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# Gender mainstreaming and community participation in plant resource conservation in Buzaya county, Kamuli district, Uganda

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## Abstract

The distribution of property rights to land and natural resources underlies the differential control of men and women over productive resources. This article investigates the role played by women in conservation of plant resources in Kamuli district, Uganda. Using a stratified random sampling technique, 60 tree farmers from Bugulumbya, Kasambira and Nawandhyo parish were interviewed. The findings revealed that women tree farmers were constrained by insecure tenure to tree resource, inequitable benefit sharing, male dominance in decision-making, low education and lack of planting materials. The extension media use varied according to gender. These findings have important policy implications in that for effective tree resource conservation, the information targeting rural women in Uganda should be in their native languages. Local programmes should be integrated into tree resource management programmes for the benefit of the grassroot populations, many of whom have low education levels.

*Key words:* extension media use, gender, tree farmers

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## Introduction

For several decades, food, agriculture and natural resource management policies have been designed without acknowledging that rural men and women may have different preferences, face different constraints and respond differently to incentives (Mangheni & Kwesiga, 2001; Lise, 2005). Traditional gender roles assign different

responsibilities to women and men. These gender-based differences can vary depending on the traditions and on environmental, social and economic circumstances. The triple roles of gender are basically the main determinants of how much plant and tree resources will be utilized by a particular gender group (Barton & Gimono, 1994).

In Uganda, the situation is not different; women play a significant role in agricultural production. They constitute over 80% of the agricultural labour force and use the hand hoe to produce almost all food crops, as well as 60% of the cash crops (MAAIF, 2000). The potential contribution of women to the forestry sector is not explored and fully recognized yet. There is, therefore, a need for gender mainstreaming as a strategy aimed at achieving equal participation, and access to benefits and resources in any intervention. Gender mainstreaming should entail the inclusion of the needs, roles, responsibilities, rights and interests of both men and women in tree farming activities (Kelkar & Nathan, 1991; Wickramasinghe, 1991; Schroeder, 1993; Warner, 2000).

Women's survival and that of their household and communities depend on access to and control of natural resources, such as forest, land and vegetation. Women are traditionally the prime participants in both the agricultural and forestry components of agroforestry production systems (Lise, 2005; Warner, 2005). They have learned to manage these resources in order to preserve them for future generations. Yet, women's access to and control of these resources are far from guaranteed (UN, 2005).

Full participation of women in all aspects of the management and conservation of forests should be actively promoted (UN, 2005). The factors affecting participation need to be determined to achieve an effective and balanced participation of all stakeholders (Jacovelli & Caevalho, 1999).

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The purpose of this study was to determine the role played by women in tree resource management in Buzaya county, Kamuli district. The specific objectives were to: (1) determine the factors affecting women's participation in tree resource management, (2) investigate the constraints faced by women tree farmers and (3) determine extension media use pattern by women tree farmers.

## Materials and methods

### Study area description and selection criteria

Buzaya county lies between 0°09' and 0°11'N and 31°50'E. Annual rainfall varies from 900 to 1200 mm with two marked dry seasons and the average temperature ranges between 22.6 and 24.6°C. Buzaya county was selected because it has characteristics typical of the diverse social, economic, cultural, rural and urban setting found in the Busoga region. The population density is about 230 persons per km<sup>2</sup>, and the growth rate is 2.3% (UBOS, 2002). Subsistence agriculture is the major economic activity employing about 84% of the population (MAAIF, 2000). The bulk of agricultural production is from manually cultivated rain-fed crops. Inter-cropping is a prevalent practice (MAAIF, 2000).

### Data collection

Data were collected from April to July 2003 in the three parishes of Bugulumbya, Kasambira and Nawandhyo of Buzaya county. Using a stratified random sampling technique, two villages were selected in each parish making a total of six villages. From each village, ten tree farmers were selected and interviewed. Other data were obtained through review of district environmental reports, focused group discussions, interviews and personal observations made during the fieldwork process.

### Data analysis

Quantitative data were analysed using the Statistical Package for Social Sciences (SPSS version 10, Chicago IL, USA). Qualitative information generated during the study is summarized and presented in a narrative format as results. Descriptive statistics were used to obtain percentages and frequencies.

## Results

### Gender division of labour

Overall, farmers reported that the decision on who will take part in planting certain species is determined by the category of plants and the motivation to plant. The father played an important role in planting cash crops and fruits, while the mother planted vegetables, starchy crops, spices, ornamental and medicinal plants. Most children grew ornamental rather than other plant categories (Table 1). Women participated in the production of all crops while planting of ornamental trees was proportionately done by both men and women.

