

## **Information communication technology use pattern by women tree farmers in Buzaya county, Kamuli district, Uganda**

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### **Abstract**

The roles of women in community forestry in Uganda are well documented. However, the socio-cultural restrictions of women and poor access to conventional information media undermine optimization of their potentials. This study investigated Information-Communication Technology (ICT) use pattern of women tree farmers. Questionnaires were administered to 376 women tree farmers who were randomly sampled from the parishes of Bugulumbya, Kasambira and Nawandhyo, Buzaya County, Kamuli district. The findings revealed that 31% of the women own functional radio sets and prefer listening to the evening broadcast (8.00 – 10.00p.m) for agricultural programmes. Readership of newspapers and extension publications were the other information media. About 42% of the women prefer to read the Lusoga language version of the Newspapers and extension publications because many of them could only read in vernacular, particularly posters (52%). Most of the women enjoy traditional forms of communication particularly local music (67%). Therefore, the use of print media or extension publications for information dissemination to women tree farmers in Uganda should be in their native languages. Local programmes particularly, music should be integrated into conventional agricultural communication channels for the benefit of rural women, many of whom often have low education levels.

**Key word:** *Community forestry, ICT, media use, extension, women tree farmers*

### **Introduction**

Agricultural research is important in the generation of technologies and innovations for sustainable use of natural resources and sustainable development of community forestry in the country. New innovation and technologies are of little or no use unless they reach the client, in this case, the farmers (Semana, 1987; Kaudia, 2000; Byerlys, 1990). Agricultural innovations and technologies are done to bring about a positive impact in the livelihoods of people through sustainable resource use and development.

Weak linkages between research and extension are the most serious institutional constraints to the flow of technology to farmers in many countries including Uganda (MAAIF, 2001; Semana, 1987). The main causes of these poor linkages in Uganda include organisational shortcomings, limitations of manpower, lack of motivation of staff, limited finances and logistics such as poor transport infrastructure and insecurity (MAAIF, 2001). Appropriate administrative arrangements need to be set up so that the service extension providers such as National Agricultural Advisory Services (NAADS) and research such as National Agricultural Resource Organization (NARO) can

interact effectively with each other to address the farming constraints of farmers.

In the Ugandan community forestry development project, mass media have tremendous potentials for information dissemination (Mandl and Mukhebi, 2002; MAAIF, 2001).

One of the government policy interventions to step up community forestry production is through the establishment of Agricultural Research Development Centres (ARDCs). These centres have been involved in research efforts that have resulted into accumulation of scientific information and technologies beneficial to the development of forestry outside the central government reserves. In most agrarian economies, the mass media, particularly the radio have a high potential in the popularisation of such technologies (Archer, 2002).

The main objective of this study was to determine the media use pattern by women tree farmers in Buzaya County, Kamuli district. The specific objectives included: (1) identification of the social and personal characteristics of women tree farmers (2) investigation the attitude of women towards the mass media (3) determination of the

implications of housewife employment status to dissemination media use pattern of women tree farmers (4) assessing the relevance of local music, dance and drama (MDD) to women tree farmers.

### Methods and materials

#### Area of study

Buzaya County is located in Kamuli district. The district covers an area of 4,86 km<sup>2</sup> of land. It boards with Pallisa district in the northeast, Iganga district in the east, Kayunga district in the west, Lira district in the northwest, Soroti district in the north and Jinja in the south (Figure 1). It lies on the central plateau between 1000 and 1200 m. The topography is characterized by extensive uniform undulating plains with few residual features and scattered an hills especially in the southern part.

The soils are mainly dark coloured and shallow mixed with small stones (gravel). The weathered basement complex formations of the Precambrian age, which consists mainly

of metamorphic and igneous rocks, largely composed of gneisses and granites. Remnants of the older mid-tertiary surface are found as relic murrum and iron stones in some parts.

