

BUSITEMA UNIVERSITY

Faculty of Natural Resource and Environmental Science

**LIVELIHOOD ASSESSMENT AND ITS IMPLICATION ON THE STATE OF THE
NATURAL ENVIRONMENT: A CASE OF NAMASAGALI SUB COUNTY,
KAMULI DISTRICT**

AWORI MARY IMMACULATE

BU/UP/2010/331



**A RESEARCH REPORT SUBMITTED TO THE FACULTY OF NATURAL RESOURCE
AND ENVIROMENTAL SCIENCE IN PARTIAL FULFILLMENT OF THE AWARD OF
THE DEGREE OF BACHELOR OF SCIENCE IN NATURAL RESOURCE
ECONOMICS OF BUSITEMA UNIVERSITY**

JUNE 2013

DECLARATION

I AWORI MARY IMMACULATE hereby declare that this research is my own original work and that it has never been submitted to this faculty for the award of any degree

Name

AWORI MARY IMMACULATE

sign



Date

26th June 2013

APPROVAL

This is to certify that this research was under my supervision and that it's now ready for the evaluation for the award of Bachelor of Science in Natural Resource Economics Degree of Busitema University

signature  date. 12/07/2013

MR TAAKO EDEMA GEORGE

Research supervisor

DEDICATION

I dedicate this report to God almighty for his infinite goodness and mercy, my affairs have been indeed his concern , all my family members and sibling, my husband Ndimugulumiza Samuel and lovely daughter Ndimugulumiza Precious Ruth.

ACKNOWLEDGEMENT

I sincerely acknowledge God, the author and finisher of my faith, who made me a unique creature and will always fight my course humbly appreciate my parents whom through them God brought me a unique creature existence and they have always played their role exceptionally without contempt.

I extend my sincere gratitude to Professor Isabirye Moses Faculty dean FNRES and all the lecturers for creating a favorable academic environment for my studies in Namasagali. Great thanks to my supervisor Mr. Taako Edema George for his courage and support when writing this report. Appreciations go to Ms Ariango Esther for her guidance and time granted towards the completion of this research report.

My profound thanks to the administrative staff of Busitema University Namasagali campus, not forgetting Madam Kabuye Julie, Mr. Haumba Jimmy , Mr. Tasiwuka Henry , Ms.Manana Margaret for the care and support you availed with whenever consulted may God reward you abundantly.

Appreciations to my lovely husband Ndimugulumiza Samuel for his financial and moral support during my study, may the almighty bless him abundantly.

Special thanks to all my classmates for encouragement and academic support in my stay in Namasagali for 3 years, especially Tusime Judith, Namugga Winnie, Acanit Mary Edisa, Gutu Colin, Bwebale Julius, Otinga Andrew, Kibira Fredrick, Asasira Joseph and Namazzi Betty. May the almighty God bless them abundantly.

TABLE OF CONTENTS

| | |
|----------------------------------------------------------------------------|------|
| DECLARATION | i |
| APPROVAL..... | ii |
| DEDICATION | iii |
| ACKNOWLEDGEMENT..... | iv |
| TABLE OF CONTENTS..... | v |
| LIST OF TABLES | viii |
| ABBREVIATIONS | ix |
| ABSTRACT..... | x |
| CHAPTER ONE:..... | 1 |
| GENERAL INTRODUCTION..... | 1 |
| 1.1 Background..... | 1 |
| 1.2 Research problem..... | 3 |
| 1.3 Objectives..... | 4 |
| 1.3.1 Main objective..... | 4 |
| 1.3.2 Specific objectives..... | 4 |
| 1.4 Research questions..... | 4 |
| 1.5 Significance of the study..... | 4 |
| CHAPTER TWO..... | 6 |
| LITERATURE REVIEW..... | 6 |
| 2.1 The living condition of the people in terms of the basic services..... | 6 |
| 2.2 Ways in which people earn their living..... | 7 |
| 2.3 Relationship between livelihood and the natural environment..... | 9 |
| 2.4 The strategies to improve livelihood of the people..... | 15 |
| RESEARCH METHODOLOGY..... | 18 |
| 3.1 Description of the study area..... | 18 |
| 3.2 Research design..... | 19 |
| 3.3 Study population..... | 19 |
| 3.4 Sample size and sample procedure..... | 19 |

