

Attitudes of Out-of-School Youths towards Tree Planting Activities in Central Uganda: A Case Study of Masaka District

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Abstract

This study assessed the attitudes of out-of-school youths towards tree planting activities in Masaka district, central Uganda. Data were collected using 104 semi-structured questionnaires. Logistic regression was used to show the influence of demographic and socio-economic characteristics of the respondents on their attitudes towards tree planting. Summative attitudes index varied from 320 for those who liked very much tree planting activities to 6 for those who disliked very much tree planting activities. Opinions on willingness to plant and tender trees also varied widely from summative index of 305 for those who would very much plant and manage the trees to 5 for those who would very much not plant and manage the trees. Sex, age, education, occupation, distance to the nearest trading centre and land ownership significantly contributed to variation in the attitudes. Factors such as lack of capital; land and tree tenure security; long payback period from planted trees; bad beliefs, taboos and superstitions about certain trees hindered out-of-school youths' efforts. There is a need to develop clear policies and by-laws to guide and induce the out-of-school youths to plant trees as a livelihood opportunity.

Key words: Youths, school dropouts, tree planting, forestry, Uganda

Résumé

Cette étude a évalué l'attitude des jeunes qui ont abandonné leurs études vis-à-vis les activités de sylviculture dans le district de Masaka, situé dans le centre de l'Ouganda. Les données ont été recueillies au moyen de 104 questionnaires semi-structurés. La régression logistique a été utilisée pour montrer l'influence des facteurs démographiques et socio-économiques des personnes interrogées sur leurs attitudes à l'égard de la plantation d'arbres. L'indice sommatif des attitudes a varié de 320 pour ceux qui aimaient beaucoup les activités sylviculture à 6, pour ceux qui n'aiment pas beaucoup. Les opinions sur la volonté de planter et soigner des arbres étaient également variées avec un indice sommatif allant de 305 pour ceux qui appréciaient beaucoup s'occuper d'arbres à 5 pour ceux qui n'en voulaient pas du tout. Les facteurs ayant contribué à ce phénomène sont entre autres le sexe, l'âge, l'éducation, l'occupation des jeunes, la distance du plus proche centre commercial ainsi que la propriété foncière. Tous ces facteurs ont contribué de manière significative à la variation dans les attitudes. Des facteurs tels que le manque de capitaux, la terre et la sécurité en matière de propriété des arbres, de longues périodes de récupération des arbres plantés; croyances négatives, des superstitions et des tabous sur certains arbres ont entravé les efforts desdits jeunes. Il ya un besoin de développer des politiques et des règlements visant à guider et inciter les jeunes ayant abandonné l'école à planter des arbres comme un moyen d'améliorer leur situation économique.

Mots clés: Jeunes, abandon des études, sylviculture, foresterie, Ouganda

Introduction

The definition of a youth is very confusing. Different countries, organizations and scholars have provided different ways of defining youth. Curtin (2003),

quoted in the U.N. World Youth Report 2003, defines it as a phase when a person moves from a time of dependence (childhood) to independence (adulthood) and identifies four distinct aspects of this movement: leaving the parental home and

establishing new living arrangements; completing full-time education; forming close, stable personal relationships outside of the family, often resulting in marriage and children; and testing the labor market, finding work and possibly settling into a career, and achieving a more or less sustainable livelihood. Curtin (2003) stressed that these transitions are interconnected. Leaving home and setting up one's own personal economy requires an independent source of income, and to reach this stage, a young person generally has to have acquired qualifications and also succeeded in demonstrating his or her skill in the labor market.

In Uganda, youths are defined as all young persons between the ages of 18–30 years (National Youths Council Statute, 1993; The 1995 constitution of Republic of Uganda). Youths present an opportunity for sustained efforts to participate in the country's development process because they possess greater energy, workforce and potential.

In Uganda, and indeed in any developing country, the population structures are usually 'young' with the youth, adolescents and children comprising the majority of the population (Population Census of 2002; Population Reference Bureau, 2005). Youths and young people (Population Census of, 2002) constitute 78% of Uganda's population, which is about 27 Million people. Of these 78%, out-of-school youths make up well over 50% (Ndyabangi *et al.*, 2004).