The annual rainfall varies from 900 – 1200 mm with two marked dry seasons and the average temperature ranges between 22.6°C to 24.6°C. The main vegetation types are woodland and woodland savannah, layer of grass and wood plantations.

The study area has a population density of about 230 persons per km<sup>2</sup>, and the growth rate is 2.3 %. There are three ethnic groups; the Basoga (72 %), Bagweri (24 %), Iteso (1 %) and others (2 %). Subsistence agriculture is the major economic activity employing about 84 % of population (MFEPD, 2001). The bulk of agricultural production is from manually cultivated rain fed crops. The crops grown for both home and commercial purposes include maize, banana, beans, cassava and sweet potatoes. Intercropping is a prevalent practice. Livestock production

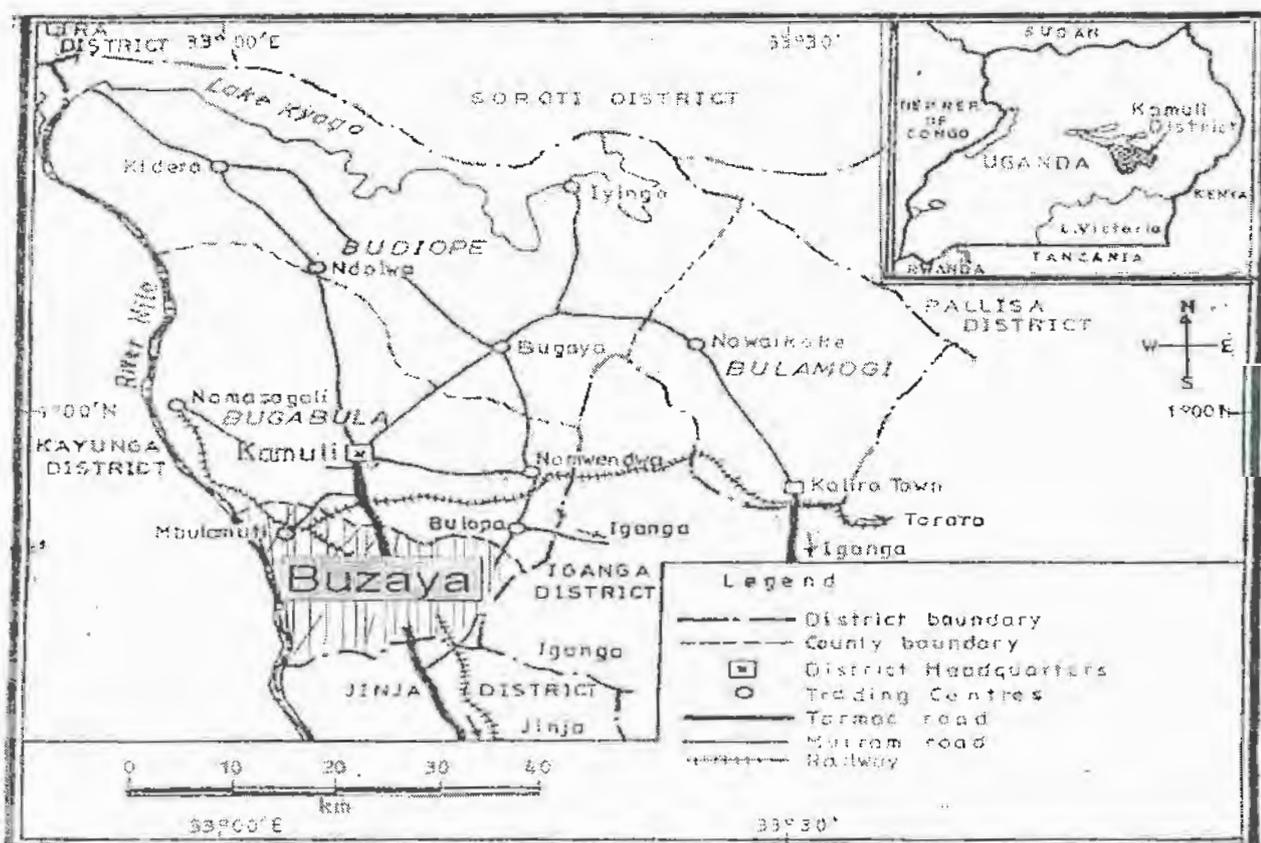


Figure 1. Map of Kamuli district showing the study county under the traditional management practices predominates and the animals kept include cattle, goats, piggery and poultry (MAAIF, 2000)