| | |
|-----------------------------------------------------------------------------------|-----------|
| 3.4.1 Sample size..... | 19 |
| 3.4.2 Sampling techniques and procedures..... | 19 |
| 3.5 Data types and collection methods..... | 20 |
| 3.5.1 Data types..... | 20 |
| 3.5.2 Research Instruments..... | 20 |
| 3.5.2.1 Questionnaire..... | 20 |
| 3.6 Data collection methods..... | 21 |
| 3.7 Validity and reliability of data collection instrument..... | 21 |
| 3.8 Ethical considerations..... | 21 |
| 3.8 Data processing and analysis..... | 21 |
| 3.8.1 Data processing..... | 21 |
| 3.8.2 Data Analysis..... | 21 |
| CHAPTER FOUR..... | 22 |
| PRESENTATION OF THE FINDINGS..... | 22 |
| 4.1 Living condition of the people in terms of the basic services..... | 22 |
| 4.3 Relationship between livelihood and the state of the natural environment..... | 32 |
| 4.4 Strategies to improve livelihood..... | 34 |
| CHAPTER FIVE..... | 37 |
| DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATION..... | 37 |
| 5.1 Discussion of findings..... | 37 |
| 5.2 Conclusions..... | 40 |
| 5.3 Recommendations..... | 40 |
| 5.4 Areas of future research..... | 41 |
| APPENDICES..... | 52 |
| APENDIX I..... | 52 |
| APENDIX 2..... | 57 |

LIST OF FIGURES

| | |
|--------------------------------------------------------------|----|
| Figure3.1. 1: Map of Namasagali | 18 |
| Figure4.2. 2: Most source of livelihood | 30 |
| Figure4.2. 3: Source of income- | 31 |
| Figure4.3. 4: Benefits got from the natural environment..... | 32 |

LIST OF TABLES

| | |
|----------------------------------------------------------------------------|----|
| Table2.3. 1: Ways in Which Forests Can Contribute to Human Livelihood..... | 11 |
| Table4.1. 3: Nature of health services..... | 23 |
| Table 4.1.4: Nature of access to water | 23 |
| Table 4.1 5: Access to food as a basic service | 24 |
| Table4.1. 6: Nature of financial services as a basic service..... | 24 |
| Table 4.2. 7: Quality of education | 25 |
| Table4.2. 8 Quality of the financial services..... | 25 |
| Table4.2. 9: Quality of water as a basic service | 26 |
| Table4.2. 10: Quality of food as a basic service..... | 26 |
| Table4.2. 11: Quality of health services..... | 27 |
| Table4.3. 12: Education services | 27 |
| Table4.3. 13: Health services..... | 28 |
| Table4.3. 14: Water as a basic service | 28 |
| Table4.3. 15: Financial services..... | 29 |
| Table4.3. 16 Bstatus of natural environment..... | 33 |
| Table4.3. 17: Reduced quality of natural resource..... | 33 |
| Table4.4. 18: Strategies to improve basic services..... | 34 |
| Table4.4. 19 Level of the income | 35 |
| Table4.4. 20: Conservation of the natural environment..... | 35 |
| Table4.4. 21: Ways to conserve the natural environment..... | 36 |