Out-of-school youths have little access to information, are often intimidated, lack self-confidence and also often are reluctant to ask questions in public sessions when they do not understand something (Topouzis, 1994). Out-of-school youths contribute the highest number of unemployed people in the country (The New Vision 12th August, 2003; Population Reference Bureau, 2006). This unemployment has resulted into many of them living in abject poverty. Additionally, unemployment has led to rampant rural-urban migration, increased idleness, manipulation and vulnerability to abuses such as unfair labour exploitation, sexual harassment and recruitment into political armed rebel groups (The New Vision 21st August, 2003).

While both government and non-government organizations in Uganda have tried to pioneer programs to address the broad range of social and economic problems of out-of-school youths, inadequate resources have restricted them from registering remarkable success. Thus the problem of unemployment amongst the youths, especially those out of schools is still crucial (*The New Vision* 1st May, 2003). The idea of tree planting as one of the strategies to engage youths gainfully by the government of Ugandan dates way back in the colonial days when government through Forest Department (FD) launched several tree planting campaigns (Jacoveli and Carvalho, 1995).

Today, government and non-governmental organizations are still advocating for tree planting. New paradigms have also been developed to

enhance peoples' participation in tree planting activities such as Agroforestry and Community Forestry. However, majority of the people especially the youths have not taken this seriously; they have continuously minimized and overlooked forestry and its related enterprises (National Forest Authority, 2005). What discourages youths from investing in tree planting is unclear and yet Uganda is endowed with a conducive climate for tree growth (Hamilton, 1984). This study, therefore, assessed the attitudes of out-of school youths and their level of participation in tree planting activities; determined their level of awareness about the roles and values of trees; and identified their perceived constraints and opportunities to tree planting activities.

Methodology

The study was conducted in Kalungu sub-county in Masaka district, central Uganda. Kalungu is located between 30°3'–31°3'E and 0°15'–0°30'S (MDSOER, 1997) with an average altitude of 115 m above sea level. The area has small hills with undulating slopes up to about 1000m above sea level (MDSOER, 1997). The area has a bi-modal rainfall regime with clearly marked wet and dry seasons. The temperature is moderately high with a minimum of about 18°C and a maximum of about 30°C. The soils are generally sandy to loam with high erosive potential. About 80% of the total population derive their livelihood from subsistence farming.

Data on the attitudes of out-of school youths, level of participation in tree planting activities, awareness about the roles of trees, perceived constraints and opportunities to tree planting activities were gathered through a semi-structured questionnaire survey, with the help of two research assistants. All the research assistants were university graduates and were trained to administer the questionnaire in a face-to-face approach. Questions were written in English language, but were sometimes asked in the local language depending on the education background of the out-of-school youth being interviewed. Prior to the survey, a pilot survey was conducted with the two research assistants in one parish to test the completeness of the questionnaire. After this survey, some questions were modified to improve on their clarity.

In total, 104 out-of-school youths were interviewed in Kalungu sub-county. The sub-county was stratified into ten administrative units (parishes) and a minimum of 10 out-of-school youths were selected from each administrative unit (parish) relative to the size of the population of out-of-school youths in that parish. Lists of out-of-school youths were obtained from the parish offices. Respondents were then selected randomly by lottery from each parish and were interviewed. The questionnaire included both fixed-response and open-ended questions. The latter were included to facilitate open discussion with respondents. The opinions of the

out-of-school youths towards tree planting activities were assessed based on a five-point Likert scale, with the possible answers ranging from very positive (= 5), to neutral (= 3), to very negative (= 1) responses (Likert, 1974).

Statistical Package for the Social Sciences (SPSS) version 12.0 (Norusis, 2004) was used to analyse the responses. Validity of the Likert attitude scale was tested by computing the correlation between responses to individual statements and the sum of responses to all statements (Shrigley and Trueblood, 1979). Item responses were summed to create a score (attitude index) for a group of items. Logistic regression (Green, 1995) was used to determine whether demographic and socio-economic variables explained out-of-school youth attitudes. The factors examined as independent variables were: (1) sex, (2) age, (3) marital status, (4) education, (5) occupation,

(6) origin, (7) distance to the nearest trading centre, (8) land ownership, and (9) method of land acquisition. Because binary variables are used in logistic regression, the dependent variable, namely the attitude level score, was recorded as a dummy variable with two categories divided at the median. Independent variables were also recorded as dummy variables, each with two categories.

