settlements and the areas surrounding the grove, which looked very dry at that time of the year.

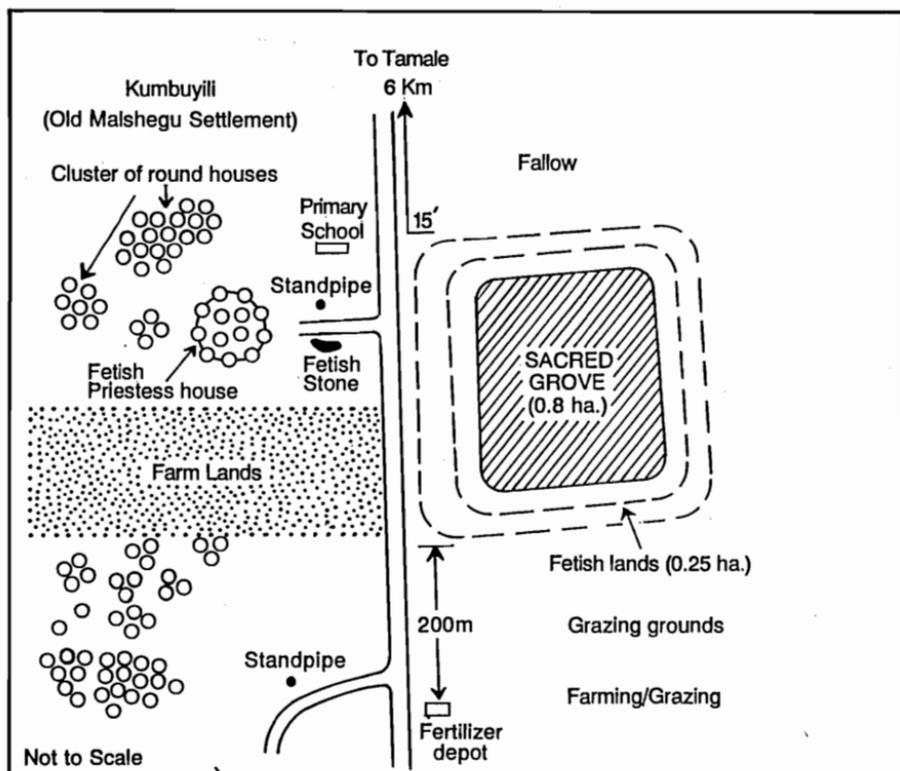
Malshegu village is six kilometres north of Tamale, the Northern Region's capital (Figure 1). The settlement is subdivided into two sections, Kumbuyili, the old settlement, and new Malshegu, both divided by open farmlands. Malshegu's structure is typical of the settlement pattern characteristic of northern Ghana's savannah ecological zone. It is made up of a number of straggling compound houses interspersed with compound farms (Figure 3). The village lies on the Tamale-Kumbungu road, a major road constructed in the 1930s to link the regional capital with its municipal water supply station at Kumbungu. The sacred grove lies along the motor road, directly opposite Kumbuyili.

The area is in the high savannah plains physiographic region.¹ The surface relief is characterized by flat to gently-rolling relief. The land's average elevation is about 300 metres above sea level. The rainfall range is 900–1,650mm, with an annual average of 1,070 mm.² There is one rainy season, from April/May to September/October. The wet season is followed by a long dry season influenced by the hot, dry and desiccating north-easterly harmattan winds, which originate from the Sahara and constitute one of the two prevailing air masses (the other being the moist south-westerly monsoons) which influence the local climate, in particular, and Ghana and West Africa as a whole. The area is subject to periodic droughts, for example in 1972–1973, 1976–1977 and 1982–1983, with devastating consequences to plant, animal and human life.

No surface rivers or streams flow through or near Malshegu, though some untapped shallow groundwater resources exist. The domestic water requirements are, therefore, provided from the Tamale supply station through public standpipes (see Figure 3). The soils are classified as savannah ochrosols, which developed over granitic rocks and recent and old alluvial formations. They are generally low in organic matter content usually below 2 per cent in the topsoil. This low nutrient status, the low and erratic rainfall regime and the annual burning of vegetation have rendered the soils unproductive. Sheet

and gully erosion is a constant threat due to overgrazing, improper agricultural practices, annual bush fires, the decreasing organic matter content and the occasional torrential rainfall. The vegetation is classified as Guinea savannah, which, in its extreme, is characterized by medium and tall grasses with a high density of trees. Centuries of human interference have reduced the quality of the natural vegetation to short perennial grasses interspersed with fire-resistant deciduous trees. Many natural and planted trees on farms, near compounds or in the settlements are maintained for social, religious or economic purposes.

Figure 3 Location of Malshegu sacred grove



Despite Malshegu's proximity to the sprawling Tamale municipality, the village displays the dispersed settlement pattern found in northern Ghana's savannah region. The nearest village is about four kilometres away. At the initial field survey, in 1989, Malshegu's total population was estimated at 2,000, of whom about 55 per cent were female. The female predominance may be explained by the regular but seasonal migration of young men to Tamale and the better endowed regions of the south for more lucrative jobs. The population lives in the two sections, Kumbuyili and Malshegu, made up of a cluster of round houses separated by compound farms.

Land tenure and land-use patterns

Traditionally, the basic principle of land tenure systems among the Dagbani ethnic group, to which the Malshegu people belong, is communal land ownership by clans or lineages, although the tendency is increasing towards nuclear or individual ownership.³ Land could be owned through conquest and cession or by peaceful occupation. The eldest male (in rare circumstances female) of the first occupants is appointed *Tindana* (priest of the Earth-God). As the intermediary, the *Tindana* is the community landlord as well as the political and spiritual or religious head.

The *Tindana*'s religious functions remain essentially intact, but the political functions have, mainly under British colonial influence, passed largely to the secular head or chief, whose office is commonly symbolized by the *skin* in which the communally-owned land may be nominally vested. Thus, land control, allocation or administration is exercised nominally by the *Tindana*, a female, an exceptional situation. In practice, however, it is the secular chief (the *Tindana*'s subordinate) who exercises effective authority. Land and the *Tindana* post are inherited patrilineally from brother to brother and then to sons, with the eldest son taking precedence. Malshegu's peculiar situation in which the incumbent *Tindana* is a woman is due to the fact that there was no male in the succession line when the last *Tindana* died. The fact, however, is that the *Tindana* has delegated her functions, especially the cultural and religious ones, to the male religious leader, the *Kpalna*.

Access to community land is basically by kinship or birthright, and this allows most farmers to cultivate crops freely on compound family lands. This custom discriminates against women, as land is inherited patrilineally and by males only. Women do not ordinarily inherit or control land directly. They normally use land which belongs to the father or husband. They may have access to land for their own benefit only at the pleasure of the father, husband or *Tindana*. Women's alienation from inheriting effective land control undermines optimal land use because it excludes what are often the most efficient land users.

Farming is the predominant economic activity in Malshegu. It involves the efforts of an entire population, each with a special traditional role in farming. Mixed farming is undertaken, each family raising some animals, mainly cattle, goats and poultry and cultivating crops for subsistence and occasionally for cash. The livestock are tended by young boys around the compound in the morning, moving out into the open grazing fields later in the day. Livestock are extremely important in Malshegu's economic, social and religious life. Animals and poultry are occasionally sold to supplement household incomes or used for religious sacrifices or bride price.

Two types of arable farms are cultivated in Malshegu—compound and field or outpost farms. It is mainly the womenfolk who intensively cultivate around compounds the crops required to feed the household. The main crops are staples such as guinea corn and vegetables (pepper and okra), as well as maize, groundnuts, cowpeas and beans. Planting begins in March/April and harvesting in August/September. Compound farming is a permanent activity, the same piece of land being cultivated for several decades. Soil fertility is maintained by animal and human waste, by practising mixed cropping and crop rotation (including the planting of leguminous plants), and by allowing fallow periods during the dry season. The main implement (the hoe) is well adapted to the soil structure; it does not churn the soil too much to promote leaching and erosion.

In addition to the compound farms, each household cultivates a "bush farm" or an outpost farm, normally on communal land, one to six kilometres from the village. The outpost farms are devoted to cash crops, principally groundnuts, maize and rice. They measure 0.4 to one hectare and are worked almost exclusively by men who, therefore, control the incomes derived from there. Women usually assist in harvesting, carrying the produce to the market and rendering accounts to the male household head.

Environmental degradation

Interviews with traditional and opinion leaders, the female *Tindana* and selected Malshegu citizens, clearly indicate they recognize the slow but persistent deterioration of their physical environment and that they appreciate what it portends for their economic and social well-being. The removal of stunted vegetation, the soil erosion, the increasing cases of drought, the decreasing duration of rain and the prolongation of the dry season all have affected the citizens' ability to produce enough for themselves. While drought and excessive rain are usually attributed to the gods venting their anger for human violation of traditional beliefs and customs, land degradation is attributed directly to human interference with nature. The Malshegu people express the general belief that in their traditional system people's socio-economic activities had little adverse impact on the environment

because the population was small and land was abundant. It is now increasingly evident, however, that certain useful trees, grasses, animals and insects have become endangered or extinct.

In Malshegu, soil erosion appears directly linked with certain socio-cultural practices, identified farming methods, grazing, firewood collection and bush burning. In most cases, the effects on soil erosion are direct and visible. The people have evolved certain traditional practices for containing soil erosion. These include planting grass and creating of gullies to channel running water and check sheet erosion. A large-scale afforestation project was not successful mainly because of traditional beliefs. This project, supported by the Forestry Department, has, therefore, relegated the effort to individuals, a few of whom plant and nurture fast-growing tree species in their compounds for shade, fuelwood and building poles. In an earlier interview the local representative in the District Assembly expressed concern at failure by the community to participate in afforestation. He was hopeful, however, that if the individual efforts were successful more people would plant trees to cater for themselves and thus reduce the potential threat to the grove.

For the majority of northern Ghana's ethnic communities it is taboo for any person to plant a tree. Trees are regarded as a gift of God and must be allowed to grow by themselves. A person who planted a tree would die when it began to bear fruits or if the person ate its fruit. It was also believed tree planting on a large scale (afforestation) would reduce the land available for food crops. Local inhabitants recognize that trees have an economic value (especially the *dawadawa* and shea-nut trees) and a medicinal value as well as providing shade and wood for building houses and making farm implements; and that they contribute to protecting the headwaters or rivers and streams; to the collection of wild honey; the control of soil erosion; and the protection of buildings against storms.

Traditional religious beliefs

Many ethnic practices among in northern Ghana militate against sound environmental management. However, some aspects of those norms augur well for an improved environment; they promote conservation of vegetation, which then promotes biodiversity and an ecological balance. Traditional religious beliefs and practices have resulted in preserving of sacred groves throughout Ghana, especially in the savannah regions because of the degraded vegetation.

The sacred groves are protected, conserved and maintained through a combination of taboos, prohibitions, beliefs and restrictions. In almost all cases, burning, tree cutting and fuelwood gathering are prohibited in groves. There are sanctions against those who contravene the taboos; in some instances, the culprits must perform certain rituals. The groves symbolize the

dimensions vegetal cover could assume when given maximum protection possible: luxuriant greenery, abundance of trees (in numbers and species) and thick undergrowth. In the near-desert conditions, the groves stand out like oases.

Sacred groves are believed to be the abode of the gods and ancestral spirits. They provide protection for the people; special members of the communities (fetish priests or *Tindana*) organize periodic rituals, ancestral worship sessions and other customary performances in or around the groves, which are revered as shrines.

Malshegu sacred grove

According to oral history, the Malshegu ancestors settled here in the early 18th century. The initial members were different individual families, one of whose elders became the leader by being the custodian of the fetish god, *Kpalevorgu*.

The early settlers were harassed by waves of Arab slave raiders across the Sahara. The success in warding off the invaders was attributed to spiritual support from the *Kpalevorgu*, symbolized in a boulder under a baobab tree. Slave raids and tribal warfare were common in those days and the early Malshegu settlers' ability to stand their ground encouraged other families to join them, thereby increasing the deity's importance and power, which became the rallying point for the Malshegu people and the surrounding settlements.

Its sanctuary and dwelling place was selected on a high ground on the outskirts, from where it was believed to "oversee" the village and its inhabitants. Since the desire was to give the oracle a quiet, peaceful and shady abode, the land surrounding the baobab tree was demarcated and set aside by the fetish priest as fetish land. Now measuring approximately 0.8 hectares, the grove has grown into a unique, open-canopy forest in a highly degraded open savannah. Direct responsibility for the grove is assumed by the *Kpalna*, the fetish priest, although all the people by tradition consider themselves as joint custodians. In recent years, an additional piece of land surrounding the grove has been declared a buffer zone to protect the nucleus from development and other human activities which threaten the grove.

The vegetation consists of tall, predominantly deciduous trees forming a more or less complete canopy with lianas and, in the few gaps, dense undergrowth. This impressive vegetation has developed over three centuries, during which the original open-canopy savannah woodland has been protected from human and natural interference. The Malshegu grove is, therefore, one of the few remaining examples of non-riverine, closed-canopy forests in the savannah.

The sacred grove and the *Kpalevorgu* deity it shelters are part of a traditional pantheon and religious practices in northern Ghana. At a lower level are numerous spirits and supernatural powers, both good and evil. The supreme god, considered male, is the creator of all things and is worshipped by all people. The next most powerful god is the land, considered female because it provides bounty. The *Kpalevorgu* deity is Malshegu's community-level god, believed to ensure local prosperity, including rainfall, plentiful agricultural harvests, fertility and lineage stability. Under what is described as "unusual circumstances," the present *Tindana* and traditional custodian of *Kpalevorgu* is a woman.

The lands surrounding the village and sacred grove are highly degraded. Most trees have been cut and grass removed through persistent cultivation, much topsoil has been lost to wind and water erosion; the water table has dropped and other aspects of the resource base have deteriorated. The Malshegu grove is an isolated pocket of forest in sharp contrast to the surroundings. The grove is of significant ecological importance since the flora and fauna critically depend on it. It has developed into a small but vital refuge and repository of numerous indigenous species not found elsewhere in the area in such large concentrations. The grove is an important source of seeds and seed dispersers vital to traditional shifting cultivation practices, and of herbs for local medicinal, social and religious uses.

Its protection is the responsibility of the entire citizenry, supervised by the fetish priest, who enforces a number of unwritten regulations, some of which are amended periodically to ensure their continued relevance and effectiveness. All forms of land use, particularly farming and grazing, are prohibited in the grove and the surrounding lands designated as *fetish*. The inhabitants are allowed entry only into the buffer zone and the grove during the biannual festival in honour of the fetish. Some hunting or collection of forest resources, mostly wood, is allowed on these special occasions. The buffer fetish lands around the grove are surrounded by a strip of protective land on which only grazing is permitted. Other forms of permanent land use are allowed only outside the grazing lands.

Twice each year, in May and October, the *Kpalna*, local chief and other leaders organize festivals to honour the fetish. These festivals mark the beginning and the end of the farming season, and the people participate in all the associated rituals. At the conclusion, the male participants clear a three-metre-wide fire belt around the grove and fetish lands to protect the sacred grove from bushfires. Women's role in these festivals is to prepare food and brew beer. In terms of protecting the grove, their role is indirect and conforms with the tradition that women take a back seat in religious matters.