ABBREVIATIONS

UBOS – Uganda Bureau of statistics

NEMA – National Environment Management Authority

FAO – Food Agricultural Organization

CBO – Community Based Organization

NGO-Non Governmental Organization

FEWS NET-Famine Early Warning System Net work

ODI-Overseas Development Institute

MWE-Ministry of Water and Environment

ICT- Information and Communication Technology

GDP-Gross Domestic Product

UNEPA-United Nation Environmental Protection Agency

DFID-Department for international department

PEAP-Poverty Eradication Auction Plan

PMA-Plan for Modernization Agriculture

LARMI- Livelihood and Natural Resource Management Institute

ABSTRACT

This study was carried out on livelihood assessment and its implication on the natural environment using the case study of Namasagali Sub County, Kamuli district on selected households in the parishes. The problem to be studied indicates that at the present situation, the livelihoods of the people largely depend on the natural environment which has led to its state to decline.

In general, the objectives of the study were to establish the living condition of the people of Namasagali sub county in terms of the basic service, to find out the most popular way in which the people of Namasagali earn their living, to find out the relationship between livelihood and the state of the natural environment and to identify strategies that can be used to improve the livelihood of the people of Namasagali sub county. A cross sectional survey was carried out which involved use of questionnaires covering 50 respondents. Data collected was analyzed using SPSS which facilitated the formation of frequency tables, graphs, pie charts and cross tabulations.

The research findings with respect to the above objectives indicated that living condition of the people in relation to the basic service was relatively low this is because 64% of the respondent live far away from financial services at about 20km, 68% of the schools are of poor quality basing on the performance, 62% of the respondent perceive the quality of the health services to be of poor quality, 52% of the respondent to consider the quality of the water to be poor. 76% of the respondents earn their living through farming, 8% through fishing, 10% business, 2% charcoal burning and 4% employment. 48% of the respondents believe that the quality of the natural resources are reducing because of factors such as Deforestation, poverty among people, increased population and farming. 50% of the respondent gave strategies such as serious monitoring, supply of enough drugs and classicist material, recruiting qualified teachers and nurses, and finally extending financial service nearer to the people.

The study concludes that the basic services are poor, the most popular way of earning a living is farming, livelihood depend on the natural environment and leads to the state of the natural environment to decline. Thus the researcher recommends community should be sensitized on sustainable use of the natural environment and government should work had to improve people's livelihood.

CHAPTER ONE:

GENERAL INTRODUCTION

1.1 Background

Globally hundreds of millions people rely on the natural resources for their livelihood; an estimated 250 million people in developing countries directly depend on small scale fisheries for food and income (Sally *et al.*, 2010). In India alone, some 50 million people are directly depending on forest for their subsistence (www.wwf.org.uk/livelihoods-and-natural-resources). Poor countries depend on natural resources much more than richer countries; a quarter of the total wealth of low-income countries comes from natural capital compared to 2% of in wealthier nations (World Bank, 2008). The majority of the world's poorest people live in marginalized rural areas and largely dependent on natural resources and the environment for their livelihoods, as a result of their dependency on the natural resource several impacts have been detected such as soil erosion and declining soil fertility, deforestation, pollution of the air, land and water resource (Thomas *et al.*, 2005)

Livelihoods in Uganda differ from region to region as seen from the report provided by FEWS NET Uganda 2009 on the livelihood zoning project which found out that the livelihood of the people is centered majorly on agricultural and in rural areas of Uganda, livelihoods are based overwhelmingly on the primary production of food such as maize, potatoes, rice, millet, sorghum, beans and soya beans, cash crops such as cotton, tobacco, and coffee which is mainly for commercial purpose, and livestock usually play an important role even outside pastoral and agro-pastoral areas whereas in urban areas peoples livelihood is majorly in employment in government sector, private sector, and non-Governmental organization; some earn their living by operating on small scale businesses such shops, salons, hotels, bars (NEMA, 2010). Agriculture dominates in both regions (McCracken *et al.*, 2005) this is because it affects both regions directly or indirectly, for example in urban areas though people seem not to participate in agriculture directly, they still buy food which is the product of agriculture (FAO, 2006). Other activities that contributes to the livelihood of the people of Uganda include fishing, animal rearing, bricklaying, charcoal burning to mention but a few (UBOS, 2006). All the above ways leads to the decline on the state of the natural environment (Henderson, 2000). On the other hand, means of earning a