#### Data collection

Data were collected from April 2001 to September 2003 in the three parishes of Bugulumbya, Kasambira and Nawandhyo of Buzaya County. The parishes are located

on the Jinja–Kamuli highway. Buzaya County was selected as a study area because of the diverse social, economic, cultural, religious, rural characteristics found in the Busoga region. Buzaya County consist of predominantly peasant population. The climate allows for the cultivation of a variety of food such as beans, maize and cassava; and in addition community forestry is practised. Small-scale farming is a common feature and women involvement in community forestry activities is quite pronounced.

### Sampling procedure

The target respondents were those women who had participated in the communal tree planting activities in the last three years. Women form 78% of the total population in Buzaya County. Using stratified random sampling technique, two villages were selected in each parish making a total of eight villages. From each village 62 respondents were selected hence making a total of 376 women tree farmers from the three parishes who were randomly selected and interviewed.

An interview schedule consisting of both open and close-ended questions were used. The questionnaire was subjected to pre-testing, validation and reliability tests, which gave a reliability coefficient of 0.76. The questions related to media use pattern of women tree farmers such as listening or viewing frequency/subscription status, time of viewing/listening and programme preference. It also identified others with whom respondents use various media types (radio, television, newspaper and publications for extension materials) as a source of information for community forestry development. Other data were obtained through personal observations made during the fieldwork process.

The media use pattern related variables were determined based on responses provided by respondents on how they utilize the mass media (radio, television, newspaper, extension publications and MDD) for community forestry purposes.

### Data analysis

Data were entered in the Statistical Package for Social Scientists (SPSS) and analysed using cross-tabulation and correlation. The Pearson Product Moment Correlation was used to show the relationship between media use pattern

and marital status of the women tree farmer. Descriptive statistics were used to obtain percentages, frequencies and Chi-square values.

## Results

### Radio use

The favorite radio station of women tree farmers is Nile Broadcasting Station (NBS) (44%); Simba Radio (35%) and Eastern FM Radio (17%) and other (> 1). The majority of women tree farmers (77%) listen to radio programmes daily. 16% once a weekly, 0.5% once a year and 0.4% do not listen to Radio Programmes. This implies that the Radio programmes have got a large audience, wide coverage and diverse category of listenership. therefore, if effectively used could lead to a quick dissemination and adoption of community forestry technologies.

The majority of women (89%) discuss radio programme after listening. While this pattern is common among the on-farm housewives and wage-employed women, 88% of the wage-employed women share information from radio programmes more than the on-farm housewives (52%). This is because the wage-employed women often interact with wide peer groups and socialize with the general public whereas, culturally, married-on-farm housewives can only discuss with close relatives and neighbours.

The majority of the respondents (82%) have never participated in any radio programmes, although most of them (70%) could be willing to participate in radio programme if invited. This observation is similar for on-farm housewives (62%) and wage-employed women (75%). This result shows the extent to which radio has increased the interest of women in the media despite their socio-cultural exclusion. In future, radio programmes targeting women tree farmers should, therefore, seek the input of