As fuelwood gatherers, however, women play a positive direct role in protecting the grove by ensuring that, even under conditions of acute fuelwood shortage, they do not enter the grove. Fuelwood gathering would be

one of the most destructive activities in the grove, but women continue to exercise restraint even under the present harsh and tempting conditions of fuelwood shortage. The strict observance of these unwritten regulations is ensured by the belief that failure to comply with the rules protecting the grove or to participate in the biannual festival will incur the deity's wrath and bring about a misfortune to individuals or the community. According to the elders, the celebration has been observed in every single year in living memory. Every member is responsible for policing the grove; it is, therefore, almost impossible for anybody to enter it without being detected. In the past, people flouted this commandment on pain of death. Today, however, punishments include fines in cows, goats or poultry, to be sacrificed to appease the fetish.

Activities in protecting of the Malshegu grove include a ban on farming, grazing, infrastructural development, bushfires and collecting fuelwood in the grove. Before the farming season, there are prayers for prosperity, rain, a bumper harvest and good health. After the farming season, there are thanksgiving activities, commitment to the fetish and solicitation for assistance during the lean, dry season. There is vigilance by the entire community; "fetish lands" are designated around the grove; the traditional religious leadership is maintained for sustaining the values attached to the grove; community/compound woodlots are developed as substitutes for wood needs.

Gender bias in resource management

The issues surrounding gender inequality in the Third World are assumed to be especially complex. Women's position in these countries varies according to the prevailing economic and social relationships. Victoria Drake⁴ contends that sex is a physical distinction and that gender is social and cultural. In effect, discussions on the division of labour between men and women almost exclusively focused on gender roles rather than sex roles determined by culture and not biology.

In Ghana's traditional agricultural system, women's contribution is significant. In the extensive shifting and mainly subsistence farming, women feature prominently by providing most of the labour throughout the cycle. This vital role has always been taken for granted, and little or no attempt has been made to evaluate the input. The social, rather than "natural," basis of women's contributions to household productivity still holds sway, and they are considered in the traditional society mainly as breeders and nurturers, and not as economic agents in their own right. In the last decade or so, however, the link between "women and development" has been recognized and promoted as an official national policy, although the status of most Ghanaian women in the poorer, traditional sectors has not improved because the

household activities in which a large proportion participate do not derive any direct income.

Current thinking and practice is that both men and women should work together in formulating development objectives, acknowledging their different roles in society but refusing to suggest that the sex should be considered in isolation. However, changes in traditional attitudes take time and there remains a tendency to assume that *gender issues* are simply *women's issues* euphemized.

The basis of the gender issue in Ghana's resource management is the fact that, in the traditional society, women only have access to, but do not control, land. This does not make it possible for women to have full control over the natural environment with which they interact so effectively. The traditional social system deprives women of resource control but allows them resource access, and their overall status is, therefore, low. A standard result of this arrangement is the alienation of women from traditional land rights since they are forced into low-productivity activities. This superficially increases their labour-intensive commitment and unilaterally diminishes their control over their own product. In the Malshegu example, women tend, harvest and market crops only to surrender the account to the male head of household, who also determines the crops to be cultivated on what piece of land. This "circle of dependency" appears so entrenched in the traditional society that, by all indications, it is immune from modern land tenure practices in some parts of the country. Under the circumstances, it can be contested that the potential of women in natural resource management is yet to be discovered in traditional Ghanaian societies. The role Ghana's women-folk play in local environmental management is, therefore, underestimated and woefully undervalued.

It has been estimated that women constitute between 50 and 55 per cent of Malshegu's total population. A very large number of the households are headed by males. Only in exceptional cases are households female-headed—due to the death of a husband, a divorce or an "absentee husband" who has "travelled south". Under these circumstances, and when the female household head is not under the direct care and supervision of a neighbouring male, the decisions relating to production, consumption and environmental management are taken by the female head. But, even in such cases, tradition makes it difficult for female household heads to take actions which are in conflict with traditional norms. For example, the study found that most household heads, male and female, are aware that land use is constrained by land degradation through soil erosion and pastureland depletion. Some identified the underlying causes as inappropriate crops, frequent use of the same piece of land, particularly for the compound farms, and absence of such inputs as fertilizers and manure. However, the household heads were

unable to prescribe any effective remedial measures for these land-use problems which they recognize as undermining their existence.

Another example of the female household heads' inability to take far-reaching decisions relates to fuelwood gathering, an exclusive women's responsibility. Fuelwood gathering is increasingly constrained by the gradual but persistent disappearance of vegetation, resulting in decreased fuelwood quality and quantity. The situation demands a disproportionately high time allocation by women to this important household chore, which, in turn, reduces farm output. The reaction of most women to this major natural resource depletion and domestic problem is to convert vital natural farm inputs, such as cow dung and available woody biomass, into fuelwood and fodder. The entire community did not try to establish a community woodlot to provide part of the fuelwood and fodder needs mainly because tradition deems it abhorrent to plant trees.

Core elements of effective resource management

The sacred grove's original case study identified a number of "core elements" which explain the community success in protecting it.⁵ These can be summarized. Most of Malshegu's inhabitants worship the ancestral *Kpalevorgu*, in addition to their individual household gods. It is generally accepted that the grove is the deity's ancestral home; all efforts are thus geared towards protecting the grove. The traditional religious beliefs and practices have survived despite the many decades of Christianity, western education and urban development. The majority of the population interpret their survival in terms of the fetish's safety. The regular hands-on celebrations are, therefore, to give thanks for the protection they receive from the *Kpalevorgu*.

Traditional religious beliefs and practices are seriously threatened by Christian evangelistic activities. In northern Ghana, many small grove fetishes are in serious jeopardy, either encroached on as large remnants of comparatively fertile lands or neglected and abandoned. The neighbourhood looks up to the *Kpalevorgu* sacred grove for protection and inspiration. That's why people participate in the religious ceremonies organized in honour of the fetish. It not only drums up a sense of pride but also encourages them to openly and whole-heartedly discuss the *Kpalevorgu* fetish.⁶

Its establishment and preservation is based on informal regulations and practices founded on its traditional worship. For centuries, the people have observed the unwritten guidelines that restrict land use in and around the grove and performed rituals that restrict human interference with the fetish grove. The people accept and respect the fetish priest's privilege as the only authorized person to enter the grove on his own volition. They also observe

regulations barring farming or grazing livestock in the grove and maintain firebelts to prevent bushfires. These activities have become absorbed into the people's lives and they derive a great deal of satisfaction from observing the guidelines.

Some specific elements were identified concerning women's participation in managing of the Malshegu grove, foremost among which is that the deity's traditional head is a woman. This situation is unusual, and the female *Tindana* has actually delegated her traditional religious functions to the male chief, yet the women do appreciate their colleague's leadership role. This has a positive influence on them as they observe the rules protecting the fetish grove. For example, since the rules are not written, women, as the traditional educators, pass on the information to their daughters and other young girls to prepare them for participation in the annual festivities. Mothers and elderly women caution their daughters against collecting fuelwood from the groves. In many instances, these lessons are not taught formally or directly but only through stories, threats and by narrating personal experiences.

It has been estimated that women constitute slightly more than half of Malshegu's total population. In addition, there is an increasing number of female household heads. With their numerical strength and traditional role in farming and fuelwood gathering, women have become a significant force in managing and controlling the fetish lands.

As a major source of medicinal plants and handles for farming tools, its priest has free access to it to collect herbs. Other citizens also control access during the May and October festivals, when they cut appropriate tree species for making tools. Such tools, believed to contain special powers, are durable and therefore treasured by young farmers. Because the woody vegetation is rapidly disappearing, the value of plant medicine and traditional tools has become an additional factor in protecting the grove.

The core success factors identified with the maintaining the Malshegu sacred grove are vitally important to policy-makers and environment and development workers, especially those relating to women. Traditional religious beliefs and practices are deeply entrenched in the history of Ghana's numerous tribes. For example, the coastal fisherfolk observe a "no-fishing day" once a week, ostensibly to appease the sea-god, but in effect to control fish harvests. Among the farming communities, one week day is set aside as "earth-god" day when nobody is allowed to work on land—a good breather for the soil. Lagoons, rivers and other water bodies throughout Ghana are recognized as living entities, possessing divine spirits. Ancestral burial grounds and abandoned settlement sites are revered and protected from encroachment. This is an integral part of traditional religious systems through-

out Ghana. It is important to identify and utilize them as tools in resource management. Fortunately, the government highly appreciates these enjoinders and taboos and the role they play in local resource management, as is evident in a number of government policy actions on forestry and land use in general.

Recommendations

Ghana's socio-cultural values and practices have both favourable and unfavourable effects on natural resource management and general economic performance. On the positive side, an ethos of group solidarity and extended family affiliations is prevalent, as is manifested in the sharing and reciprocity that characterized family relationships. And there are checks and balances against abuse of these values. On the negative side, certain cultural values have failed to adapt to the changing conditions, such as failure to give women access to resources and job opportunities in the modern economy. As we have seen, many traditional practices forbid women from entering certain sacred places. Time and resource management ensure that women spend most of their daily working hours providing the family needs, but with no power to determine how to use the family land.

In Ghana's ethnic societies, gender inequality in personal and socio-economic relationships is a fact. In both matrilineal and patrilineal societies, traditional legal systems, religion and the perception of what is a female role usually combine to ensure that land allocation and the distribution of household and other resources and incomes favour male interests. Even the female household heads do not enjoy authority comparable to that of men.

The negative aspects of tradition and superstition are part of the general ideological control exercised by powerful individuals and groups. These negative facts together restrict women's access to resources, power and status. In Malshegu, for example, although the post of *Tindana* is now held by a woman, she is not able personally to perform the crucial role of custodian of the land. Invariably, in traditional society women, through their own actions, have been indoctrinated to accept these practices as necessary. They thus solidify, chief custodians of the very culture which alienates and enslaves them. The female custodian's reaction to these issues were mixed when we discussed them. On the one hand, she appreciates the fact that she inherited her position from her father. On the other hand, she strongly believes and approves of the traditional requirement that religious rites be performed by men. The community as a whole does not consider a woman's tenure of the *Tindana's* office by as a constraint in performing the religious rites they value for appeasing the fetish and ensuring their livelihood.

The grove is communal property and its management is seen as the responsibility of all who live and feed on the land. Women's role in perform-

ing of the rites are just as valuable as men's. Effective resource management has been achieved through the concerted effort of both. The grove is relatively small and its management does not pose too much problem to the men or women. It is visible from every part of the two settlements. It gives satisfaction to the citizens and reinforces their collective responsibility.

Women should be taught to understand better the negative and harmful effects of the prevailing customs, beliefs and practices, and to appreciate their role and potentials in society. Educational activities should not be formal only but reactivate the traditional approaches to socialization. Responsibility for informal education should be in the hands of elderly women, chiefs and opinion leaders who have always played the key roles there. Education should increase awareness of the correct relationship between women, the environment and development. Despite their contribution, women have limited access to land, and their crucial relationship with the life-support systems is taken for granted. The programmes of such women's organizations as the National Council on Women and Development and the 31st December Women's Movement are relevant in sensitizing members to the significant relationship between women, the environment and development.

To heighten understanding of the relationship between women and local natural resources calls for additional field information generated by further field research. Women's natural resource management studies must be interdisciplinary, and the results should be disseminated as widely as possible. Along with this, it would be useful to compute the costs of policy decisions which fail to take account of the women's role in natural resource management. In connection with the preparation of the Ghana National Environmental Action Plan, it was calculated that a policy of "no action" in two sectors—namely, agriculture and health—cost the country the equivalent of 4 per cent of the gross domestic product (GDP) in one year (1988). It is necessary to determine such costs to be able to influence government and aid agencies to allocate resources for such studies and for women-environment projects.

Women's projects must be targeted for investment by adopting specific national policies. This can be promoted through progressive public opinion and requests from local development associations and women's groups. Local NGOs have enjoyed several advantages over governmental organizations in reaching and working with rural communities, particularly women. For example, Amassachina, a local NGO with branches in most villages of Ghana's Northern Region, works closely with grassroots groups in such forestry-related activities as agroforestry, woodlots, tree nurseries, natural forest management, environmental rehabilitation and fuel-efficient cookstoves. Amassachina has extension agents in many rural communities who speak the local languages and share local concerns. NGOs are often bet-

ter situated to adopt more flexible approaches to development. They can promote small-scale pilot or experimental activities among village communities. However, they also face certain constraints. Many local NGOs are relatively young and inexperienced and, therefore, suffer organizational, institutional or funding difficulties. Some have limited expertise in forestry and natural resource issues. Governments and donors must, therefore, lend them support through education, training, policy orientation and funding.

Conclusions

Rural Africa's women carry heavy responsibilities; they grow crops, market the produce, feed their families and are increasingly becoming household heads. Women face all sorts of difficulties in their attempts to serve as resource management and development agents. First and foremost, they have no land ownership rights. In Malshegu, for example, women have only annual rights to use fields around individual compounds. In such instances, women cannot make any long-term improvements to the land and this undermines their independence.

The situation is changing, although agonizingly slowly. Though women are trying to advance themselves as both agents and beneficiaries of development, to achieve sustainable development, many factors need to be taken into account, among them their special requirements. The real bottleneck is on the domestic front, where real changes will have to originate. Efforts should be made to reduce the burden on the rural woman, by introducing labour-saving technologies and through mass education. The key issue, however, in the promotion of women's effective participation is to focus attention on women's access to and control over such resources as land and trees. When this is achieved, women can build on the existing knowledge and management skills. Only such an approach can result in empowering women to control their own lives and destinies.

Notes

1. Dickson and Benneh, 1988.
2. Dorm-Adzobu *et al.*, 1991b.
3. Benneh, 1975; Benning, 1976.
4. Drake, 1991.
5. Dorm-Adzobu *et al.*, 1991b.
6. Presently the Ghana National Committee for the Man and Biosphere (MAB) Programme of UNESCO has initiated a project on biodiversity in the northern Ghana savannah ecosystems, using the Malshegu sacred grove as the focal point. The project is the direct outcome of the WRI/EPC FGU case study and is funded by the German government through UNESCO.

5

Gender roles in Lyamungo villages, Tanzania

ANDERSON J. LEMA

Under the From the Ground Up programme, two case studies on local natural resource management activities were done in Tanzania between 1987 and 1992.¹ The first by the Institute of Resource Assessment (University of Dar es Salaam) in Rukwa Region's Msanzi village and the second by the university's Department of Geography on the southern slopes of Mt Kilimanjaro.² The authors were not required to look into the gender question. However, the Center for International Development and Environment believes it is crucial for sustainable development and natural resource management to incorporate gender issues and women's full participation in such activities.