Sex and social obligation were used as determinant factors to differentiate activities in the tree farming enterprise. Men were mostly involved in land preparation, tree planting, harvesting, purchasing of agro-chemicals and supervision of fodder banks that are vital in fodder bank establishment (Table 2). In contrast, women did all the nursery activities such as site preparation, preparing of seeds, watering, and general maintenance of the nursery, together with planting of seedlings and harvesting of the fodder. This was because fodder bank establishment and management was culturally determined (Buyinza, 2002; Semana *et al.* 2001). This implies that the perceived gender roles still hold among the people living in Kamuli district. Generally, both male and female respondents agreed that certain tasks in fodder bank establishment and management were gender specific.

Timber is essential for construction and fencing whereas fodder and fuel wood are necessary for household purposes, hence the differences in the level of involvement

**Table 1** Categories of crops planted by different family members

Category of plant	Family members			
	Father (%)	Mother (%)	Children (%)	Others (%)
Starchy crops*	27.0	47.0	12.2	13.0
Vegetables*	24.9	40.7	8.1	26.2
Spices*	15.7	44.3	2.9	37.1
Medicinal*	29.1	40.2	7.1	23.6
Ornamentals	21.5	21.4	18.8	24.3
Fruits*	47.8	13.8	7.1	31.3
Cash crops*	50.0	25.0	4.2	20.8
Miscellaneous*	36.9	6.2	3.6	53.3

ns, not significantly different. \* $P = 0.01$ .

**Table 2** Division of labour, according to gender, in establishing and managing a fodder bank

Activities	Female (%)	Male (%)
<b>Productive</b>		
Land preparation, ploughing <sup>ns</sup>	42	58
Planting/sowing: maize, beans, fodder, weeding**	68	32
Weeding	70	30
Nursery management and raising seedlings	66	34
Planting trees**	12	88
Harvesting trees and marketing*	44	56
Buying fertilizers, hoes**	18	82
Supervision	26	74
<b>Domestic</b>		
Fetching water**	84	16
Collection**	89	11
Cooking**	92	08
Childcare**	85	15
Treating animals**	74	36
<b>Community service</b>		
Furrow construction**	12	88

ns, not significantly different. \* $P = 0.05$ ; \*\* $P = 0.01$ .

between men and women (Barton & Gimono, 1994; Jacovelli & Cavalho, 1999; Kaudia, 2000). Our survey showed, for example, that among the wild woodland fruit trees, *Tamarindus indica* was ranked first by males whereas it was least preferred by females. Women preferred tree species such as *Persea americana*, *Moringa oleifera*, *Senna* sp., *Grevevillea robusta* and *Mangifera indica* whereas men preferred *Tamarindus indica*, *Milicia excelsa*, *Moringa oleifera*, *Markamia lutea* and *Azadirachta indica* (Table 3).

Although the farmers cited several benefits obtained from the agroforestry farming systems, which include provision of fodder, food, firewood, bee forage, stakes, soil fertility improvement and preventing soil erosion, they also planted improved fallow species such as *Cajanus cajan* (pigeon pea), *Calliandra calothyrsus* (calliandra), *Crotalaria grahamiana* (crotalaria), *Tephrosia candida* (sesban), *Sesbania sesban* (sesbania) and *Desmodium uncinatum* (desmodium) irrespective of gender.

#### Constraints faced by women tree farmers

The women tree farmers reported a number of constraints they faced as they tried to contribute to tree and plant conservation (Table 4). Although the farmers reported a number of socio-cultural and biophysical constraints in

**Table 3** Preference of tree species ranked (1 = most important; 17 = least important) according to gender

Scientific name	Local name	Women	Men
<i>Artocarpus heterophyllus</i>	Fene	9	10
<i>Azadirachta indica</i>	Neem	10	6
<i>Carica papaya</i>	Papali	11	13
<i>Citrus reticulata</i>	Muchungwa	7	7
<i>Eucalyptus species</i>	Kalitunsi	6	9
<i>Ficus natalensis</i>	Bongi	12	16
<i>Grevillea robusta</i>	Grevillea	5	4
<i>Leucaena species</i>	Lucina	13	15
<i>Maesopsis eminii</i>	Musizi	14	8
<i>Mangifera indica</i>	Muyembe	4	11
<i>Markamia lutea</i>	Musambya	8	5
<i>Milicia excelsa</i>	Mvule	15	1
<i>Moringa oleifera</i>	Moringa	2	3
<i>Persea americana</i>	Avocado	1	14
<i>Psidium guajava</i>	Mapera	16	12
<i>Senna</i> sp.	Gasia	3	17
<i>Tamarindus indica</i>	Mukoge	17	2