**Table 1. Use of Radio by women tree farmers**

Media use Related variable	All respondent N=376	On-farm housewives n=143	Wage-employed women n=233
<b>Radio ownership</b>			
Yes	250 (66.4)	105 (73.4)	146 (62.6)
No	123 (33.6)	38 (26.6)	87 (37.4)
<b>Favourite Radio Station</b>			
Nile Broadcasting Station	164 (43.6)	80 (55.9)	84 (36.0)
Simba Radio	130 (34.5)	48 (33.6)	82 (35.2)
Eastern FM Radio	80 (16.8)	13 (9.1)	64 (27.4)
None	2 (0.42)	2 (1.4)	3 (1.3)
<b>Listening frequency</b>			
Every day	290 (77.1)	120 (83.9)	180 (77.3)
Once a week	61 (16.2)	17 (11.8)	42 (18.0)
Once a year	19 (0.5)	4 (2.7)	11 (5.0)
Never	16 (0.4)	2 (1.4)	0 (00)
<b>Ever participated in Radio Prog.</b>			
Yes	70 (18.0)	21 (14.7)	26 (11.2)
No	306 (82.0)	122 (85.3)	207 (88.8)
<b>Share information after listening</b>			
Yes	264 (89.1)	75 (52.2)	159 (88.2)
No	112 (11.9)	68 (47.5)	74 (88.8)
<b>Willing to participate on invitation</b>			
Yes	264 (89.1)	88 (61.5)	162 (75.1)
No	112 (11.9)	55 (39.5)	71 (54.9)

Figures in parentheses are in percentages

Basoga women farmers whose exposure, movement and interaction has hitherto been restricted.

#### Television use

About 31% of the respondents' own functional television sets, only 29% of the on-farm housewives compared 32% of the wage-employed women own TV sets. A big proportion of women watch television programmes in company of their children (27%) and with husbands (19%). This highlights the important role children play in community forestry development. However, it was discovered that more housewives (23%) watch television in company of their husbands than employed women (17%).

The children are known to be close to their mothers, therefore, they could serve as positive step in the

information flow process. This highlights the important role children play in community forestry development.

The most preferred telecast time is between 8.00 – 10.00 p.m. A high percentage of wage-employed women (27%) and a slight lower percentage of on-farm housewives (22%) prefer same period. This implies that any successful telecast programme to disseminate community forestry technologies should be broadcasted in the evening hours when most of the women tree farmers are back home from their agricultural fields.

The majority of the respondents (88%) reported that they have never participated in television programmes and this was attributed to the poor signal reception and non-existence of local television stations in Busoga region.

Table 2. Women tree farmers according to their use of television

Media use Related variable	All respondent N=376	On-farm housewives n=143	Wage- employed women n=233
<b>Television ownership</b>			
Yes	117 (31.1)	42 (29.4)	75 (32.2)
No	259 (68.2)	101 (70.6)	158 (67.8)
<b>Viewing frequency</b>			
Every night	31(8.2)	5 (3.5)	26 (11.2)
Thrice a week	12 (3.2)	3 (2.1)	9 (3.9)
Twice a week	5 (1.3)	1 (0.7)	4 (2.7)
Once a week	6 (1.6)	0 (0.0)	6 (2.2)
Accidental	15 (4.0)	10 (7.0)	5 (2.2)
Never	307 (81.7)	124 ( 86.7)	183 (78.5)
<b>Preferred telecast</b>			
<b>Morning</b>			
6-8a.m.	16 (4.3)	7 (4.9)	9 (3.9)
8-10a.m.	9 (2.4)	7 (4.9)	2 (0.9)
10-12p.m.	2 (0.5)	2 (1.4)	0 (0.00)
Nil	247 (92.3)	127 (90.2)	218 (93.6)
<b>Evening</b>			
4-6p.m	29 (7.7)	11 (7.7)	18 (7.7)
6-8p.m	48 (12.8)	10 (7.6)	38 (16.3)
Nil299 (79.5)	122 (85.3)	177 (76.0)	
<b>Night</b>			
8-10p.m	94 (25.0)	31(21.7)	63 (27.0)
10-12p.m.	23 (6.1)	11(7.7)	12 (5.2)
Nil259 (68.9)	101 (70.6)	158 (67.8)	
<b>Ever participated in T.V Prog.</b>			
Yes	47 (25.0)	21(14.7)	26 (11.2)
No	329 (87.5)	122 (85.3)	207 (88.8)
<b>Willing to participate on invitation</b>			
Yes	234 (62.2)	75 (52.2)	159 (68.2)
No	142 (37.8)	68 (47.5)	74 (88.8)

Figures in parentheses are in percentages

This affects the poor peoples' access to television in rural locations.