Since 1990, several of the Centre's activities have raised gender issues, although often only in indirect ways. The activities include the From the Ground Up case studies in Africa and the participatory rural appraisal (PRA) case. To build on the existing activities, the Centre's Gender Programme decided in 1992 to begin with reanalysis (or "revisitation") of five From the Ground Up case studies, including women's role in natural resource management. The present study is a response to the quest to revisit the FGU case with a focus on the important role women play in natural resource management at the local level and the gender-related constraints and opportunities. The study attempts to analyze the gender roles in land use and natural resource management among farmers in Chagga's Lyamungo Parish and to make policy abstractions on women's role in natural resource management. The specific aims were to assess the gender division of labour access to and control of inputs and benefits and the determinants of patterns

observed; identify the core elements behind women's successful natural resource management efforts; identify key gender-related constraints; make policy recommendations and the practical actions to overcome the constraints; and promote resource management at the grassroots level. The findings of this and similar FGU "revisitations" are expected to contribute to the expanding research and discourse on GAD on gender equity, social justice and power distribution.

The present study

The data collected in the 1992 study³ was revisited. Additional fieldwork was done at different times during October and November, 1993. Participatory approaches⁴ were supplemented by in-depth interviews and questionnaires. Quantitative household information was gathered using a structured questionnaire. Through this source, generalizations about the entire village could be made, and it was possible to establish the magnitude of elements critical to the understanding of gender issues. Qualitative information was gathered through focus group discussions with eight to ten people under a facilitator. The small group is normally homogeneous in age, social class and other related aspects. Homogeneity makes it possible for a group to discuss such sensitive issues as gender freely.⁵ In-depth interviews were used to gather information from individuals—politicians, teachers, women leaders, co-operative managers and influential business people.

Three labour categories were disaggregated—productive, reproductive and community. For each type, a division and profiles were disaggregated by gender and age. Six group categories were identified: female, children, male children, female adults, male adults, female elders and male elders. The cut-off age limits were children, 18 years; adults, 19–49 years; elders, above 50 years. Access to and control of inputs and benefits were again analyzed by gender and age. Inputs included land, labour, tools, seeds, fertilizer and funds; benefits included income, skills and education. Emerging patterns refer to the causes and/or explanations of patterns of division of labour and access to and control of inputs and benefits. Information also diagnosed factors or core elements behind women's success in natural resource management.

The Lyamungo parish includes three villages; the study focused on Lyamungo Sinde on the assumption⁶ that parochial gender-related inter-village differences are insignificant.

To collect data 20 households were interviewed. In each, a separate interview was done with the man and woman, a total of 40 questionnaire interviews. The interviewees were obtained through a sampling procedure involving all ten cell-leaders as the frame. The village population and households are grouped in ten-house cell groups, each under a leader (or *balози* in

Kiswahili). A list of all ten house cell leaders was obtained from the village office, and the total came to 26. Out of these, a systematic sampling was made.

In the absence of a suitable sampling frame for children, a systematic sampling procedure was not possible. The 20 children interviewed and with whom a group discussion was held were obtained with help from a local collaborator, who identified them without any preconceived criteria other than time availability. Eight had completed primary school; 12 were attending the local primary school. One focus group discussion consisted of eight children who had completed primary school. The second group consisted of a mixture of adults and elders of both sexes—seven females and 11 males. In-depth interviews were conducted with the village leadership (chairman and secretary) and two elders. Regrettably, efforts to conduct interviews with retired teachers and clergy failed.

The research team comprised two research assistants (a village agrovet extension officer and an agricultural extension officer) and the author. The two assistants had participated in the 1992 study.

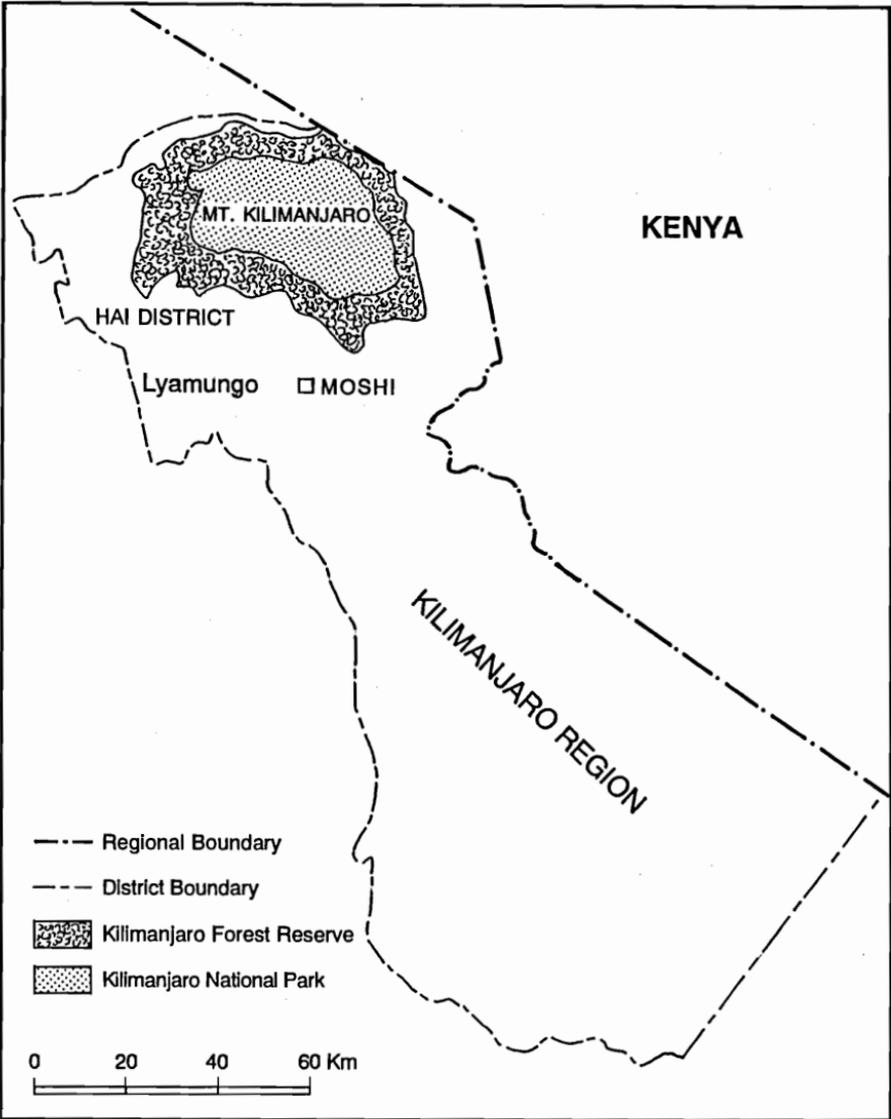
Lyamungo is located in East Machame Ward of Lyamungo Division of Hai District, Kilimanjaro Region (Figure 4). The parish is made up of three villages, namely Lyamungo Sinde, Lyamungo Kati and Lyamungo Kilanya. It is bordered by the Weruweru River to the west, the Sere River to the east, the Narumu Parish to the south and the Kilimanjaro forest to the north. It lies 15–20 kilometres north-west of Moshi town (the regional headquarters) and 30 kilometres from the Hai District headquarters. Sinde's population is about 1,800.

Lyamungo has a tropical mountain climate, with the lowest temperatures occurring during July or August and the highest during January or February. The mean annual rainfall is 1,600mm. The short rains fall in November/December and the long ones in March–May. The peak rainfall is in April (519mm).

Before the occupation of Lyamungo in the early 1900s, the parish was covered by a medium-altitude forest, an extension of the Mt. Kilimanjaro forest. Population growth and expansion in coffee cultivation necessitated that the forest be cleared for settlement, cultivation and grazing. Selected indigenous tree species considered beneficial were left on the land.

The people are mainly Chagga, said to be a mixture of Bantu groups, mostly Taita and Akamba who began to live on the lower slopes of Mt Kilimanjaro at the beginning of the 17th century. In the early years, land was plentiful, and people practised open grazing until the 1930s. Wild animals such as monkeys and wild pigs, were prevalent and prevented people from cultivating large tracts of land. Until about 1933 eleusine was cultivated in Sinde, but by 1939 eleusine had completely disappeared; land had become too scarce and too degraded by over cultivation of the crop.⁷

Figure 4 Lyamungo in Kilimanjaro Region, north-east Tanzania



Population pressure in Lyamungo and the highlands in general led in 1945 to occupation of the plains to the south of the mountain to cultivate maize, interplanted with beans and eleusine. Today the Lyamungo inhabitants have two or more plots—in the highland and on the plains below the Moshi-Arusha road.

The predominant occupation is agriculture. Bananas and coffee occupy the largest part of the land, intercropped with maize, beans, peas, tubers, fruits and vegetables. On the upland plots the planting season begins in May or early June. The most important cash crop is coffee, and banana the most important food crop. In the lowlands, the tilling season starts in either late January or early February. Maize and beans planting begins in March or April depending on the onset of rains. Beans are harvested in July and maize in August or September. Throughout the year, Lyamungo farmers are occupied by one or more production activities. The Lyamungo agricultural calendar is given in Table 3.

Table 3 Crop calendar in Lyamungo

Month	Maize	Beans	Bananas	Coffee
October	Continue harvesting; planting of short rain maize	Harvesting (upland)	Harvesting, preparing holes for replanting; irrigation	Picking
November	Weeding		Harvesting and replanting	Peak picking
December			Harvesting	Flowering, infilling, pruning, spraying
January	Harvesting of Oct. maize			Pruning, flypicking
February	Dry-planting		Harvesting	Late pruning, flowering
March	Planting (lowland)	Planting (lowland)	Harvesting	Flowering, spraying
April	Weeding	Planting and weeding	Replanting using own suckers	In-filling
May		Weeding	Thinning	Light pruning and spraying
June		Harvesting (lowland); planting (upland)	Thinning	Spraying
July		Harvesting; planting (upland)	Harvesting	Light picking
August	Planting (upland)	Harvesting		Light picking
September	Harvesting lowland maize	Harvesting (upland)	Furrow irrigation if water available	Picking and furrow irrigation

Gender and natural resource management

The earlier study on Lyamungo⁸ looked in detail at the farmer's sound or exemplary land-use systems and effective natural resource management practices, focusing on home gardens, agroforestry, zero-grazing and furrow irrigation. It was found that for about a hundred years, the Lyamungo farmers have developed a complex multi-storied agroforestry system characterized by a combination of agricultural crops, trees and livestock keeping (zero-grazing). A symbiotic interdependence exists between the various components of the household plot (*kihamba*). Besides, the people have developed a splendid furrow irrigation system that supplies water for various economic and domestic uses.

The research and analysis led to several hypotheses to account for sound land use and effective natural resource management practices at community level. Sound land-use systems and effective resource management practices in Kilimanjaro in general, it was hypothesized, hinge on the population pressure on natural resources, favourable natural resource endowment (ecological setting), effective local organizations and institutions, perceived land security, the Chagga world-view and the perceived "homeland" and research and extension services. The factors undermining success been dealt with in the earlier study.

One important factor not given proper attention in the earlier work was the gender question. The study did not specifically look at the role gender in land-use and natural resource management in Lyamungo. The subsequent sections of the present survey focus on this factor.

Reproductive activities are the female domain in the household. Women provide labour for the bulk of the household chores on a regular basis.

The survey (see Tables 4-6), reveal women to be fully involved in each reproductive activity (the percentages ranging from 95 to 100). Men participate mainly in childcare and washing clothes, but even here only approximately half of the men (50-58 per cent) are involved. As far as childcare is concerned, men take part mainly when a child falls sick suddenly and when the spouse or other female members of the household are not around. Moreover, men only wash their own clothes and not those of other members, as women often do. As for women, the largest part of their time goes to cooking and fetching water and fuelwood. Fortunately, compared with other rural areas of Tanzania, Lyamungo women walk shorter distances in search of water and fuelwood. Cooking and washing dishes are strictly reserved for women; only one man was found to participate in either the one or the other.

The productive work surveyed (see Tables 4-6) covered both crop and livestock production activities. The activities studied were land preparation,

ploughing, planting/sowing, weeding, harvesting, processing, marketing and land and crop management. The findings show that land preparation is a shared activity, involving all men and 73 per cent of the women. Men and women participate equally (93 per cent) in ploughing, mainly home garden cultivation. Almost every household uses a tractor to plough the lowland plot(s). Planting or sowing is jointly performed, but planting coffee and other trees is mainly a male task. There is more or less equal participation in weeding. On crop harvest harvesting, participation is joint in coffee, maize and beans, but banana (a food crop) is largely harvested by females, while tree cutting is a male activity. Over 90 per cent of women participate in processing maize and beans but only 45 per cent coffee. Every man participates in processing coffee and maize but only 58 per cent for beans. Men participate more in marketing coffee, a cash crop, but women are the main distributors of food crops (beans, bananas and vegetables).

Various activities connected with crop and land management and agronomic practices are also gender segregated, with zero participation by women in buying pesticides and spraying crops. Only one woman participated in pruning trees. Buying fertilizers and furrow irrigation (crops) are also men's domains. Whereas 90 per cent of women mulch, only 45 per cent of men do so. As for cowdung manuring, 90 per cent of women do manuring and 43 per cent of men.

Excluding outdoor grazing, not a popular activity in the study area (occasioned by lack of grazing land), most livestock activities are done by women fetching fodder, cutting banana leaves and stems for animals, cleaning livestock shed (stable) and milking. Whereas the selling of excess milk is women's work, selling livestock is men's. There is greater male participation in treating animals. Although 30 per cent of men fetch fodder, they don't "scavenge" for grass as much as women do. Men normally cut planted pastures, but to look for natural grass along river (stream) valleys and in forest land is women's work.

Community work (Tables 5 and 6) includes furrowing, road construction and maintenance, church, school and village meetings. The activities in men's hands were furrow construction, furrow maintenance, dispute settling, road construction and maintenance. Church activities are more or less equally shared.

The findings indicate that men and women have access to such resources as land, labour, food and cash crops, but control is essentially men's. Male adults and elders have control over such major inputs or productive resources as land, time, money and implements (tools). Women have some control over labour, although men dictate who should do what in the house-

hold. A significant gender disparity in controlling resources was noted in food and cash crops. Whereas men have complete control over cash crops, only a quarter of women have such control. Since men control cash crops marketing, especially coffee, they also exercise overwhelming control over cash crop proceeds. Control over food crops was found more or less jointly held. Such tools as hoes, hammers, sprayers, cutlasses and ploughs are essentially men-controlled, 98 per cent by men and 35 per cent by women. The purchasing of major inputs is by men. Since they have greater control over labour and cash (funds), they purchase such inputs as tools, seeds and fertilizers. As far as access to and control of benefits is concerned, both men and women have access to benefits, but control is predominantly vested in men. Children have no control over any benefits.

Table 4 Essentially female activities in Lyamungo, Tanzania

A. Productive Activities	Female (%)	Male (%)
Harvesting bananas	90	48
Marketing beans	80	25
Bananas	100	15
Vegetables	93	8
Cowdung manuring	90	43
Mulching	90	45
Fetching fodder	98	30
Cleaning stable (shed)	100	15
Milking	98	10
Selling milk	98	8
B. Reproductive Activities	Female (%)	Male (%)
Fetching water	100	15
Fetching fuelwood	95	20
Family cooking	100	3
Washing dishes	98	3

The study leaves no doubt that men make most decisions on the use and allocation of resources at the household level. As head of household, the man has authority over all members. He directs what should be done (allocation of labour), who should do what, who should receive what in what amount. It is men who represent women in all matters connected to land as well as politics and village government. The study revealed that since the

village government was installed in the 1960s, there has never been a female chairperson, secretary or treasurer, and no women are members of the committee. For example, all 17 members of the planning and finance, self-reliance and peace and security committees in Sinde are men. This means that women are not able to make decisions that affect them and the village.