REFERENCES

- Abele, S., Fiege, U., Reinsberg, K. (2003). The impact of agricultural development on agricultural employment and rural labour markets: Evidence from Eastern Europe and Africa. Conference on International Agricultural Research for Development, Deutscher Tropentag - Goettingen, Bank Washington, D.C.
- Adger N, Kelly PM, Winkels A, Huy LQ, Locke C (2002). Migration, Remittances, Livelihood Trajectories and Social Resilience in Coastal Vietnam, *AMBIO: A Journal of the Human Environment*.
- Aldrich E, Walker, R.T., Arima, E., Caldas, M., Browder, J.O. and Perz S. (2006). Land-cover and Land-Use Change in the Brazilian Amazon: Smallholders, Ranchers, and Frontier Stratification. *Economic Geography*.
- Barany M, Hammett A.L, Sene A, Amichev B (2001). Non timber Forest Benefits and HIV/AIDS in Sub-Saharan Africa. *Journal of Forestry*.
- Barbieri AF, Bilsborrow RE, Pan WK. (2005) Farm household lifecycles and land use in the Ecuadorian Amazon. *Population and Environment*
- Barbieri AF, Bilsborrow RE. (2005). Migration, Urbanization and Deforestation in the Ecuadorian Amazon: The Second Generation; Paper presented at the Meeting of the Population Association of America, Philadelphia, PA.
- Barnett T, Blaikie P. (1992). Its present and future impact, John Wiley, and London, Guilford Press; New York: AIDS in Africa.
- Barnett T, Haslwimmer M., (1995). The effects of HIV/AIDS on farming systems in Africa; Food and Agriculture Organization; Rome:
- Barraclough, S.L, (2000). Meaning of sustainable agriculture: some issues for the south Centre: Switzerland.

Barrett H, Browne A. (1998). Global Environmental Change Programme Briefs. 22. ESRC Global Environmental Change Programme;. Environmental and Social Change in Zambia: the Value of Children to Rural Households.

Bebbington A.J. (1999); Capitals and capabilities: a framework for analyzing peasant viability, rural livelihoods, and poverty. *World Development*.

Bedoya Garland E. (1995). The social and economic causes of deforestation in the Peruvian Amazon basin: natives and colonists. In: Painter M, Durham WH, editors. *The Social Causes of Environmental Destruction in Latin America*. University of Michigan Press; Ann Arbor, MI.

Biddlecom A.E, Axinn W, Barber J.S. (2005) Environmental Effects on Family Size Preferences and Subsequent Reproductive Behavior in Nepal. *Population and Environment*.

Brondizio ES, McCracken SD, Moran EF, Siqueira AD, Nelson DR, Rodriguez- Pedraza C. (2002) The colonist footprint: toward a conceptual framework of land use and deforestation trajectories among small farmers in the Amazonian frontier. In: Wood CH, Porro R, editors. *Deforestation and Land Use in the Amazon*. University Press of Florida; Gainesville, FL.

Caldas M, Walker RT, Perz S, Arima E, Aldrich S, Simmons C, Wood C. (2007) Theorizing land cover and use change: The peasant economy of colonization in the Amazon Basin. *Annals of the Association of American Geographers*.

Carr DL. Landino and Q'eqchi' Maya.(2004) Land use and land clearing in the Sierra de Lacandón National Park, Petén, Guatemala. *Agriculture and Human Values*.

Colfer CJP, (2008) editor. *Human Health and Forests: A Global Overview of Issues, Practice and Policy*. Earthscan; London, UK:

Coomes OT, Barham BL, Takasaki Y (2004). Targeting conservation-development initiatives in tropical forests: insights from analyses of rain forest use and economic reliance among Amazonian peasants. *Ecological Economics*.