this study, their most common constraints included: lack of access to land and tree resources and insensitive environmental policies (63%), inequitable benefit sharing (70%), male dominance in decision-making (67%), inadequate technical conservation knowledge and lack of extension services (63%), lack of planting materials (53%) and low education (60%). The other minor constraints faced by women tree farmers included: lack of market and credit services (13%), retrogressive customs and traditions (7%), and reproductive burden (3%) were not reported as constraints among women tree farmers.

**Table 4** Constraints faced by women tree farmers (n = 60)

Constraint	Frequency (%)
1. Lack of access to tree resources and insensitive environmental policies	38 (63)
2. Inequitable benefit sharing	42 (70)
3. Lack of power/male dominance in decision-making	40 (67)
4. Inadequate conservation knowledge and extension information	38 (63)
5. Lack of planting materials	32 (53)
6. Low education	36 (60)
7. Lack of market and credit services	8 (13)
8. Socio-cultural taboos, customs	4 (7)
9. Reproductive burden	2 (3)

NB: All 60 respondents were women.

**Table 5** Use of radio/TV by tree farmers based on gender

Media use	All respondents (%), n = 60	Women (%), n = 30	Men (%), n = 30
<b>Radio/TV ownership</b>			
Yes	66.4	73.4	62.6
No	33.6	26.6	37.4
<b>Listening frequency</b>			
Every day	77.1	83.9	77.3
Once a week	16.2	11.8	18
Once a year	0.5	2.7	5
Never	0.4	1.4	0
<b>Share information after listening</b>			
Yes	89.1	21.2	52.2
No	11.9	88.8	47.5
<b>Preferred telecast time</b>			
Morning	4.3	4.9	3.9
Evening	12.8	7	16.3
Night	25.0	21.77	27
Nil	57.9	66.3	53.9

#### *Tree farmers' use of radio and/or television extension media*

The majority of women tree farmers (84%) listened to radio/TV programmes daily (Table 5); 12% once a week, 3% once a year and 1% did not listen to radio/TV programmes. The majority of men (52%) shared information received from radio/TV programmes after listening compared with women (21%). The most preferred telecast time was between 8.00 and 10.00 PM. A high percentage of women (22%) and a slightly higher percentage of men (27%) preferred the same period.

#### *Use of extension publications and print media*

The distribution of extension materials is skewed against women tree farmers (Table 6). It is only the Lusoga language that was used in equal proportions by both sexes. The majority of the respondents (70%) could read and understand extension publications such as posters, newsletters and bulletins. About 74% of the women preferred print publications in Lusoga language and only a few well-educated women (37%) preferred English. This disparity can be explained by the fact that women tree farmers are often restricted to domestic work whereas bulletins are displayed in public areas such as schools, market and trade centres. Our findings showed that most women did not have access to newsletters (80%) and bulletins (82%). The print publications require a high level of concentration, internalization and synthesis before

**Table 6** Use of print extension materials and publications by women tree farmers

Media use	Female (%), n = 30	Male (%), n = 30
<b>Read extension publication*</b>		
Yes	57.3	67.8
No	42.7	32.2
<b>Newsletters*</b>		
Yes	20.3	16.7
No	79.7	83.3
<b>Bulletins*</b>		
Yes	21	42
No	82.5	58
<b>Preferred language of publication</b>		
<b>English*</b>		
Yes	37.8	49.8
No	62.2	50.2
<b>Lusoga ns</b>		
Yes	74.1	74.3
No	25.9	25.7

ns, no significant correlation (Pearson chi-square test). \* $P = 0.01$ .

understanding the message; it is these qualities that rural women tree farmers lack.

## **Discussion**

### *Women participation in tree resource management*

The women's struggle for justice will largely rely for success on our understanding of the underlying facts associated with gender. Changing attitudes towards the entry of women into the male-dominated plant and tree resource conservation profession will be difficult.

Marked variations were reported in tree species preference according to gender needs. The fruit tree species with a high market potential are the most preferred by men. This is due to the potential revenue likely to be obtained through selling the products. Our survey results show that women preferred those tree species with a lesser market potential, and effectively having more products available for domestic use. It is women and children who collect fuel wood, animal fodder, decayed leaves and other tree products.