From the preceding information and the tables, several major conclusions can be made concerning the local gender profile. One is that an asymmetric division of labour is prevalent. Some activities are essentially female and others essentially male. At the same time, other activities are shared, with little or no gender specialization.

Table 5 Essentially male activities in Lyamungo, Tanzania

A. Productive Activities	Male (%)	Female (%)
Planting coffee	100	18
Planting trees	98	12
Harvesting trees	98	5
Processing coffee	100	54
Buying fertilizers	98	18
Buying pesticides	100	0
Spraying	100	0
Pruning trees	98	2
Furrow irrigating	93	18
Selling livestock	95	18
B. Community Work	Male (%)	Female (%)
Furrow construction	100	0
Furrow maintenance	100	0
Road construction	100	0
Road maintenance	100	0

Essentially, female activities have to do with food crop and milk harvesting or marketing and the more laborious and low profile livestock as reproductive activities. Essentially male activities concern cash crop production, agronomy, marketing, selling livestock and community. These are "high-profile" activities that ensure monetary control or high social status.

The list of activities where men and women participate on a more or less equal basis is long. Men have less laborious and less time-consuming tasks (over and above these joint activities); women have the added burden of all or most of the time-consuming and repetitive drudgery which yield little or

no monetary benefits. When access to and control of inputs and benefits are examined, a clearly skewed asymmetric pattern emerges, with men dominating the scene (with the exception of the joint control over food crops). Because of their dominant economic (financial) and decision-making powers, men provide almost all the inputs such as purchased tools, seeds and fertilizers.

Table 6 Shared activities in Lyamungo, Tanzania

A. Productive	Female (%)	Male (%)
Land preparation	100	73
Ploughing	93	93
Planting/Sowing		
maize	93	83
beans	83	88
banana	100	65
fodder	75	83
weeding	90	88
Harvesting		
coffee	100	93
maize	100	90
beans	73	91
Processing		
maize	100	90
beans	58	100
Putting fertilizers	83	78
Cutting banana leaves and stems	90	93
Treating animals	98	53
B. Reproductive	Female (%)	Male (%)
Childcare	100	58
Washing clothes	100	50
C. Community Work	Female (%)	Male (%)
Church activities	95	98
School activities	60	100
Attending meetings	50	100

Women are overwhelmingly involved in reproductive and productive activities that range from family care and maintenance to land husbandry.

Their time is mainly spent on providing food from agricultural activities; fetching fuelwood and water; agricultural work and community work. The high level of women's involvement in work and responsibility is explained by several factors, the most important being culture and religion.

The Lyamungo case study clearly demonstrates that culture is the major factor that dictates the gender division of labour at household level. Most adults and elders interviewed are unanimous that culture and traditional values are at the core of the socio-gender division of labour.

In reproductive work women are traditionally expected to attend to household chores, fetch water and fuelwood and do any other unpaid domestic work. Women are also expected to take care of children and men and provide other basic needs and services considered essential for a family's survival. Men's involvement in domestic work is minimal. Both men and women consider it "unmanly" for men to perform such domestic work as cooking, fetching water and laundry. As elsewhere in Africa, a woman is considered "good" or "well-behaved" only when she maintains her family or household fully and effectively.

In the productive sector, women make a vital contribution to subsistence agricultural production. In the livestock sector they perform most of the tasks. For many years, this gender division of labour has been considered as "natural", and only a few men and women ever seriously question these patterns of division of labour.

The Lyamungo findings are by no means unique. The patterns typify what happens in most ethnic communities in all, especially Third World, countries. As gender researchers contend, throughout most of human history, social and economic activities in and outside home have tended to be gender-based and socially-ranked.⁹ This hierarchical relationship and the asymmetric division of labour between men and women have their origin in the patriarchal structures and the male ideology which, together, define the content and context of women's work and legitimize the existing lopsided gender relations. The hierarchical relationship takes the form of male dominance and female subordination and allocates the female family members the most onerous, time-consuming, labour-intensive, low-status and poorly rewarded home tasks. This structure of work relationships is based on the widely held assumption that the sexual division of labour is natural, taken from the ideology of biological determinism currently under intense challenge all over the world.

Such cultural practices as dowry or women's exclusion from the right to inherit land and other capital assets also marginalize women and subordinate them to men. Lyamungo is by no means an exception.

The dominant world religions reinforce the complex ways in which cultural values, beliefs and attitudes interact with patriarchal systems of male

dominance to increase women's workload worldwide. All the major religions are patriarchal in their views on women. For example, Confucianism prescribes the lowest positions socially and legally to women; orthodox and literal interpretations of Christianity, Hinduism and Judaism place women in subordinate social and familial positions.¹⁰ Here is an example from the Bible: "Wives, submit to your husbands as to the Lord. For the husband is the head of the wife as Christ is the head of the church, his body, of which he is the Saviour. Now as the church submits to Christ, so also wives should submit to their husbands in everything" (Ephesians 5: 22-24). A passage from the Qur'an says: "Men have the authority over women because Allah has made the one superior to the other, and because they spend their wealth to maintain them. Good women are obedient" (Sura 4: 34). Such beliefs play crucial roles in maintaining asymmetrical gender divisions of labour between men and women. During the Lyamungo interviews, these and similar prejudices were frequently echoed by both women and men as an explanation for the dominance, superior status and reason for avoiding domestic and other low-profile work by men.

Core elements of effective resource management

Both men and women in Lyamungo and elsewhere in Tanzania¹¹ participate in different degrees of involvement in household and village work. However, controversy abounds as to the core factors which explain the effective resource management by women (and men alike). Unravelling core elements of women's success in natural resource management is complex and not free from values or ideology. The conceptual framework(s) adopted will dictate the choice of core factors or elements of success. To choose an ecofeminist stance is important, but the depth of analysis of a particular community, household, man and woman is also important in comprehending the core elements.

The Lyamungo FGU "revisitation" exercise does not allow any concrete statements about the core elements of women's success in effective natural resource management at the local level. It seems that women manage natural resources only to satisfy the family's basic needs. The gender-related factors, intra-household relations and wider socio-economic and political circumstances that dictate women's involvement in natural resource management need an in-depth study of the kind not achieved during the brief "revisitation" of Lyamungo.

Gender-related constraints

To assess the range of constraints against women's and men's effective natural resource management in Lyamungo, two questions were asked in the questionnaire and during focused group interviews: What are the major problems facing *women* in this village? What are the major problems facing *men*? Each man and woman interviewed was asked both questions separately to allow each to reflect on the problems of each sex.

The respondents identified a range of constraints. The list shows that some of the problems relate to their reproductive, productive and community work in general as well as to their social welfare. Few constraints directly address the natural resource management sphere, but many indirectly relate to resource management.

To make better sense of the range of constraints identified by the respondents, an attempt was made to categorize the constraints as those facing women only, those facing men only and those facing both men and women. Those facing women include lack of milling machines, enough water for vegetable production, medical and health services in the proximity, fodder for livestock, firewood, experience in furrow irrigation, regular seminars on development and family planning, milk for children and local market(s). Women are overworked and are marginally involved in village development affairs and decision-making. There is male intimidation due to dowry. The constraints facing men were listed as the high cost of producing coffee (expensive inputs—fertilizers, pesticides, sprayers, pulping machines), inadequate supply of tools, no village economic projects, poor village leadership, laziness and high school fees.

Those facing both men and women include lack of medical and health services in the proximity, capital and credit facilities, co-operative shops, village economic development projects, leisure centres and reliable and regular incomes. Inadequate supply of affordable improved cattle breed for adequate milk and supply of furrow irrigation waters were also mentioned. Scarcity/shortage of land for cultivation and grazing, transport problems, high input inputs, inadequate participation in village-level decision-making, domestic water supply problems and poor family planning were additional constraints.

The scope of this study does not allow an examination of the nature and intensity of the various problems and constraints women faced; nevertheless, some few observations can be made. First, it is apparent that women face far more problems than men. These constraints pertain to all three categories of work—reproductive, productive and community. Secondly, the

lack of services, facilities and resources means that women have to spend many hours walking and searching for (accessing) items necessary for reproduction and production. These include water, fuelwood, milling machines, fodder, medical services and markets. It means that women lose lots of hours which could otherwise be used in resource management or leisure.

Time did not allow the interviewers to lead the respondents into ranking the various problems and constraints they identified. However, the frequency with which certain constraints were cited, coupled with the focused group discussions, allow the hypothesis that the eight most important constraints are lack of milling machines, transport problems, a shortage of fuelwood, problems of domestic water supplies, shortage of fodder, lack of medical and health services, poor village leadership, general poverty. All of these have serious implications for natural resource management by women and men.

Policy recommendations

The constraints, problems and opportunities characteristic of gender disparities in the division of labour, access to and control of resources and benefits—as demonstrated in the Lyamungo and other case studies—have implications for both policy and programme interventions in resource management and sustainable development. There is little or no doubt that women's limited access to resources, their heavy workload, inadequate access to basic services, poor infrastructure and general poverty, all conspire to impact negatively on their scope for effective natural resource management and sustainable development. The recommendations and suggestions here are meant to remove the negative factors and eventually pave the way for mainstreaming women. The recommendations are by no means new or radical. They have been put forward in many other cases as well as in other studies concerned with women in development and with gender and development. As is rightly emphasized in most gender and feminist studies, the overall drive in mainstreaming gender concerns is to empower women and thwart women's subordination.

All policies ought to be gender-sensitive, policy-makers need to be gender-literate to integrate gender in natural resource management. Women's participation in policy-making should be encouraged and institutionalized, and there should be gender-sensitive planning at all levels. Women need to have increased access to and control over resources, benefit sharing and economic power; this can be achieved if the cultural and traditional behaviour oppressive of women is suppressed. Women's workload should be reduced as efforts are made to eradicate poverty.

A specific programme recommendation advocates a more even gender-sharing of all types of work to provide essential social and economic services such as water, health and transport; encourage agroforestry and tree planting; step up gender-sensitive educational programmes; review all policies and laws to repeal or reformulate those that are gender-neutral, gender-insensitive or gender-biased; and improve women's and men's health.

Notes

1. In preparing the Lyamungo study, assistance was received from several individuals. Research clearance was facilitated by the Research and Publications Committee of the University of Dar es Salaam. In Lyamungo, the study was made possible through the co-operation and assistance of Paul M. Lema (village chairman) and Samwel S. Massawe (village secretary). Not only did they make themselves readily available whenever the research team requested their assistance, but they also at times provided office space where the research team could sit and discuss various issues as well as space to process the questionnaires
Raymond T. Mwase (Village Agrovet Extension Officer) and Mrs Angella Swai (Agricultural Extension Officer), who had participated in an earlier (1992–1993) study, assisted with interviewing and preliminary process of the questionnaires in Lyamungo. Their patience, enthusiasm and interest in the study were indeed commendable. Without their co-operation and understanding the fieldwork would not have been so successful in so short a time. Mrs Mushi (Headteacher, Lyamungo Sinda Primary School) is thanked for allowing the research team to interview her schoolchildren during the fieldwork period.
Sincere gratitude goes to the *wanakijiji* (villagers) of Lyamungo for their co-operation and interest in the study during the fieldwork stage. Without their co-operation it would not have been possible to complete the work. The study was made possible in the first place by Jennifer Green of the Sustainable Agriculture Program of the Center for International Development and Environment of the World Resources Institute (WRI), Washington, D.C.
2. Mascarenhas, 1990; Lema, 1993.
3. Lema, 1993.
4. Bryceson *et al.*, 1991; Chambers, 1993; WRI, 1990; Mascarenhas, 1991.
5. Project Reach, 1993.
6. Lema, 1993.
7. Personal communication, Mzee Oforo, 1992.
8. Lema, 1993.
9. Suda, 1993.
10. Moghadam, 1993, p. 8.
11. Shao *et al.*, 1992.

Gender and sustainable development in Katheka, Kenya

PROJECT REACH

6

Over the last decade, the world's research community has paid great attention to women's role in agriculture and resource management. The studies recognize women's roles as labour in reproductive and productive work. However, to analyze and understand the dynamics of natural resource management in the household or in the community, gender must be included as a variable and an analytical category. The Katheka study thus examined the gender division of both productive and reproductive labour, access to and control of the inputs and benefits of such labour and constraints on its effectiveness as a factor in social dynamics.

The study reaffirmed that reproductive work is overwhelmingly a female domain. Out of the 13–16 hours a woman is active every day, only three are spent on farm work. The rest go into domestic chores. Yet women's contribution to productive work is substantial and increasing. The male emigration has led to an increased workload for females. Building granaries, herding and land preparation are some of the traditional male roles now being assumed by women.

Women's contribution to community work is overwhelming despite a lull during the last few years. Katheka women are organized into *mwethya* groups working on both public and private land. In building schools and other public institutions, the female contribution almost equals that of males. Female participation in making decisions in community work is also notable.

Females are, however, visibly absent from the sub-location's supreme decision-making body—the sub-locational development committee. Because this committee is responsible for the area's overall development of the area, women's concerns are likely to suffer because of their absence.

The work done yields some benefits, including skills, labour, dowry and food. On the whole, females benefit much less than males. Females pick coffee and deliver it to the pulping factory, but it is the males who collect the cash and decide how to spend it.

Because of its environmental disadvantages, Katheka is a hardship area. Water and firewood are scarce, making great demands on women's time. It is, therefore, puzzling that time is not cited as a constraint. The time constraint is, however, inferred when the water problem is identified as the most pressing problem. Women do not, however, appear consciously aware of their disadvantaged position. The socialization process from birth sets hard work and consent as the criteria for a "good" woman.

Culture is overwhelmingly responsible for the gender disparities reflected in Katheka. Cooking, childcare, and fetching water and firewood carry a female label. It is not "manly" for a man to undertake such chores. Also important are such socio-economic factors as male out-migration, the poverty that leads women to sell labour in neighbouring coffee plantations and the emergence of female-headed households. This set of factors has resulted in females assuming roles that are traditionally male.

But culture is not static. Though slow, some change in gender relationships has begun to emerge in Katheka. During the survey, some young men were found boiling green maize and washing clothes. This is more evident in the better-to-do and perhaps more "exposed" families than in the others. Education, particularly for girls, is likely to bring about positive changes, thus reducing gender disparities.

The Katheka community is unanimous in its most pressing need, water. The study recommends that the provision of such basic needs is more urgent than conscientization and advocacy. Women will participate in such gatherings only if they have water and firewood at home. There are, however, other problems beyond Katheka's ability. Sand-scooping, technical assistance and infrastructural development call for external support. Linking up the Katheka community with policy-makers and those who apportion resources would provide the foundation for long-term sustainable development.

Since Kenya has many Kathekas, the findings of this study can be generalized. The challenge rests on how to translate the emerging scenario into an action plan for a better future for both sexes.