Results

Demographic and socio-economic characteristics of respondents

The demographic and socio-economic characteristics of the out-of-school-youths interviewed are presented in Table 1. The majority (58%) of the out-of school-

Table 1. Demographic and socio-economic characteristics of the respondents (N = 104)

Variables	%	Variables	%
<i>Sex</i>		<i>Origin</i>	
Male	70	Native	86
Female	30	Immigrant	14
<i>Age</i>		<i>Current occupation</i>	
18-24	42	Small-scale farming	53
25-30	58	Small business	30
<i>Religion</i>		Unemployed	17
Catholic	66	<i>Land ownership</i>	
Muslim	23	Own land	
Protestant	7	Do not own land	29
Others (Pentecostals, Adventists)	4	<i>Land acquisition method</i>	
<i>Education background</i>		Inherited	
Non-formal	21	Purchased	20
Formal (primary, secondary, vocational)	79	Given	37
<i>Marital status</i>		<i>Distance of home to the nearest trading centre (km)</i>	
Single	64	< 10	76
Married	36	> 10	24

Table 2. Attitudes of out-of-school youths towards tree planting activities (N = 104)

Variable/question	% response	Attitude index
<i>Do you like or dislike the tree planting activities?</i>		
I like them very much	62	320
I like them somewhat	21	88
Indifferent to opinion about liking or disliking tree planting activities	5	25
I dislike them somewhat	7	14
I dislike them very much	6	6
<i>Would you plant and managed trees if you were given free seedlings?</i>		
I would very much plant and manage them	59	305
I would somewhat plant and manage them	25	104
Indifferent to opinion about planting and managing them	3	15
I would somewhat not plant and manage them	9	18
I would very much not plant and manage them	5	5

Table 3. Actions and levels of participation in tree planting activities (N = 104)

Variable/question	%
<i>Actions ever taken as a commitment to tree planting activities</i>	
Directly participated in tree planting activities	75
Discussed with colleagues the values of trees	66
Attended meetings on tree planting activities	59
Joined an environmental/tree planting groups	24
Attended protest rally about deforestation	20
Made a 'phone-in' call during radio talk show	8
Called/written to extension agents	4
<i>If you ever participated in tree planting activities, at what level?</i>	
Individual household level	75
At school	48
Community level	18
District and national level	9

youths were aged between 25–30 years. Seventy percent of them were male and about 36% were married. Fifty three percent (53%) of the interviewed youths were engaged in subsistence farming. About 21% of youths had no formal education. Majority (71%) did not own land and about 20% of those who own land had inherited it. About 76% live at a distance of less than 10 km from the nearest trading centres.

Attitudes, actions and level of participation in tree planting activities

The attitudes of the out-of-school youths towards tree planting activities were examined using statements that they were asked to rate on the 1 to 5 Likert Scale (Table 2). The summative attitudes index varied from 320 for those who liked very much tree planting activities to 6 for those who disliked tree planting activities. Opinions of the out-of-school youths about their willingness to plant and tender the trees if provided with free seedlings also varied widely from 305 for those who said they would very much plant and manage the trees to 5 for those who would

very much not plant and manage the trees (Table 2). Majority (75%) of the respondents said they have ever participated in tree planting activities at individual household level. Others said they participated at school, community, district and national levels. Several types of action which represent their commitment to tree planting activities were reported. The most common actions were participating directly in tree planting activities, discussing with colleagues the values of trees and attending meetings on tree planting activities (Table 3).

Logistic regression, using the overall attitude index as the dependent variable and demographic and socio-economic characteristics as independent variables, showed that sex, age, education, occupation, distance to the nearest trading centre and land ownership significantly contributed to variation in attitudes; other variables were not significant (Table 4). The influence of sex on the attitudes of out-of-school youths towards tree planting activities was low (R = 0.16) but significant (P = 0.04). The attitudes of female youths were more positive than their male folks towards tree planting activities. The marginal change on the attitude towards tree planting

Table 4. Logistic regression of socio-economic characteristics that influence the attitudes of out-of-school youths towards tree planting activities

Variable	Coefficient	S.E ±	Probability (5%)	R	Odd ratio
Sex	1.02	0.54	0.04*	0.16	0.14
Age	1.05	0.56	0.05*	0.18	0.16
Marital status	-1.41	0.14	0.30	-0.09	-0.02
Education	1.07	0.58	0.05*	0.21	0.20
Occupation	0.99	0.40	0.03*	0.23	0.22
Origin	0.38	0.12	0.09	0.09	0.04
Distance to the nearest trading centre	-1.08	0.45	0.01*	-0.22	0.26
Land ownership	1.11	0.60	0.05*	0.18	0.19
Method of land acquisition	-0.85	0.34	0.08	-0.10	0.11

* Significant at 5% probability level.

activities as a result of sex was 0.14 indicating that their probability of planting trees increases by 14% if the person is a female youth.