Women have a great deal of indigenous knowledge about the management of certain tree species, which can be used in conservation programmes. Women are also involved in income-generating activities and contribute to household income through the direct selling of tree products such as fruits, or crafts which they make from tree

raw materials. Women should, therefore, be fully involved in the various forestry development activities and should be allowed to participate fully in all tree farming activities.

Kaudia (2000) noted that women's participation is at times frustrated for the following reasons: rural women are illiterate, they have a minimal role in decision-making, men are not willing to share power, there are no available women field staff and that it requires a long time before women can participate fully. Community leaders may not invite women to meetings related to tree resource use. As outlined by Lise (2005), women can be very willing participants, although the situation has to be improved to enable them to participate effectively.

While women normally have multiple, often disproportionate, responsibilities, they have little ownership or control over productive resources. This imbalance in the ownership and control over resources places women in a subordinate and disempowered position relative to men. They are forever dependent. As a consequence, women and men have contrasting perceptions, priorities and goals, and as a result, development interventions affect them differently.

The gender imbalance between the rights and responsibilities influences all rural peoples' abilities to apply their ecological knowledge and constrains their efforts to provide for their families and protect the complex ecosystems on which they depend (Kaudia, 2000). The success of equitable tree resource conservation in communities depends mainly on a collective ability to restore diversity and complexity to the life support and livelihood systems, and to learn from and support both men and women who live within the living landscape.

#### *Extension media use by women tree farmers*

Television viewership increased women tree farmers' knowledge of improved tree management practices. In view of these findings, television tree management programmes have the potential to reach a wide audience and hence are an effective dissemination tool of community forestry technologies.

Past studies (Kaudia, 2000; Mangheni & Kwesiga, 2001) reported radio as the most important source of information on tree farming technologies. From all the studies in villages, education was significantly related to the media from which farmers sought knowledge on plant conservation. Publications in Lusoga were widely read, and in contrast, the TV media was not popular due to language barriers and cost to most of the rural women.

Women do not easily interact with the outside world, movement is limited, and they do not own facilities like radios. They do not have money to buy newspapers, and a majority of them are illiterate. Due to social discrimination 40% of women in Uganda are illiterate (MAAIF, 2002). They miss out on the necessary information and training. Lower levels of literacy and education among women may further restrict their participation. Only 20% of women in Uganda are members of women groups (MAAIF, 2002). This also limits their participation.

A higher percentage of women watch television; therefore, the option of establishing community-viewing centres to increase awareness may be promoted, although it favours only women who have access to such facilities and programmes. To improve the access of women to television media, service providers must consider the interests of the culturally excluded women (MAAIF, 2002). Similarly, the practice of bulletin and poster placement in public places alone should be reviewed. Copies should be posted within respective households to provide access for women. Posting of print media directly to people's homes may be important in view of the low literacy among women in Busoga. Therefore, integration of the local languages into extension dissemination could help in the understanding of community forestry media programmes.

Although women's needs often differ from those of men, many programmes tend to overlook women's specific needs regarding forestry. This has resulted in political, cultural and economic barriers that restrict women's participation. Policy-makers lack adequate data, information and methodologies to address them. It is imperative to note that where forest resources are central to sustainable livelihoods and reducing poverty, local people, especially women, should be stakeholders in policy formulation and decision-making.

Jacovelli & Cavalho (1999) reported that women tend to be more dependent than men on trees and small-scale forest industries for income. They cited one case in Uttar Pradesh, India, where women derived 34–45% of their income from forests and common land, compared with only 13% for men. Although a significant proportion of the forestry industry workforce is made of women, their roles are not fully documented or recognized.

#### *Constraints faced by women tree farmers*

Little attention was, in the past, paid to the roles women played. In this regard, a number of constraints facing

women tree farmers were identified: inaccessibility to women of tree resources like timber; imbalance in sharing of revenue accruing from the tree products; unequal opportunity to conservation education, training and capacity building in tree resource management; inequality in the decision-making process and the general under-valuation of women's roles in sustainable tree resource management.

Barton & Gimono (1994) pointed out that the prevailing policies in most countries have not always been favourable to women. Fortunately in Uganda, the Land Act of 1998 [section 28 and 40 (1)] accords women and children secure tenurial rights to land which is a big incentive to tree farming.

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