Background

Interest in Katheka's gender dimension in resource management has a history dating back to 1987, when a study was conducted to ascertain the social and technical factors behind the effective resource management by that community. The study was part of From The Ground Up regional project that was interested in establishing the core elements of community-level success in natural resource management. The project hoped to use the lessons learnt to garner more support for grassroots efforts at natural resource management. The study established that strong community institutions, effective leadership and efforts to curb environmental degradation largely explained the great natural resource management success in Katheka. The key actors, the study revealed, were women, despite the fact that the majority of the young and adult men were still resident in Katheka then.¹ Why it was the women who did most of the work was never, however, pursued further, perhaps because it was not in the terms of reference and because the concept of gender in development was still in its infancy. With time, the GAD approach, which focuses on questions of equity, social justice and power distribution, has established a need to revisit some of those earlier studies for indepth gender analysis. This was the context of our particular study.

The current emphasis on GAD is based on overwhelming evidence correlating power/control and responsibility over resources with political, economic and social empowerment. The study drew such evidence from the existing literature which clearly indicates that there are disparities in gender division of labour as well as in access to and control of both the inputs (resources) and benefits.

Traditionally, labour has always been clearly demarcated on the basis of sex and age. This division has been considered "natural" in the sense of being *imposed* by sex difference itself. It is said to be natural because it has not undergone any change for generations. It is not biological and can be modified. In ploughing, work is distributed between the two sexes in a way different from what is traditional. Ploughs are used by men. Gender division of labour has been extensively documented. Although the relative importance of these divisions may vary, the division is present in all cases. A review of such division has relevance in programmatic and policy designs.

In sub-Saharan Africa, it is now recognized, women provide 46 per cent of the total agricultural labour and a larger proportion of the labour for food production. In Kenya, men and women often specialize in complementary tasks on the same site, such as land clearing (men), plough (men), weeding (women), harvesting (women), food processing (women), fuelwood gathering (women) and charcoal production (men). There is also an emerging pattern of

men managing cash crops and commercial enterprises, while women manage subsistence production. However, women also work as unpaid labour on men's cash crops. Most Kenyan women are also responsible for fetching water and fuelwood, which entail going outside the community.

Studies on women and development in Africa reveal that most of the reproductive activities are undertaken by women. These activities include food production, water and fuel collection and childrearing. Women's workload increased as they were involved in both reproductive and productive activities. Studies note that women are active economically for more than 14 hours in a day and that their work in agriculture surpassed that of men. One study further notes that "agricultural tasks done by men were those requiring superior strength like clearing and ploughing. Farming tasks done by women tended to be less stimulating and were more repetitive ones, hence tended to be time consuming e.g. hand digging, harvesting and winnowing."²

Both men and women participate in more productive activities, such as marketing, cash crop production, farm labour, processing and storage. Both are involved in co-operative farming and farm maintenance, weeding, harvesting, processing and storage. Other studies on African and Asian households support earlier evidence on women's increased workload in both productive and reproductive activities.³ Women undertake socially reproductive tasks such as childcare and household maintenance. Men are actively involved in the cash economy, in mines, plantations or on land, while women's labour is mostly utilized in planting, weeding, thinning and harvesting.

Evidence indicates that both sexes have access to land and wage labour. Men, however, "control the use of any land owned and have power to allocate family labour among particular tasks or types of work."⁴ In Kenya's Siaya District, trees on household land are considered to be the property of the headman, regardless of who plants or tends them. In agriculture, men and women have access to various agricultural inputs but the control of such inputs is the man's prerogative. In livestock production and maintenance, men and women have equal access to facilitating the dual process of production and maintenance. Women, however, have no control of inputs. Women's inadequate control of reproductive and productive inputs implicitly lead to the failure in development efforts.⁵

It is important to note that women's customary rights continue to be eroded. For example, women among the Luo of Kenya lost their rights and security of access to lineage land (in common and household plots) when land adjudication officers equated the inherited right to allocate land with land ownership, ignoring all other rights.⁶

All the studies reviewed indicate that both men and women have access to benefits accrued and that men have control. Some deviations include Muslim women of Kenya's Coast, who can inherit trees.

Women's decision-making power and authority varies from culture to culture. Despite the diversity, there are some common threads. Among the Luo, men as a group formerly had more authority over land allocation and now have even more control, as individuals, through title deeds. Women retain ownership of the harvested crops from sub-plots and have full authority over the disposition of grain in their stores and profits from selling it.⁷

All land transaction, including the decision to buy, sell or rent land, is a man's activity. The man also makes decisions to sale or purchase livestock. Decisions on mechanical farming equipment, tractors and fencing are a man's key domain.⁸

Women have been identified as key decision-makers in most rural development related work. According to a survey of constraints and opportunities for women in Ghana, Kenya, Lesotho, Nigeria, Bolivia, Paraguay and Peru, women play active roles as decision-makers and participants in most rural development work. They take part equally with men in basic agricultural production. However, the transfer of technology to rural people seldom incorporates women as participants. They are rarely members of project planning groups. Rural women dominate in decision-making and participate only in petty trading. They make inputs by joining agricultural co-operatives, obtaining credits and selling cash crops. Rural women prevail over family care and handicraft production.⁹ Despite examples of women's participation in decision-making, the gap is still wide in terms of the type and scope of decisions women participate in.

The present study

Principally, participatory approaches, supplemented by in-depth interviews, quantitative household information collected through questionnaires and selective photography were used. Each of the data types and tools used had special strengths and advantages and jointly provided a high degree of complementarity.

Quantitative household information was gathered using a structured questionnaire. This source of information made generalizations about the entire sub-location possible. From the same source it was also possible to establish magnitudes of elements critical to understanding gender issues. Qualitative information was gathered through focus group discussions, in-depth discussions in which a small number of people, usually eight to ten, guided by a facilitator, talked about topics of importance to a specific development initiative. The small group was homogeneous in age, social class and other related aspects. This homogeneity made it possible for the group to discuss issues freely. A structured schedule was used to guide the discussions. In-depth interviews were used to gather information from individuals. This approach made it possible to gather very detailed information on similar issues as

discussed in the focus group discussions. The category included community leaders, such as business people, politicians, teachers and women, who, due to the nature of their work and also by their social standing in the community, would either not be available for group discussions or, if they were, influence the outcome of such discussions.

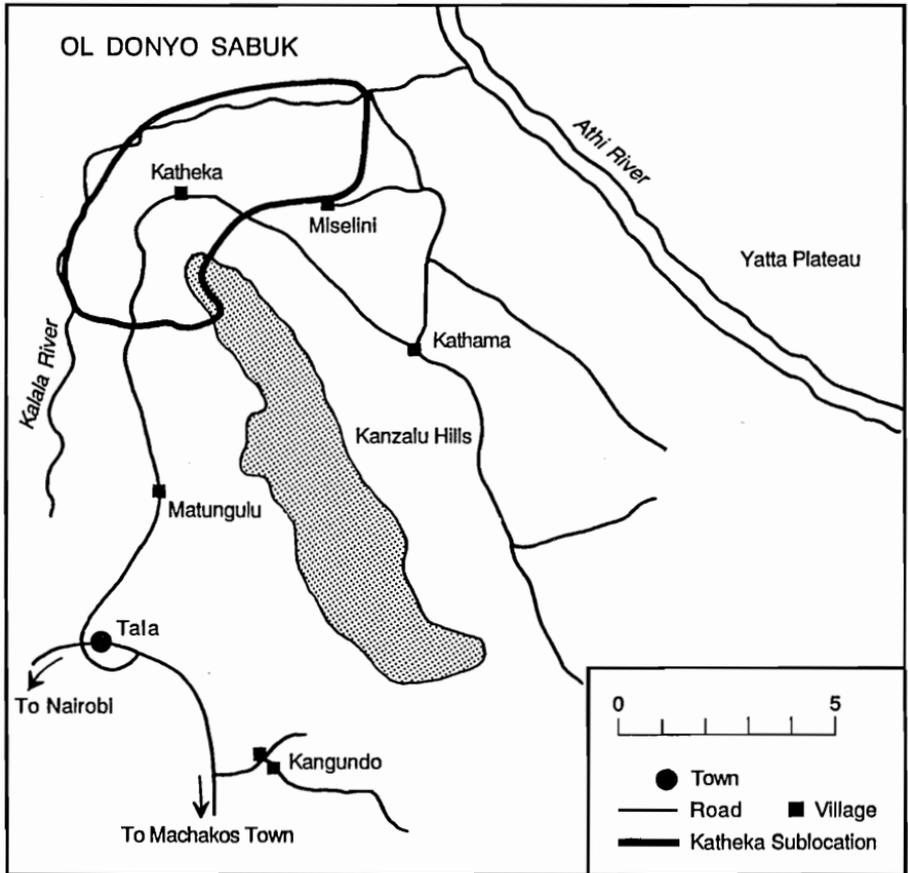
Several categories of information were collected. Three categories of labour were investigated—reproductive, productive and community. Labour division and profiles were disaggregated by gender and age. Group categories included female adult, male adult, female child, male child, female elder, male elder and female household heads. Reproductive activities included childcare, fetching water, firewood, and cooking. Productive work ranged from land preparation and business to harvesting. Access to and control of inputs and benefits were analyzed by gender and age. Inputs included land, tools, seeds and time, and benefits included income, education level and decision-making. Patterns emerged in division of labour, access and control of resources and benefits. Information sought touched on causes and/or explanations of those patterns. The causes could be cultural, economic or political. There were diverse constraints impeding effective programme implementation. They included economic, cultural and technological constraints. Skills, male emigration and culture were revealed as the reasons why women are natural resource managers.

Katheka sub-location (see Figure 5) has three villages: Kavumbu, Katheka Central and Miseleni. The survey was conducted in all three villages and the results can, therefore, be generalized for the entire area.

Katheka has 407 households distributed unequally in the three villages. A total of 120 households was sampled by randomly sampling every fifth household. This gave a distribution of Kavumbu, 40; Katheka Central, 46 and Miseleni, 34. The sampling criteria were the number of villages and age group categories, both male and female. On the basis of these criteria, 27 groups were identified.

The recruitment and training of enumerators was locally done. For the questionnaire, three school teachers (one woman, two men) from each village were recruited. For the discussions, six young people (three men, three women) were identified. All, except one university graduate, were high school graduates. Each pair (woman and man) was allocated a specific village. The two alternated as moderator and note-taker. Use of local personnel was a deliberate action, for two reasons. First, it was seen as a capacity-building strategy. Secondly, it was an attempt to moot gender as a topic for discussion. It was gratifying that after two weeks some enumerators began to appreciate the meaning of gender. One male household enumerator expressed sorrow at women's disadvantaged position.

Figure 5 Location of Katheka, Kenya



Establishing links at the community and administrative levels was necessary before embarking on the study. A visit to the community and discussions on collaboration helped to renew old relationships. At the administrative level, formal clearance from the district officer in Kangundo (in which Katheka falls), the chief of Kyanzavi location and the assistant chief of Katheka were also obtained since clearance is mandatory for research in Kenya. This process took approximately a fortnight. The team was made up of two co-ordinators from Project Reach, Nairobi, and nine people (four women, five men) from Katheka.

A household questionnaire was supplied to 120 households, representing 27 per cent of the 407 households. The questionnaire was found necessary for establishing parameters critical to understanding gender relations, such as male migration, female-headed households and education participation rates for girls. Some 27 focus group discussions were conducted in the sub-locations. To collect gender-related information, several tools were used. A seasonal calendar was used to depict gender division of labour on a calendar. The diagrammatic representation of information on the types of work done, the time taken and who does what revealed at a glance the disparities in workload between the different sexes. Daily profiles were used to demonstrate daily time use—reproductive and productive—by gender. Trendlines were used to reflect changes over time in the parameters being investigated. A ranking of problems/constraints identified the most pressing community problems.

A synthesis of qualitative data was partially integrated into the data collection process. For example, the time-use profiles and seasonal calendars are in themselves data synthesis techniques. There was, however, a data synthesis session when problems, determinants and constraints from all information sources were put together to rank problems.

A sub-location is Kenya's smallest administrative unit, headed by an assistant chief whose job it is to catalyze and oversee development and to maintain law and order.

Katheka is approximately 85 kilometres from Nairobi and 15 kilometres from the market town of Tala. Katheka's 2,800 people (1989 census) are found in the three villages studied: Kavumbu, Katheka Central and Miseleni. To the south the sub-location is bounded by the Kanzalu Hills, with an elevation of 1,700 metres.

Katheka is semi-arid; the soils are thin, sandy and fragile, and the slopes are steep. Despite great efforts at natural resource conservation, life is still hard. Food self-sufficiency at the household level depends on good rains. On average, the area receives 600–800mm of rain annually, but the rain's effectiveness is greatly reduced by evapotranspiration and run-off. Rainfall is bimodal, falling between March and May and between September and November.

Drought is a common phenomenon, and water shortage is a permanent problem. The Kalala River and several springs at the foothills are the main water sources. When the dry season sets in, the springs dry up and the people have to trek for over 16 kilometres (return) to fetch water.

Katheka's vegetation is scrub, with acacia, cacti and coarse grass. Sparse vegetation and the dominant porous soils on steep slopes offer little protection during torrential rains. Massive soil erosion is therefore, a common feature. The net result is poor farm yield. Small-scale production yields pigeon peas, maize and beans as the main food crops. Coffee, the only cash crop, has not done well. Katheka has neither electricity nor piped water.

Household characteristics

Of the 120 household respondents, 95.8 per cent were either husband or wife, 53.3 per cent female, 46.7 per cent male, 8.3 per cent single, 1.7 per cent divorced and 14.2 per cent widowed. The survey showed that the average household has six children and is headed *de jure*, by a man, although some (38 per cent) are headed by women because their husbands are absent. Male out-migration is substantial; 40 per cent of the married men are in wage employment in local townships and Nairobi. These males live out for periods exceeding seven months in any one given year. Most are engaged in non-professional jobs, such as casual labour and driving. A minority are employed as cooks, office workers, salesmen and tailors. Male out-migration has far-reaching implications for sustainable development. The women have had to assume traditional male responsibilities, thus increasing their workload tremendously. Traditionally, some children help at home, but in Katheka nearly all children up to the age of 14 are in school.

The majority (85 per cent) of those who responded to our questions had no formal education. Those with secondary and post-secondary level of education accounted for only 15 per cent. The majority of those with secondary and post-secondary education are males. Information shows that the trend is now changing, with both male and female children getting an equal opportunity at primary school level (see Table 7). At secondary and post-secondary school, however, females account for only 39 per cent.

Table 7 Katheka Primary School enrollment, 1993, Kenya

Class	1	2	3	4	5	6	7	8	Total
Boys	30	35	60	55	46	20	30	16	299
Girls	35	47	77	40	35	32	21	22	309
Total	65	82	137	95	81	52	51	38	608

Source: Head teacher, Katheka Primary School

Economic opportunities are limited. Very few of those out of school are in gainful employment. The males, however, seem to have greater employment opportunities, though they rarely have professional jobs. The males are mainly employed as mechanics, painters, carpenters and masons, while the females are employed in teaching, nursing, secretarial work and tailoring. About 50 per cent of the respondents receive remittances mostly from spouses and working children. Most of the remittances are spent on food, education and clothing. Very little goes into medical care and household goods. This expenditure pattern is to be expected because of the regular food deficits and the importance attached to education. Of those who receive remittances, 38.2 per cent said both men and women are involved in decision-making. An equal percentage of respondents who receive remittances indicated that it is the man that makes the decision on expenditure.