The level of education positively influenced the attitudes and willingness of out-of-school youths towards tree planting activities ($P = 0.05$, $R = 0.21$). Out-of-school youths with formal education are expected to have positive attitude and be more willing to engage in tree planting activities than the uneducated ones. The marginal effect of 0.20 implies that there is a 20% greater chance of liking tree planting tree activities if the youths had formal education. The marginal change on the attitudes to tree planting activities as a result of occupational status is 0.22, implying that if the out-of-school youth is a farmer, the probability of planting trees increases by 22%.

The age of the youths influenced attitudes and willingness to engage in tree planting activities ($P = 0.05$). Youths who were 25 years and above were more willing to plant trees than their counterparts below 25 years. Youths who live within 10 km from the nearest trading centres were more unwilling to plant trees as compared to those living far away from trading centres. The marginal change on the willingness to plant trees and tender trees as a result of owning land was 0.19, implying that the

probability of planting trees by out-of-school youths who own land increases by 19%. Marital status, origin and method of land acquisition did not significantly influence the attitudes and willingness of out-of-school youths towards tree planting activities.

Awareness of out-of-school youths about the roles and values of trees

The level of knowledge or awareness of the roles and values of trees by the out-of-school youths was examined using a statement that they were asked to rate on the 1 to 5 Likert Scale (Table 5). The summative index of the level of knowledge/awareness varied from 335 for those who were very knowledgeable to 4 for those who were not knowledgeable about the roles and values of the trees in their vicinity. Majority (Table 5) of the out-of-school youths said trees are sources of fuelwood, charcoal, timber for construction and sale, fodder, local medicines, fencing posts and poles for construction. Other major roles and values of trees perceived by these youths included modification of micro-climates; shade for shade-desiring crops, animals and for people at home; raw material for utensils like mortars and pestles, drums, and production of fruits.

Table 5. Awareness about the roles and values of trees by out-of-school youths (N = 104)

Variable	Attitude index/ % response
<i>Knowledge of roles and values of trees</i>	
	<i>Attitude index</i>
Very knowledgeable	335
Knowledgeable	92
Somewhat knowledgeable	18
Slightly knowledgeable	8
Not knowledgeable	4
<i>Roles/uses of trees</i>	
	<i>% response</i>
Firewood for domestic use and for sale	83
Charcoal for sale	79
Source of local medicines	77
Timber for construction and for sale	69
Modification of micro-climates	60
Fencing materials like posts	56
Poles for construction	56
Shade for shade-loving crops, animals, for people at home	50
Raw material for utensils like mortar and pestles, drums	48
Production of fruits	43
Shelterbelt and wind breaks	37
Bark cloth and other fibres	28
Production of fodder for domestic animals	24
Source of forage for honeybees	22
Soil conservation	14
Ornamental/beauty	13

Table 6. Opportunities and constraints to tree planting by out-of-school youths (N = 104)

Variable	% response
Constraints	
Lack of capital	68
Land and tree tenure insecurity	63
Long pay-back period from planted trees	56
Bad beliefs, taboos and superstitions about planting certain trees	48
Lack of quality planting materials	47
Tree pests and diseases	44
Ignorance of market dynamics	27
Abnormally long dry spells (drought)	25
Competing uses for land, labour and capital	22
Lack interest in tree planting	19
Opportunities	
Enabling government policies to tree planting activities	61
Increasing government commitment to youths welfare	59
Increasing extension services	54
Conducive climatic conditions for tree growth	52
Availability of local market for tree products	45
Land availability	38
Availability of cheap labour	38

Constraints and opportunities to tree planting activities by out-of-school youths

A number of factors hindered tree-planting activities by out-of-school youths in Kalungu sub-county, Masaka district. Lack of capital; land and tree tenure insecurity; long pay-back period from planted trees; bad beliefs, taboos and superstitions about planting certain trees, lack of quality planting materials; and ignorance of market dynamics were the major hindrance (Table 6). Other challenges included unusually long dry spells (drought); competing uses for land, labour and capital; and lack of interest in tree planting. In spite of these numerous constraints, there are still opportunities for out-of-school youths to plant trees in Kalungu sub-county. The opportunities included the enabling government policies to tree planting activities; increasing government commitment to youth's welfare; increasing support by extension institutions; conducive climatic conditions for tree growth as well as expanding markets for tree products (Table 6).