#### Newspaper use

Women tree farmers (41%) do read newspapers, particularly the vernacular (16%) series. More wage-employed women tree farmers (46%) read newspapers than the on-farm

**Table 3. Women farmers according to their use of Newspapers**

Media use Related variable	All respondents n=376	On-farm housewives n=143	Wage-employed women n=233
<b>Read newspapers</b>			
Yes	154 (41)	46 (32.2)	108 (46.4)
No	222 (59.0)	97 (67.8)	125 (53.6)
<b>Reading frequency</b>			
Weekly	90 (23.9)	24 (16.8)	66 (28.3)
Twice a week	34 (9.0)	14 (9.8)	20 (8.6)
Thrice a week	15 (3.9)	4 (2.8)	11 (4.7)
4-6 times/week	11 (2.9)	3 (0.8)	8 (3.4)
Daily	30 (7.9)	12 (3.2)	18 (7.7)
Never	195 (52.1)	86 (60.1)	110 (47.2)
<b>Types of Newspaper</b>			
English	59 (15.7)	13 (9.1)	46 (19.7)
Vernacular	62 (16.5)	27 (18.9)	35 (15.0)
Both	69 (18.5)	19 (13.2)	50 (21.5)
None	186 (49.3)	84 (58.7)	102 (43.2)
<b>Specific Newspaper</b>			
New Vision	57 (15.2)	6 (4.2)	51 (21.9)
Bukendde	101 (26.9)	35 (24.5)	66 (28.3)
Others	8 (2.1)	5 (3.5)	3 (1.3)
None	210 (55.9)	97 (67.8)	113 (48.5)
<b>Discuss content after reading</b>			
Yes	192 (51.1)	64 (44.8)	136 (54.9)
No	184 (48.9)	79 (55.2)	97 (41.6)
<b>Willing to accept and discuss with an interpreter</b>			
Yes	211 (56.1)	75 (52.5)	136 (58.9)
No	105 (43.9)	68 (47.5)	97 (41.1)

Figures in parentheses are in percentages

housewife counterparts (32%). More wage-employed women (28%) read newspapers on a weekly basis compared to on-farm housewife women (16%).

Women tree farmers (56%) were willing to accept and discuss with an interpreter. This was observed in the on-farm household interviews (53%) and wage-employed women (59%). This finding suggests that the rural community especially women farmers are sociable, ready to learn and therefore likely to quickly adopt new forestry innovations and technologies.

#### Use of extension publications

The majority of the respondents (70%) could read and understand extension publications such as posters.

Posters (52%) were the most read publications. About 74% of the respondents preferred publications in Lusoga language, 45% preferred English while 10% preferred Lugweri. This difference may be due to the fact that on-farm housewives are often restricted to domestic work whereas posters are usually displayed in public areas such as trading centres, market places, play grounds, schools and on Local Council Notice Boards located in public places. The findings further showed that women do not read Newsletters (81%), bulletin (66%) and leaflets (75%). This is possibly because these publications require a high level of concentration, internalisation and synthesis before understanding the message, it is these qualities that Busoga rural women lack.