Reproductive activities

As analysis of the male and female roles and responsibilities, their interactions with project goals, strategies and outcomes were the main driving force behind this survey. Thus the survey facilitated a critical appraisal of the Katheka community to establish who does what, when, how much and why. The reproductive work cluster provided a good starting point for the analysis. This is because it comprises a range of activities, which according to Kamba customs have been a female preserve. This is well documented in earlier studies.¹⁰ Like any other society, the Katheka community is slowly but surely undergoing changes in modernization. To establish whether change is gender-sensitive in the context of natural resource management, information on reproductive activities was collected.

Out of the 66 female respondents, 57 (86.4 per cent) against nine men (13.6 per cent) reported that they undertake reproductive work. Apart from the male child (five–12 years old) and the male youth (13–17 years old), who assist occasionally, the adult and elderly male's contribution is minimal. Exceptional cases exist where the male gets significantly involved in this category of work because the spouse is ill, absent or dead. Male children also participate in childcare and fire-making.

In-depth interviews showed that males from well-off and/or exposed families also perform reproductive activities. For example, male youth at a local leader's household were observed boiling green maize and washing clothes without any inhibition. These chores are typically a female's domain. Thus, it can be inferred that social class and exposure leads to the sharing of roles and to gender sensitivity.

Reproductive activities are undertaken by all female categories, ranging from the female elder to the female child. The only difference is the intensity and time allocated to each. For instance, the female elder group spends more time on childcare. The female adults and household heads allocate more time to fuel and water collection, food preparation and washing.

The daily profile and the questionnaire provided information on each specific reproductive activity by gender. For instance, the female's average work day is between 13 and 16 hours; the male's is much shorter, a maximum of six hours. From all data sources, it is clear that childcare takes most of women's time. About 43.9 per cent of the respondents reported that it takes more than seven hours a day, mostly at home or in the family field. Childcare is unique in that it is not perceived as a gender specific activity. Indeed, determining the time taken by this particular activity is constrained by the fact that childcare is normally tucked onto other domestic chores. However, this activity is significant because it is not only time-consuming but is also burdensome for women.

Fuel collection is another reproductive activity currently generally carried out by female children, adults and elders. The male child and the youth assist occasionally. Given that Katheka is poor, especially in trees and forests, readily available fuelwood is an issue. Indeed, fuelwood shortage is a major problem. For the majority of the respondents (84.8 per cent), it takes about three hours a day. Considering that firewood collection is one of the myriad of chores to be undertaken on any single day, three hours are substantial. Fuelwood is collected mainly from the family field or the local community. It consists of "low-quality" dry twigs and branches that burn quickly.

Water collection emerged as arduous and time-consuming. In the dry season, fetching can take 4 to 6 hours a day since it involves walking eight kilometres, scooping sand to get to the spring water and queuing to get the water before the slog back home. In the wet season, it takes about three hours. The water problem has remained the community's number one priority since the From the Ground Up exercise in 1987. The female child, however, is less involved if of school-going age. The male child or youth occasionally helps in water collection in households endowed with wheelbarrows or handcarts. Male involvement is encouraged by "appropriate technology". Wheelbarrows and handcarts are advanced technology, compared with pots, cans and pails, for generations associated with womenfolk. Thus, the introduction of such technology is a sure way of involving males, thereby reducing the woman's workload.

In maintaining a family, food preparation is arguably the most important activity. In the study area, most respondents said this crucial task is undertaken by all females (57) and all males (nine) who undertake reproductive

work. Rarely does the male child, the adult or elder participate and, when they do—under exceptional circumstances—they take little time. For the majority (56.1 per cent), cooking takes about three hours. For a similarly substantial number (42.4 per cent) the activity takes four to six hours. Washing utensils and clothing is another important household chore. For 78.8 per cent of the respondents, it takes less than three hours. This is still a female preserve except where the male child participates in washing clothes. Sweeping the home compound is another female chore. Male participation is again limited to the male child.

The key resources necessary for effective and efficient performance in reproductive work include time, finance, skills, trees for firewood and tools for firewood chopping and water collection. Evidence from the groups interviewed indicate that, while reproductive work is predominantly a female domain, inputs critical to effective work discharge are primarily controlled by male adults. The main issue here is control. While the children have control only over their skills, it is clear that women have control over just some of the resources they need daily. Time is one resource most respondents indicated they have control over. Given the woman's long working day, it was surprising that no respondent cited lack of time as a constraint. This could possibly be explained by the female socialization process that expects women to be busy all the time. Relative to men, their clearly predetermined daily schedule determines and explains their time use. This provides a potential entry point into development agencies for workload reduction and other related areas of advocacy.

Trees are another resource over which females enjoy limited control. It is noteworthy here that control over household trees generally belongs to the male adult and elder. However, a large number of womenfolk (53 per cent) have control over fast growing species for fuelwood. As regards the indigenous tree species, the man controls utilization by occasionally lopping off (pollarding) branches.

A most disconcerting aspect which came out of this survey is that females have no control over such essential factors as money, skills and tools. Apart from the limited control over such skills as weaving and tools such as water cans and *pangas* (cutlass) women have to literally be directed as to using such inputs. Money is especially sensitive in this respect. Experience elsewhere has shown that control by women over this item ensures better family nutrition, clothing and health. This is highly compromised in Katheka by not only the prevailing high level of poverty, but also by the imposed over-reliance of females on males for money and other resources. In female-headed households the woman has greater control.

Resources are expected to yield certain benefits. These are critical in that they contribute to either motivation or demoralization of workers. The analysis has attempted to establish the situation in control over these inputs. What is emerging is that women actually provide the required labour while men generally make decisions on the allocation of resources. Women appear not to be conscious of their disadvantaged position.

The study has revealed a clear gender division of labour. The consistent pattern emerging from all the sources of information is that reproductive work provides a clear distinction between men and women in this society. However, this distinction is becoming hazy with time as females begin to assume traditionally male roles, such as herding and construction of granaries. There are also instances of men participating in reproductive work.

Benefits accruing from reproductive work are many and varied. However, for this study, the benefits included labour from children, dowry, community respect and remittances from children. A key finding is that everyone has access to all the benefits. Differences exist, over control, which is clearly not equally shared; the male adult has the upper hand. While there was consensus on the fact that all the various children's categories have only access but no control over the benefits, this cannot be said of the other groupings. The male elder, the male adult and the female elder all have control over child labour, dowry, community respect and remittances. But the female adult, even when she happens to be a household head, has control over only some of these benefits, mainly child labour and remittances. However, there are cases where female adults influence the outcome of family benefits, such as dowry.

Culture was unanimously endorsed as the major factor governing this pattern. Traditionally, the female was expected to handle the household chores while the male input is minimal except in decision-making. Statements such as "the woman belongs to the kitchen" or "it is a woman's duty" exemplify this. The woman is supposed to be domestic, but the man is allowed to explore. Another emerging factor is the impact of change on culture. Demographic changes have influenced the traditional pattern. For example, due to a spouse's demise, sickness, out-migration or non-marriage, a significant number of households are headed by women, inevitably assuming all the roles. The other side of the coin is that men, under the same circumstances, have taken on female roles.

A number of factors constrain effective reproductive performance in this community. Inadequate access to necessary resources, women's heavy workload and marginalization in terms of control over the essential inputs are examples. The harsh environmental conditions characteristic of this area have led to lack of water, fertile soils and forests. Thus, the female has to spend a lot of time fetching water and fuelwood. Related to this is the depressed nature of the local economy. The resulting high level of poverty has led to lack

of capital input. Tradition has nurtured a negative attitude towards reproductive work over time. Consistent with a male-dominated society, the females have taken on the unenviable mantle of reproductive duties. This burden is compounded by the prevailing male monopoly over control of the necessary inputs and the benefits accruing. This amounts to female marginalization and is eventually counter-productive. A factor external to reproductive work, but which impacts negatively, is the poor state of infrastructure, in particular in communication and health facilities.

Productive work

In this survey, productive work was primarily confined to various elements of farming, which is the main local economic activity. Farming includes land clearance and preparation, seeding, weeding, spraying, harvesting, food processing, honey harvesting and sale. Sand scooping is a unique source of income here. However, associated with it are such negative environmental impacts as sub-surface water depletion, land degradation and destruction of soil conservation structures. Sand scooping benefits the elite in Nairobi and other urban centres and is, therefore, handled as a constraint to the Katheka community.

For development to be equitable, meaningful and sustained, there is no other recourse but to address the dynamics of differential power and privilege between men and women as reflected by the division of labour; access to and control of resources and benefits; the determining factors and constraints in effective performance.

Katheka is predominantly a farming community, where 93.3 per cent of the respondents till the land. The importance of farming is not so much associated with its viability but rather with lack of other opportunities. For example, only 28.3 per cent of the respondents do business and, even then, on a very small scale. Productive work is undertaken by males and females of all ages. However, there are marked differences in time and type of activities done by men, women and children. Women's contributions to productive work is significant and increasing as men move to towns for wage employment.

With reference to farming, the seasonal calendar reflects an area characterized by a distinctive rainfall pattern and land use. The two rainy seasons stretch from March to May (long rains) and September to October (short but more reliable rains). Land use is mainly for crop production and livestock rearing. The main activity, agriculture, includes both cash crop and subsistence. Coffee is the main cash crop while other insignificant ones are mangoes, pawpaw, melons, vegetables and cotton. The food crops include maize (which is dominant), beans, pigeon peas, bananas, cassava and cabbage.

Despite cash crop farming, deep poverty exists. Because of the hostile climate, farming is generally hazardous, typified by low yields and crop failure. Coffee does very poorly, with yields as low as three to five kilos a stem. There is a low number of smallholder coffee farmers and they have few trees.

The farming cycle starts with clearing the land, done manually, an arduous task indeed. Traditionally among the Akamba, this was a man's job. Most respondents indicated that it still is. However, it was also evident that the female adult is increasingly involved in land clearance, an activity in the family field which takes less than three months. She also hires out her labour to clear commercial farms for money. On the rare occasions when this happens, it takes most of her time, i.e., between four and six months. The respondents were also unanimous that the rigours of this activity effectively exclude children and elders.

Sequentially, land clearance for cropping is followed by preparing the land for seeding. This equally cumbersome task calls for manual resilience. This is even more pertinent with reference to Katheka, where use of animals in ploughing and harrowing is minimal. Both female and male adults are involved, female adults more where land preparation is for food crops and men more involved in cash cropping. Land preparation for cash crops at the farm level is rare but when it occurs, it takes most of the male adults' time, four to six months. The female adult also takes part in preparing land for cash crops, but mostly outside the community, for extra income. This is mainly in the nearby coffee farms.

Seeding is carried out by both sexes. Traditionally, this was a female job; however, a shift has occurred over time because it is now the male adult who spends more time on it than the female adult. Seeding takes half of the male's time in fields in the community. The same exercise takes a small amount of the female's time in the family field. This change came about when ploughs and cash crops were introduced, which implies a change in farming technology, something the man is willing to embrace. This is yet another entry point for any efforts designed to reduce the female workload.

When it comes to weeding, culture precludes males. However, this has also changed with time. Cash cropping has contributed largely to male participation. While some respondents indicated that male adults weed cash crops only, most said male adults weed food crops in the family field, where it takes half of their time. Children (in particular, females) also take part. In Katheka, little spraying is done, mainly because chemicals are expensive and coffee is grown by very few people. Spraying food crops is minimal. When done, female heads of households, the male elder and male adult are the main actors. The leading actors, though, are the male adults; they do the spraying in and beyond the community for less than three months.

Harvesting is undertaken by males and females of all ages. Male and female adults share the burden while elders assist in harvesting food crops. Harvesting takes less than three months. Males are seldom involved in processing the harvested crop. However, the male adult is involved in the coffee processing, which takes little time at the pulping factory.

While women do most of the reproductive work, their contribution in productive work is equally significant. Indeed, Katheka's women do all types of productive work, except spraying and processing, two significant activities. The evolving pattern of division of labour in this community has actually increased the woman's workload.

The necessary inputs for effective productive performance are time, money, knowledge/skills, land and farm implements. The relationship between gender and resource access comes out graphically when looked at in the context of productive work. All groups have access to all the resources. The control factor, however, brings out glaring disparities. For instance, the male adult and elder control all the major inputs, such as land, time, money and implements. The male also controls tools, technology, money and skills. Here female control ranges from only nine to 11 per cent. On the other hand, the female adult and elder have control over time; they have no control over money, skills, land, implements and other inputs such as irrigation water and extra labour. The female household head controls all the major inputs. Children have no control over any inputs.

While all groups have access to income, education and status, the male adult and elder have control over the cash crop and the income from it. Comparatively, only a quarter of the females have control over money/income, despite their contribution to productive work. Neither the female nor the male adult has control over education/skills and community respect or status. Half the females have control over some food crops and income. The female elder and adult have no control over skills, status and other benefits, such as good health. Children have no control over any benefits.

The emerging pattern is that the female has become increasingly involved in productive work. The main explanation is that the traditional division of labour has tended to break-down due to male out-migration and sale of personal labour by females. Male migration to urban areas in search of jobs (35 per cent) has resulted in many households being headed by women, leading to changes in the division of labour. In the same vein, economic opportunities opening to women through education and employment have facilitated ownership and land control. The factors constraining effective performance of productive work were cited as lack of tools, seedlings, fertilizer and technical advice, poor access to clean water, poor producer prices and the poor state of communication facilities.

Community work

The Katheka community is well-known for its enthusiasm for community work. Indeed, as documented in the 1987 From the Ground Up survey, the local *mwethya* (self-help) groups add up to a positive communal spirit to be emulated by other communities faced with similar resource constraints.¹¹ This work category was used in this survey to unravel the gender relationships in this community, in work, access to and control of inputs and benefits, the determining factors and the constraints hampering effective performance.

In spite of Katheka's positive past community work record, this study established that little development work has taken place in the last three to five years. Various explanations for this lapse are discussed below. In the division of labour, both the male (adult and elder) and the female (elder and adult) are involved, though not equally. For example, in the administration of community funds, 67.5 per cent of the respondents reported joint involvement. On labour, 91.7 per cent also reported joint participation. Decision-making, although shared, reflects male dominance. In fact, no respondent indicated that females alone make such decisions. In terms of consistent participation and numbers, the females (adult and elder) are usually way ahead of the males. Children are occasionally involved but play minor roles, like fetching water or stones, and only during school vacation.

The inputs considered under community work were time, money, skills, tools and project decisions. These are necessary for such activities as building and expanding schools, constructing access roads, a health centre and a doctor's house, *harambees* (self-help funds collection meetings) for churches and schools, cattle dips, a public toilet, gabions and a polytechnic. The female and male elders and adults have access to and control over time, money, tools and decisions. They have control over money and decisions through committees where both gender categories are represented. The tools used in community work are individually owned. It is worth noting that, although both gender categories have control over money, very little is available from the community for such projects. The deep poverty explains this.