Discussion

Given that tree growing by youths is an enterprise subject to risky events such as drought, an important factor in understanding the behavior and decisions of youths to engage in such enterprise is their attitudes. The findings presented in this study, therefore, clearly indicates that out-of-school youths interested in tree

planting activities accounted for an extremely large segment of the respondents. Interest in tree planting appeared to be particularly high among the older and more educated youths. Agea *et al.* (2005) and Obua *et al.* (1998) reported that education increases people's environmental awareness, appreciation of the value of trees and people's ability to communicate. The positive tendencies towards tree planting could perhaps also be as result of perceived roles of trees in the environment and their livelihoods such as provision of fuelwood and timber for domestic use and sale.

On the other hand, youths who live in or near trading centres were more unwilling to plant trees as compared to those living far away from trading centres. Youths by their nature tend to prefer quick and higher wage employment which is more accessible in urban areas. Unfortunately, not all of them who seek employment in urban areas get the jobs. The majority of them "can only secure low-paying jobs such as domestic, factory and commercial enterprise (e.g. bars, hotels and restaurants) workers, clerical positions and prostitution. A few are engaged in petty trade while others ride bicycles and transport passengers and their luggage in a business called *boda-boda*. Therefore, such youths leaving in urban areas do not see any point of planting trees as a source of livelihood.

The findings also indicated that many out-of-school youths participated in tree planting activities at individual household level, implying that youths favour private individual tree plantings, rather than focussing their attention to schools, communal,

district or national-wide tree planting activities. This may be because they are suspicious about ownership rights that used to be exercised by the government through Forest Department, in which landlords were required to seek permission to cut and use certain trees even if they were the ones who planted them. Secure land rights in general and tree tenure in particular play a pivotal role in determining whether the benefits accrue to the people (Agea *et al.*, 2005; Banana and Gombya-Ssembajjwe, 2000; Barrow, 1996; Fortmann and Bruce, 1988). Because of this lack of secure land and tree tenures, many out-of-school youths do not have the freedom to decide on what type of tree species they wished to plant, and sometimes, they do not have direct control over the benefits of their efforts. This discourages the youths from investing their energies in activities where they cannot realize full benefits.

It is worth noting, however, that land and tree tenure is not the only issue in determining the youth's participation in tree planting activities at whatever level. Bad beliefs, taboos and superstitions about planting certain trees, can undermine participation in and success of tree planting activities even where people's ownership or access to land is confirmed (Kamugisha, 1993). Most of the out-of-school youths lack the basic production knowledge and skills in tree planting and management. Probably one of the major problems youths face is the education that does not provide them with life skills for rural livelihoods (Semana and Kibwika, 2000). Although most of the youths drop out of school after primary education and return to communities where tree growing is one of the livelihood strategies, their education does not add much to indigenous tree production and management practices. Primary schools and many secondary schools do not offer forestry as a subject, and even where it is offered, it is too theoretical that it cannot make a difference in practice.

Out-of-school youths also lack access to capital to invest in tree planting activities. While access to capital to buy seeds or seedlings is a key factor in the promotion of tree planting activities, out-of-school youths with the highest potential to try out planting tries have no access to it. They find it even more difficult to access the available rural credit facilities because they are regarded to be dependent and have no securities required to acquire loans. Most service providers do not target youths as a social category in society, leading to marginalization and under-utilization of a very productive force of young men and women (Kibwika and Semana, 2001). Even non-formal educational services, like forestry extension, are yet to reach the youths to enable them to participate fully in tree planting programs.

Conclusion and recommendation

A significant conclusion that could be drawn from this study is that the out-of-school youths in Kalungu

sub-county of Masaka district could easily be engaged in tree planting activities since the majority had a positive attitude towards tree planting. There is, however, a need to formulate clear policies and by-laws to guide and encourage out-of-school youths to plant trees. There is also a need to encourage people who have influence over out-of-school youths to develop their own knowledge and skills in tree planting and management. Like women, there is a need to deliberately target out-of-school youths, if they are to fully engage in tree planting activities. One way could be by encouraging them to organize themselves into groups in order to access credits from micro-finance institutions.