Table 4. Women tree farmers according to their use of extension publications

Media use Related variable	All respondents n=376	On-farm housewives n=143	Wage-employed women n=233
<b>Read extension publication</b>			
Yes	240 (69.8)	82 (57.3)	158 (67.8)
No	136 (36.2)	61 (42.7)	75 (32.2)
<b>Posters</b>			
Yes	197 (52.4)	53 (37.1)	144 (61.8)
No	179 (47.6)	90 (62.9)	89 (38.2)
<b>Newsletters</b>			
Yes	68 (18.1)	29 (20.3)	39 (16.7)
No	308 (81.1)	114 (79.7)	194 (83.3)
<b>Bulletins</b>			
Yes	128 (34.0)	30 (21.0)	98 (42.0)
No	248 (66.0)	113 (82.5)	135 (58.0)
<b>Preferred language of publication English</b>			
Yes	170 (45.2)	54 (37.8)	116 (49.8)
No	206 (57.8)	89 (62.2)	117 (50.2)
<b>Lusoga</b>			
Yes	279 (74.2)	106 (74.1)	173 (74.3)
No	97 (25.8)	37 (25.9)	60 (25.7)
<b>Lugweri</b>			
Yes	39 (10.4)	13 (9.1)	26 (11.2)
No	337 (89.6)	130 (90.9)	207 (88.8)

Figures in parentheses are in percentages

Table 5. Women tree farmers according to their use of traditional music

Media use Related variable	All respondents n=376	On-farm housewife n=143	Wage-employed housewife n=233
<b>Listen to traditional music</b>			
Yes	253 (67.3)	94 (65.7)	159 (68.2)
No	123 (32.7)	49 (34.3)	74 (31.8)
<b>Favourite traditional musicians</b>			
<b>Fred Sebata</b>			
Yes	148 (39.4)	57 (39.9)	91 (39.1)
No	228 (60.6)	86 (60.1)	142 (60.9)
<b>Paul Kafeero</b>			
Yes	71 (18.9)	29 (20.3)	42 (18.03)
No	305 (81.9)	114 (79.7)	191 (82.07)
<b>Ndere troupe</b>			
Yes	60 (16.0)	23 (16.1)	37 (15.9)
No	316 (84.0)	120 (83.9)	196 (84.1)

Figures in parentheses are in percentages

### Use of local music, dance and drama

Most of the respondents (67%) listened to local music that communicated agricultural extension information. About 66% of the on-farm housewives and 68% wage-employed women tree farmers listened to local music.

### Discussion

Women tree farmers obtained information through several means. Similar studies such as Zariz (1984); Kaudia, (2000) reported that farmers identified radio as the most important source of community forestry information on improved technologies. Community forestry development projects in Uganda realised this potential and, consequently, used them as the mass media in their outreach programmes. The radio was the most preferred media by women tree farmers. These findings are consistent with the studies by Adewumi, (1990); Byerlys, (1990); and Swanson (1993).

Education was significantly related to the media from, which farmers sought tree farming technologies. This was reflected in publication readership. Both Lusoga and English language publications were read as sources of agricultural information. Many TV programmes were conducted in English and women tree farmers participated in TV programmes.

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 effective dissemination of community forestry technologies.

A higher percentage of wage-employed women (11%) watch television than the on-farm housewives (4%). This is significant in improving the access of women tree farmers to tree management information. 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. Therefore, to improve access of women to television media, service providers must consider the interest of the culturally excluded housewives.

Community forestry media programmes should consider radio and television for reaching women particularly, on-farm housewives who are often excluded from information that is accessible to a majority of employed women (MAAIF, 2001). Similarly, the practice of poster placement in public places alone should be reviewed where households should have copies posted within respective households to enable the predominantly on-farm housewives.

Posting of print media directly to peoples homes may be important in view of the low literacy among women in Busoga region. Therefore, integration of the local languages in extension dissemination could help in the understanding of community forestry media programmes. The study also provides an insight into the possibility of disseminating community forestry information through traditional music.

### Conclusion and recommendations

- Radio programmes and posters were the most used sources of information to women tree farmers.
- Television agriculture extension programmes were more appropriate to wage-employed women than to on-farm housewives.
- The National Agricultural Advisory Services should use the multi-media approach to complement the on-going regional and local strategies to enhance women's knowledge in tree farming.
- The use of print media or extension publications for information dissemination to women should be published in the local languages.
- Traditional media especially music has a great potential if it is integrated into communication programmes in Uganda for the benefit of the grassroots population.

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