The benefits accruing from community work are generally open to all and sundry. Thus, all gender categories have access to available community work benefits, such as schools, roads, water and incomes from sand. Once the community facilities are completed, control is by a management committee. Control over conserved water sources is mainly through the *mwethya*.

Women's participation in the Sub-location Development Committee is visibly lacking; 78.3 per cent of the respondents indicated that males and females are not equally represented in development committees. Of those who

reported unequal representation, 56.1 per cent indicated that women are the majority in these committees.

Community work in the study area has slackened somewhat over the years. Sand scooping has resulted in destruction of gabions and water catchment areas, and the women have thus given up. Women are the majority in community work because statistically they are greater in number. This is mainly because many males have moved out in search of other gainful employment. Some committees are purely a women's preserve. The seemingly minimal male involvement in community work is because, in some cases, men are not interested in community activities. Related to this are issues of leadership conflict as well as the deteriorating economy, leading up to increased poverty.

The Katheka people still possess their characteristic positive spirit towards community work. As evidenced by the number and level of participation, women play a leading role. Many factors are attributed to this communal urge. One of them was the perceived benefit from education, taken as the key to other economic benefits; hence the community's determination to build and expand educational institutions. Another factor is that this is a resource deficit area. Thus, communal efforts are deemed more effective in the mobilization of the people's contribution. This pooling up of resources is another economic determinant.

But community work is constrained by various problems. It is demanding in time. The prevailing low income is thus another major problem. Lack of skills is another constraint. For instance, soil erosion continues unabated mainly due to communal paucity in techniques to stem this menace. Fetching water takes a lot of women's time, making it difficult for them to participate in community work.

Cases of misappropriation of funds by management committees were cited as another factor. Related to this was the fact that committee leadership is dominated by men, despite women being the majority members. This stifles female participation. Lack of co-operation emerged as another stumbling block. Related to it is inaccessibility to the administration, especially the chief, because of poor communication facilities. Lack of a well equipped health centre was cited as another major constraint. Most respondents recalled that they had already constructed a health centre and a doctor's house. However, their efforts have been dampened by lack of essential equipment and lack of a doctor.

Female involvement in all categories of work

The Katheka women are family, agricultural and environmental managers. Most of their time is consumed by childcare, collecting water for household

use, fetching fuelwood, agricultural work, including planting, weeding and harvesting; providing food from subsistence farming; community work, such as building schools, gabions and roads. Given Katheka's semi-arid landscape and thin sandy soils, susceptible to severe erosion, women's ability to take care of their families is threatened. The environment offers a fragile resource base which portends danger if continually exploited.

Women's overwhelming involvement in reproductive work is in accordance with the cultural laws. A woman is described as "good" or "able" only when she maintains her family effectively. Sayings such as "the woman belongs to the kitchen" emphasize this role. Reproductive work does not need specialized skills. But it requires time and energy. Household food production is the most important reason why women work so hard on their small farms. Women are responsible for providing family food and other support services. Women, therefore, have no option but to work for many months on the land. Women are a major source of community labour because of their numbers and positive response to development. When communal projects come up, women are the first to be called upon.

Approximately 40 per cent of the married men live out of Katheka for over seven months during any given year. There are many households where women are the *de facto* heads. In such a situation, women have no choice but to absorb some traditional male roles. Katheka women have no special skills to undertake the work they do in agriculture. Out of necessity, however, they quickly develop basic skills. A case in point is in the layout of bench terraces where the women looked for a retired agricultural technician to teach them how to do it. Culture and survival challenges emerge as the two principal factors behind women's high level of involvement in sustainable development.

Policy and programme recommendations

The problems and opportunities characteristic of gender disparities in the division of labour, access to and control of resources and benefits have implications for both policy and programme interventions in sustainable development. Women's limited right to resources, their heavy workload, poverty and inadequate access to basic services negatively affect sustainable development.

Women's right to land is conditioned by the scope of their overall legal status and by conflicting interpretations of customary law, statutory laws and actual practice (common law). For women to have greater say in this critical productive resource, a change in legal codes and interpretation or enforcement may be necessary.¹² In Katheka, both unmarried and married women generally have no control over land. Most decisions are made by men. This scenario is not, however, limited to Katheka or even Kenya. It obtains

throughout Africa and other developing regions. Because Kenya's law does not bar women from land ownership and control, educating women on their rights is perhaps a good beginning. Popular women's organizations should be empowered to create advocacy and lobbying groups for women.

Sand scooping by Nairobi-based contractors has destroyed gabions and the water sources on which women depend for domestic water. The fees accruing from such licences are not at all shared between Katheka and the Machakos County Council, which levies the fees. The implications are many. The women have abandoned soil and water conservation; water sources have been depleted; and roads are damaged by the heavy sand trucks. The Machakos County Council should have dialogue with the community on issuing scooping licences. Such dialogue would facilitate identification of sites so as not adversely to affect community water sources. Sharing of the fees could support Katheka development.

Focus on women as separate from the population at large has marginalized them even further. Women's concerns should be mainstreamed and gender-sensitive planning should be institutionalized.

Women are overworked. They spend 13 to 16 hours daily doing both reproductive and productive work. Men spend an average of only six hours. Women are increasingly assuming traditional male roles as men move out for wage employment. This implies that the concept of the male as the head of the family no longer holds. Women are not conscious of this great disadvantage. Male participation in traditional female roles is still very low, but it is increasing due to exposure, technology and economic conditions. Gender advocacy could provide for even sharing of all types of work. Provision of water and the planting of trees could reduce the time taken to fetch water and firewood. If there were development and access to appropriate technology it would reduce women's workload and involve males more. Gender analysis should precede all programme development.

Women's effective and meaningful participation in development is greatly hampered by their subordinate positions at the household level. They have minimal control over production resources and even much less over benefits. The Katheka situation is the same. Decisions on family benefits are largely made by men. Men control the sale and buying of livestock and land. Men control the proceeds from cash crops. Equipment and farm implements are principally controlled by men. This situation could improve if gender analysis were made a prerequisite of programme development and support. Development aid should require increased women's participation in development committees. Policy-makers and implementers need to be trained in gender-sensitive planning.

Only one-third of the women participate in wage employment. Males working outside Katheka remit some funds to their families back home, but the funds are insignificant. The women are, therefore, still the families' benefactors. There is need to advocate increased participation of secondary and post-secondary girls. In general, the area's economic base needs strengthening, but, more specifically, women should be provided with credits. Joint decision-making on family incomes must be emphasized in all literature.

At the primary level of education, females are sometimes more numerous and perform better than males. At the secondary and post-secondary levels, they constitute only a third of the total enrollment. The same proportion is maintained in employment. There is a lack of extension services, particularly in health, agriculture and livestock. Because of changing roles and women's visibility in "male roles", it is desirable that they be targeted for technical skill development. There is a need to advocate greater female participation in higher education. Workloads for girls should be alleviated as a way of keeping them in school. There should be more technical assistants in agriculture, livestock, health and adult education. Technical services should be targeted to those using the skills. Females need greater control of the skills and implements necessary in their work.

Notes

1. Thomas-Slayter *et al.*, 1991.
2. Were, 1985, p. 77.
3. Joekes, 1987.
4. Joekes, 1987.
5. See Were, 1985; Reynolds, 1975.
6. Pala Okeyo, 1980a, b.
7. Pala Okeyo, 1980a.
8. Reynolds, 1975.
9. Riegelman, 1974; see also, Boserup, 1989.
10. Thomas-Slayter *et al.*, 1991.
11. Thomas-Slayter *et al.*, 1991; see also, Khasiani, 1992, pp. 27-39.
12. Rocheleau, 1985.

7

Reflections on gender in natural resource management

LORI ANN THRUPP AND

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Grassroots experience illustrates prevalent themes concerning gender roles in natural resources and, more generally, people's relations to their environments. The case studies in this volume show that women's work and contributions are critical in managing resources and in shaping environmental and socio-economic conditions. In addition to providing detailed information on gender-based responsibilities, each study adduced information on how women and men may be affected by broader policies, institutions and socio-economic changes. The cases show why policies and institutions should give serious attention to gender distinctions, especially to women's role in the environment and development fields.

The findings and lessons from these cases were discussed in a workshop with the authors and policy-makers in Nairobi, in October, 1993. One purpose of the workshop was to share the findings of the case studies, particularly focused on gender roles and women's activities in resource management. Commonalities, differences, constraints, elements of success, policy recommendations and follow-up suggestions were also identified.

In all the studies, women and men have clearly-defined divisions of labour in households and communities. Women have the main responsibilities in farming, animal husbandry, use and collection of fuel and other forest products, water management and other resource-related activities. In many

situations, women have gained important specialized skills in resource management, including of particular plants, trees and natural products. Such knowledge is not always shared with men. Women also have the leading responsibilities in such domestic labour as food preparation and childcare, which are fundamental to the welfare and livelihood of the household members. Men are also involved in resource management, but they have less significant roles in many areas. Men are increasingly employed in wage-earning work, while women have less access to income-earning opportunities.

These gender-based responsibilities are based largely on cultural traditions and social expectations. In some cases, they are associated with religious beliefs (as illustrated by women's and men's relations to sacred groves in Ghana), and they often are based on ancestral ties. In some cases, however, the roles have evolved dynamically with broader socio-economic changes over time. For example, women in many Ghanaian communities have experienced growing economic and social opportunities through the DWM. In other cases, with the expansion of the market economy and growing male migration toward urban areas, more and more women have become heads of households and are increasingly involved in wage labour. Yet generally, women maintain the vital subsistence labour necessary for their families' survival and well-being.

In most of the case studies, communities are attempting to mitigate natural resource degradation, using a range of approaches. Many different community members—including women, men, elders and children—have been involved in such efforts. Women have undertaken particularly notable initiatives and activities to conserve natural resources, prevent environmental degradation and improve economic/social welfare. For example, women are active in soil conservation, protecting sacred areas and establishing agroforestry plantations. They have had considerable success in these activities, contributing to improvements for the broader society. These initiatives by women also show promise and potential for the future.

A summary of constraints

The lives of community members and their efforts at change have confronted several common constraints or weaknesses, especially in terms of gender biases or impediments for women in natural resource management and sustainable rural development. In these case studies, eight main factors were identified as common gender-based constraints, as follows:

- tremendous labour burdens borne by women;
- tradition and cultural influences that are often gender-biased;

- women's poverty and the under-evaluation of women's roles;
- lack of women's power and participation in policy- and decision-making;
- gender-biased legal systems for tenure and inheritance;
- lack of support from state institutions to address women's needs;
- lack of education for the poor, and especially women; and
- environmental degradation that hinders the poor, especially women.

Women bear the bulk of labour in a wide range of productive and reproductive activities, which create double-day and triple-day workloads for women, and can, in turn, contribute to poor health. This heavy workload—largely for subsistence purposes—also constrains women from being able to gain education and income-earning opportunities. Men generally have less work in productive and none in reproductive activities in rural households, although they often earn wages and control household expenditures.

Secondly, cultural traditions are often gender-biased and discriminatory against women. They are disadvantageous for women's economic well-being and can hinder their contribution to sustainable development. For example, culturally-based beliefs and norms often maintain men's control over household expenses and both productive and reproductive decisions. In many cases, cultural norms help maintain men in positions of power in communities. In turn, such traditional norms and beliefs often thwart women's opportunities for education, jobs and decision-making, and keep them weak or oppressed economically, politically, mentally and socially. In certain contexts, however, cultural roles and traditions can be advantageous or helpful to women; for example, they may enable them to gain unique traditional knowledge about sources and uses of medicinal plants, special qualities of non-forest timber products, special skills in conserving resources and survival strategies.

Third, although rural African women have critical roles in managing resources and ensuring survival, they are typically very poor—the poorest of the poor. Compared with men, they have much less access to income-earning opportunities, land and other economic assets. This economic deprivation leaves them powerless in many situations. When women earn wages, they often lack control over household expenditures. (Exceptions were found in the Ghanaian cases.) Furthermore, women's work in many productive and reproductive activities generally is unrecognized and undervalued in reports and official statistics. Women's work is taken for granted; it is often non-commercial, considered free and is therefore, uncounted. Even when women work for wages, it is often in the informal sector; it, therefore, remains invisible to formal accounting. This exacerbates women's powerlessness and their low status in society.

Moreover, women severely lack participation in political councils, policy forums and decision-making situations in all fields, particularly in natural resources and sustainable development. Even though women are the central actors, and often leaders, in *local* resource-related tasks, they very rarely gain opportunities or influence at higher levels. National or regional policy positions are dominated nearly entirely by men in Africa, as in many parts of the world. African women face great barriers to political positions. Women also tend to lack power when faced by powerful political economic pressures, such as dam projects or construction industries, as illustrated in the Katheka case. This lack of women's involvement in policy and economic decisions thwarts their empowerment and the possibilities for improving their political and economic status.

Fifth, laws in many African societies have intrinsic gender biases. One of the most important problems is women's lack of land ownership rights. In customary and constitutional laws, women often do not have the same rights as men to land tenure and inheritance. For example, the study on Chagga farmers shows that Tanzania's existing land system discourages individual investment in the cultivated areas for long-term land improvement and thwarts expansion in crop acreage partly because the laws tend to favour collective farming activities but do not endorse individual initiatives in resource management. Additional gender-biased laws are also found in labour conditions, employment benefits and marital policies in most African countries.

Sixth, government institutions, such as the agriculture and environmental agencies, tend to neglect women's needs in rural development and natural resource use. One of the typical gender biases in public institutions is the male-dominated agricultural extension system, even though the majority of African farmers are women. A regional FAO study showed that women represented only 11 per cent of the total extension staff in Africa.¹ Women are not only under-represented as extensionists, but they also tend to be neglected by male extensionists at the farm level. Technologies for agricultural development are generally targeted for male producers and infrequently serve women's needs. Even though women are key labourers in many aspects of resource management, they are often invisible to the public decision-makers who provide institutional services. In the Chagga study, for example, extension services address issues dealing with cash crops, traditionally grown by men, versus food crops, traditionally grown by women. As a result, the concerns that affect women as the providers of food are less likely to be addressed through policy. The lack of state agricultural services for women is also found in the Kenya case, where extension officers would not visit Katheka, despite pressures by the village chief and the local women's group.

Similarly, educational systems have gender biases; women face far more difficulties than men in gaining access to educational opportunities. For example, rural girls on average receive less schooling than boys, often because they are taken out of school to assume household duties and subsistence production. Boys and girls are often tracked into different kinds of courses and careers which have built-in gender attitudes and distinctions.² Moreover, adult literacy rates are far lower for women than they are for men throughout Africa. Such constraints inhibit women from improving their welfare. The Oboto case study notes that lack of educational opportunities for women binds them to their traditional roles, hindering them from making a full contribution to the development process. In Katheka, the percentage of girls in secondary and post-secondary school falls to 39.