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References

- Agea, J.G., Obua, J., Namirembe, S. and Buyinza, M. 2005. Agroforestry potential of *Acacia senegal* in the rangelands of Luwero and Nakasongola districts. *Uganda Journal of Agricultural Sciences*, **11**: 34–39.
- Banana, A.Y and Gombya-Ssembajjwe, W. 2000. Successful forest management: The importance of security of tenure and rule enforcement in Ugandan forests. In *People and forests: communities, institutions, and governance*, edited by C. Gibson, MA McKean and E Ostrom. Cambridge: MIT Press.
- Barrow, E.G.C. 1996. *The Drylands of Africa: Local Participation in Tree Management. Initiatives*. Nairobi, Kenya.
- Curtain, R. 2003. 'Youth in Extreme Poverty-Dimensions and Country Responses', Chapter Three in *The World Youth Report 2003: The Global Situation of Young People*. Department of Economic and Social Affairs, United Nations. ISBN 92-1-130228-5, pp 429. <http://www.un.org/esa/socdev/unyin/wyr/>.
- Fortmann, L and Bruce, J.W. 1988. *Whose Trees? Proprietary Dimensions of Forestry*. Boulder: Westview Press.
- Green, W.H. 1995. *LIMDEP User's Manual, Version 7.0*. Econometric Software, Inc., Plainview, New York.
- Hamilton, A.C. 1984. *Deforestation in Uganda*. Oxford: Oxford University Press.
- Jacovelli, P. and Carvalho, J. 1999. The Private Forest Sector in Uganda opportunities for greater involvement. Uganda Forest Sector Coordinating Secretariat (UFSCS), Kampala.
- Kamugisha, J.R. 1993. Investing in Cultural Capital for Sustainable Use of Natural Resources and Environment in Uganda: Policy and legislation Landmarks, 1890–1990. Nairobi: Regional Soil Conservation Unit/SIDA.
- Kibwika, P. and Semana, A.R. 2001. The challenge of supporting rural youths for sustainable agricultural development and rural livelihood: a case of Uganda. A paper presented in 17th AIAEE Annual Conference.

- Likert, R. 1974. A method of constructing an attitude scale. In: *Scaling: A Sourcebook for Behavioural Scientists*, ed. G.M. Maranell, pp. 233–243. Chicago, USA: Aldine Publishing Company.
- MDSOER. 1997. Masaka District State of Environment Report. National Environmental Management Authority, Kampala Uganda.
- National Forest Authority. 2005. Draft Annual Report 2004/2005: Planting, growing and protecting trees. Kampala, Uganda.
- Ndyanabangi, B., Kipp, W. and Diesfeld, H.J. 2004. Reproductive Health Behaviour among In-School and Out-of-School Youths in Kabarole District, Uganda. *African Journal of Reproductive Health*, 8(3): 55–67.
- Norusis, M. 2004. *SPSS 12.0 Guide to Data Analysis*. Prentice Hall.
- Obua, J., Banana, A.Y. and Turyahabwe, N. 1998. Attitudes of local communities towards forest management practices in Uganda: The case of Budongo forest reserve. *Commonwealth Forestry review*, 77(2).
- Population Reference Bureau. 2006. The World's Youths Data Sheet. Washington, USA.
- Semana, A.R. and Kibwika, P. 2000. Identification of Existing Rural Youths Activities and Proposal for DATIC Support to Rural Youths Activity. NARO/DANIDA, Kampala.
- Shrigley, R.L. and Trueblood, C.R. 1979. Designing a Likert-type scale to assess attitude toward metrication. *Journal of Research in Science Teaching*, 16(1): 73–78.
- The New Vision 1st May. 2003. International Labour Day Supplement. Main Library Makerere University, Kampala Uganda.
- The New Vision 21st August. 2003. International Youths Day Supplement. Main Library Makerere University, Kampala Uganda.
- The Republic of Uganda. 1993. The National Youths Council Statute. Kampala Uganda.
- The Republic of Uganda. 1995. *Constitution of the Republic of Uganda*. Entebbe: Government Printer.
- Topouzis, D. 1994. The Socio-Economic Impact of HIV/AIDS on Rural Families with Emphasis on Youths. Rome: FAO.
- Uganda Population and Housing Census. 2002. Bureau of Statistics, Government Printery, Entebbe Uganda.