Women are disproportionately harmed by the problems of resource degradation pervasive throughout many parts of Africa. As resource scarcity and deterioration worsen, women have to work longer and harder hours to collect and manage such resources as fuelwood, water and fodder. They also confront more difficulties cultivating land eroded or degraded in other ways. Water pollution and lack of sanitation services openly expose them to water-borne diseases; women have to work harder to boil and prepare water for their families. In some cases, women may contribute indirectly to environmental degradation because they have no other options; yet this form of deterioration in turn can create heavier pressures on their lives.

Opportunities and positive trends

Some encouraging trends and examples emerge from these cases and from similar experiences in Africa. In some areas and situations, gender sensitivity is being developed and gender issues better understood. The growing recognition of women's strong work at the local level has helped to highlight women's contributions in the environmental field. It will be a long time before gender equity is established, but at least some promising elements and inspirational activities have emerged. Opportunities and positive trends in gender and natural resource management includes:

- developing equitable educational opportunities for women;
- improving economic opportunities for women;
- using and strengthening women's existing indigenous knowledge;
- organizing groups to work together in problem-solving;
- improving access to land and to appropriate technologies; and
- building a policy dialogue and information exchange.

The Ghanaian cases include exceptions to some of the common gender-based constraints. For example, in some communities women have more access to land, education and economic power (through market ties and cultural norms). Some women have gained opportunities through organizations and political campaigns, such as the DWM. Although many constraints remain, such experiences offer insights and potential for change.

The case studies have shown that developing equitable educational opportunities for women is universally necessary to overcome gender biases and to work towards social and economic development and resource management. Women's education is greatly backward; yet improvements in education—in primary and secondary schools as well as universities—have been consistently beneficial and effective. Similarly, developing special training opportunities for women in forestry, agroecology and other related natural resource fields is important in this context.

Improving economic opportunities—overcoming women's poverty—must go hand-in-hand with improvements in education as an essential building block for change. The Ghanaian cases show that increases in women's economic opportunities, including jobs, access to credit, land and other assets, have resulted in considerable progress. Investing in women pays off for improving environmental conditions and for wider social change.

Women's possession of indigenous knowledge of natural resources is also an important opportunity usually unrecognized and neglected. Local knowledge tied to traditions can play a valuable role in conservation efforts. Protection of forest resources and streams reveals how local people use indigenous wisdom in important conservation work. In the Oboto case, both men and women have valuable indigenous knowledge of an array of plants and animals that live in the five forests of the surrounding area. Women's knowledge of soil qualities and tree characteristics in their farms is sometimes more sophisticated and useful than that possessed by formal extensionists. It forms an important alternative or complement to formal scientific knowledge and can be used effectively in conservation projects and policies.

Experience has shown that group organization can help to improve natural resource management efforts and alleviate environmental degradation. This is true for all kinds of development processes, and is particularly true for women's groups in natural resource management. Groups have an important function in combining labour, solidarity and bargaining power and, therefore, gaining more efficiency and influence than when people work individually. Women's groups are particularly successful when they are well-organized and can maintain control over the activities they undertake. Group efforts can also help women to gain more visibility or power in the public and in decision-

making. The value of being in groups is well-illustrated by the case of *mwethya* groups in Kenya's Katheka community, where women have battled soil erosion through terracing systems. The Kenyan Government recognized the importance of the female-dominated *mwethya* groups and responded by providing tools and extension advice to support the group's terracing efforts. (This situation had some weaknesses over time, but was useful at first.) In the Oboto case, women's participation in the *Agbe*, a local self-help group, helps the women to work together effectively and to self-finance their work through membership fees, which are used for loans, and the year's accumulated funds are shared equally among members.

Other opportunities that enable improvements for women in natural resources include developing and spreading appropriate technologies and increasing women's access to land. Experience shows that security of land tenure and equitable availability of production tools are critical for alleviating women's labour burdens and enabling them to participate in wider processes and programmes of sustainable development.

The exchange of ideas and people across villages or between countries on women's initiatives is a valuable opportunity to spur changes. Workshops or forums for exchanging information and discussing policy issues, such as the one encompassed in this project, can be useful, helping women to share insights, to learn from past experiences, to plan joint efforts and to interact with policy-makers. These forums help to build solidarity and empowerment. Educational programmes between different countries, such as participatory training sessions, are also useful ways for women to exchange information about their experiences, gain new skills and ideas and build mutual support and networks.

Synthesis of policy issues and obstacles

A comparative analysis of the case studies and consideration of commonalities leads to several key lessons and policy recommendations. Obstacles to integrate gender into natural resource management policy can be summarized as follows:

- women lack power; men dominate decisions;
- misconceptions and lack of appreciation of gender issues (partly due to cultural norms, and fear of the unknown);
- data gaps on gender roles;
- lack of political will to address the gender gap in natural resource management;
- lack of mentorship for women in policy arenas;

- belief in male superiority in political situations
- poverty and economic pressures hindering women; and
- socially-insensitive environmental policies.

The analysis shows clearly that gender has been poorly integrated into natural resource management and environment policies, few of which specifically address gender issues; they tend to be gender-blind or gender "neutral". Even though women are often the local experts in resource management and the safeguards of indigenous knowledge of the environment, policy rarely reflects their concerns and needs as the principal resource users or takes into account that they have valuable knowledge. Moreover, women lack access to policy-making positions and other forums and contexts where policies are made. Overcoming this political constraint is an urgent need.

According to the participants, another important constraint is misunderstanding about the meaning and relevance of gender issues in resource management and in development policy more generally. Law-makers and policy officials often do not understand why or how gender is important in relation to resource conditions and policy decision-making. Gender is considered by many people (mainly men, but also women) as a "women's issue", rather than one that influences both men and women and their different, yet synergistic, roles in the development process. This misconception, the participants claimed, is proliferated by the lack of available data on men and women in environmental management and production, in particular the role women play as resource managers.

Coupled with the lack of data on the differing roles of men and women in resource management is a lack of political will to address gender in policy. Powerful men often have little interest or willingness to change. In some cases, they "resist change", as noted in the Nigeria case study. The entrenchment of male power is often greatest at the higher levels of decision-making. The suggestion of changing the gender balance may threaten the *status quo* in which their interest is vested.

Women's lack of mentors is another serious problem in the policy arena. Women rarely run for or occupy high-level political positions. Likewise, very few women are in leadership positions in government agencies as well. The Oboto case study finds that women occupy only one per cent of top posts in the federal civil service, four per cent in senior levels and 12.7 per cent in the civil service as a whole. In the developing world, women hold fewer than ten per cent of parliamentary seats (although the percentage is higher in local bodies). Women's lack of time and their poverty and lack of access to educational opportunities, as well as cultural and legal discrimination, are

among the many factors that prohibit them from gaining such political positions.

Even when women gain political positions or decision-making authority, they often are not taken seriously, or are challenged. There is a perpetual but erroneous belief in many cultures that men have inborn superior leadership qualities. In some cases, women have become great and inspirational leaders, and the public has realized that women can be excellent leaders and bring unique qualities to institutions and to policy-making. Such changes are slow to emerge and are agonisingly few.

Policy recommendations

The outlook is pessimistic when considering the many layers of impediments experienced by women in policy-making and natural resource management. On the other hand, the case studies and other experiences show where opportunities exist for improvement, where and when policy changes are necessary and how they could be made. Numerous suggestions and ideas emerge from this analysis. A comprehensive description of all the options would be very lengthy. However, consensus was reached on a number of critical issues for which policy changes are recommended. These suggestions are organized into five main themes: policy making process; legislation and policy establishment; policy implementation; sensitization and socialization; and information for policy-making. Many of these suggestions pertain directly or indirectly to the need for gender equity and empowerment of women in sustainable development initiatives.

Participation in the policy-making process is critical for addressing the concerns and needs of local people and benefiting from their indigenous knowledge. Unless local people, and women in particular, are provided spaces and opportunities to express their concerns and needs, policy will continue to fail to benefit lives at the grassroots. At the same time, policy-makers need to recognize that it makes social and economic sense for the neglected half of the population to be included in policy processes and efforts at development and resource management. That is, more women's representation and involvement in such contexts favour social development more generally.

In the Oboto case, the government, or donor assistance, makes women's inclusion in the design and implementation of projects a necessary condition for funding. In Nigeria's Ondo State, donor policy recommended that women be included in the development council. In this case, for the sake of funding, the standard discriminatory practices against women's participation were set aside. This turned out to have broader social benefits and helped to educate policy-makers. Other countries can learn from these experiences.

Many existing policies and laws concerning natural resource management are gender biased and should be reviewed and revised. For example, land

tenure and land ownership legislation should be reviewed and, when necessary, reformed to respect women's roles in agriculture and forestry and to ensure gender equity. The studies suggest that new land policies must provide rural men and women with positive incentives to manage the natural resources on which they depend. It was also agreed that governments should support common property rights that recognize women as resource managers and work to support the symmetry between traditional and non-traditional tenure systems that provide women with access to land and other natural resources. In Tanzania, the government is initiating land tenure reforms. Participants suggest the government should use this opportunity to harmonize land legislation with customary land codes. The Katheka case study finds that women need to be educated on their rights to own land. Kenya's law does not bar women from ownership or control of land.

Others pointed to the need to support policies and laws to increase women's economic opportunities, including access to education, credit and technologies. For example, Ghana's Goviefe-Agodome mobisquad case study suggests that agricultural policies should be reoriented to increase women's economic productivity. Similarly, government institutions, such as extension services, need to be reformed to ensure equitable access to women. Extension services should be organized to reach women, and proportionately more female extension agents should be hired. Policy-makers should consider adopting minimum quotas to ensure more women have access to credit programmes. Credit services that make it difficult for women to participate, either because their quotas exceed women's or because of their failure to reach women farmers, should be restructured. Similarly, traditional groups that provide women with access to credit and other benefits should be recognized for the valuable role they play in elevating women's status through economic advancement.

In addition, gender should be a central concern in national policies on environment and development. National environmental action plans, conservation strategies and tropical forestry action plans should take women into account and address distinct gender-based roles and needs. These aspects must also be incorporated in the design and implementation of programmes and projects concerning environmental management. Language in policies should be gender-specific whenever possible, to highlight the important roles women play as farmers and resource managers.

It is not enough to change written policy statements and legislation on paper. Policies must be implemented and enforced in order to support local-level initiatives that address gender and women's role in natural resource management. Policies currently being implemented should be reviewed to determine the degree to which they take women into account. For example, in

the Oboto case, women play the key role in conserving the Igbo-Orisa forest, although the forestry department's policy does not sufficiently take them into account. In addition, policies that undermine the efforts by women resource managers should change. Special attention, for example, should be given to the Katheka case, where Nairobi-based contractors remove sand, denuding riverbeds and draining valuable dry-season water sources, without any compensation to the community. Though the government did not oppose this destructive practice, the official policy theoretically protects common property resource management and supports women's group efforts, meaning that such infringements could be stopped legally through state action. In cases where gender-sensitive policies exist on paper, as in some Ghanaian and Kenyan laws, it is important to improve the implementation of those gender-sensitive policies.

One of the most critical changes is to support equitable educational policies to provide opportunities to women. Evidence from around the world illustrates that educating women has a very high pay-off in terms of economic and social benefits.³ Improving women's educational status is directly correlated to improved economic and social welfare. For that reason, spending funds on women's education is one of the most effective investments for development agencies.⁴

It is also essential for policy-makers to recognize the importance of indigenous knowledge and traditional systems. Until such knowledge is recognized and valued as an important alternative to non-traditional or "modern" information, the forests, those who depend on them and posterity are in jeopardy. Improvement in educational policies and curricula is one way to acknowledge, use and strengthen women's knowledge.

Gender-sensitivity training for men, particularly policy-makers, politicians and leaders at various institutional levels, is an important part of the sensitization process. Training women is also important, but it is not sufficient. Targeting key male decision-makers is important for raising awareness of gender issues and their significance. When training is non-confrontational and directly related to men's work and interests, it is much more effective.

It is necessary for women to build lobby forums and link into effective lobbying initiatives for women. The Katheka study recommends that women's organizations be encouraged to learn and participate in advocacy work. The development of women's network groups can lead to shared workloads, women's development and raised consciousness of gender issues on the local, regional and national issues and constraints facing women. In Bangladesh, women's study groups have become important vehicles for exchanging information and concerns. As a result of the groups, women banded together to fight various social problems.⁵ Such networking is also occurring in parts of

Africa, among NGOs and academic women's groups. These networks can develop women's empowerment.

It was agreed that gender-disaggregated data needs to be gathered and systematized. Women's roles in resource use will continue to be overlooked as long as data collection fails to specify roles and duties by gender. The Katheka study notes that gender-specific data are relevant to programme and policy design and that, without this information, they risk being gender blind and ineffectual. The Malshegu study found that the Ghana National Environmental Action Plan failed to specify women's role in agriculture and health and, as a result, cost the country an equivalent of four per cent of the GNP in 1988. Gender-specific data should not be limited to reproductive work. Information on female and male roles in productive work is especially important in the light of women's increasing productive work, as men move from towns for wage employment.

It is also essential to use participatory methods for gathering and analyzing data. The conventional top-down approach that failed to include grassroots people in decision-making has proved relatively unsuccessful in meeting development needs at the grassroots. Participatory methods can be educational and enable local people to play an active part in development. These methods should be used to include women and, when necessary, adapted to take women's constraints (such as time) into account.

Data collection and systematization lose usefulness if left on a shelf. It is important to improve diffusion of gender-disaggregated data to policy-makers and others involved in the policy process. Dissemination schemes must be devised to reach those who directly influence policy. Creative ways to spread relevant information on women's role should be considered.

Great challenges remain to actually bring about these changes on gender and natural resource management issues. Working together, women and men are beginning to take steps towards increased understanding of the gender issues. Gender equity and sensitivity, particularly women's empowerment, can work directly toward the broader social, economic and environmental goals of sustainable development.

Notes

1. FAO, 1993, Table 14, p. 42.
2. Obura, 1991; see also King and Hill, 1991.
3. Boserup, 1989; Joekes, 1987; Obbo, 1980; Riegelman, 1974; Ssenkoloto, 1983; Palmer, 1987; Dankelman and Davidson, 1989.
4. Sadik, 1990.
5. Scott and Carr, 1985.

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TOWARDS COMMON GROUND

Gender and Natural Resource Management in Africa

Asenath Sigot, Lori Ann Thrupp and Jennifer Green, editors

The productive activities of most African countries are based on natural resource management. Women and men have different roles and responsibilities in natural resource management and face different constraints. However, the omission of gender considerations in development policies and programmes undermines productivity and leads to continued tension. Gender roles and women's knowledge need to be understood and accounted for in order to achieve sustainable resource management and social equity.

Towards Common Ground presents in-depth case studies which examine the dynamics of gender in local natural resource management in Ghana, Kenya, Nigeria and Tanzania. The findings of these studies have important implications for policy making and implementation; legislative and policy reform; sensitization and socialization processes; and generation of information. These findings can be used to guide the review of policies to ensure that they are gender-sensitive, support development at the grassroots level and foster self-reliance, equity and sustainability within rural communities.

This book is an important resource for governmental and non-governmental institutions concerned with the sustainability of development, development assistance agencies and researchers, academics and students of development.

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