Coomes OT, Grimard F, Diaz V (2001) Working Paper, Department of Geography. McGill University; Montreal Peasant farm size and family size: a causality analysis from the Peruvian Amazon.

Curran S. (2002) Migration, Social Capital and the Environment: Considering Migrant Selectivity and Networks in Relation to Coastal Ecosystems. In: Lutz W, Prskawetz A, Sanderson W, editors. Population and Development Review. Supplement to.

Dasgupta P. (2000). Population and resources: An exploration of reproductive and environmental externalities. Population and Development Review.

SFID. Baumgartner, R. & Högger, R. (eds.) (2004). In search of sustainable livelihood systems - Managing resources and change. New Delhi: Sage Publications.

Ellis F. (2000) Rural Livelihoods and Diversity in Developing Countries. Oxford University Press; Oxford.

FAO (2006) Uganda Aqua stat FAO Information System or Water and Agriculture. Food and Agriculture Organization of United Nations (FAO).

FAO, (2007). The State of Food and Agriculture, Paying Farmers for Environmental Services, Food and Agriculture Organization, Rome.

Faris R. (1999) Deforestation and land use on the evolving frontier: An empirical assessment. Harvard Institute for International Development.

Filmer D, Pritchett LH. (2002) Environmental degradation and the demand for children: searching for the vicious circle in Pakistan. Environment and Development Economics.

Food and Agricultural Organisation (FAO) (1996)/ Inventory of Wetlands Biodiversity in Uganda. Field Document 25.

Forsyth T, Leach M, Scoones I (1998) Poverty and Environment: Priorities for Research and Policy. Institute for Development Studies; Sussex, UK: (1998).

Gray LC, Moseley WG. (2005) A geographical perspective on poverty-environment interactions. *The Geographical Journal*.

Guzmán HM, Guevara C, Castillo A.(2003) Natural disturbances and mining of Panamanian coral reefs by indigenous people. *Conservation Biology*.

Haddad L, Gillespie S. (2001) Effective Food and Nutrition Policy Responses to HIV/AIDS What We Know and What We Need to Know. *Journal of International Development*.

Hecht SB. (2005) Soybeans, development and conservation on the Amazon frontier. *Development and Change*.

Henry S, Schoumaker B, (2004).The impact of rainfall on the first out-migration: a multi-level event-history analysis in Burkina Faso. *Population and Environment*.

Hunter LM, Twine W, Johnson A. (2005) Population Dynamics and the Environment: Examining the Natural Resource Context of the African HIV/AIDS Pandemic; Paper presented at the XXV International Population Conference; Tours, France.

Keys E, McConnell WJ. (2005) Global change and the intensification of agriculture in the tropics. *Global Environmental Change*.

Liu J, An L, Batie SS, Bearer SL, Chen X, Groop RE, He G, Liang Z, Linderman MA, Mertig AG, Ouyang Z, Qi J, Zhang H, Zhou S. (2005) Beyond Population Size: Examining Intricate Interactions Among Population Structure, Land Use, and Environment in Wolong Nature Reserve, China. In: Entwisle B, Stern PC, editors. *Population, Land Use, and Environment: Research Directions*. National Academies Press; Washington, DC:

Liu JG, Ouyang ZY, Tan YC, Yang J, Zhang HM. (1999). Changes in human population structure: Implications for biodiversity conservation. *Population and Environment*

Loker WM. (1998). The human ecology of cattle rising in the Peruvian Amazon: The view from the farm. *Human Organization*.

Massey DS, Axinn W, Ghimire D. (2007) Environmental Change and Out-Migration: Evidence from Nepal. Population Studies Center, University of Michigan. Research Report.

McCracken SD, Brondizio ES, Nelson D, Moran EF, Siqueira AD, Rodriguez- Pedraza C. (1999) Remote Sensing and GIS at Farm Property Level: Demography and Deforestation in the Brazillian Amazon. Photogrammetric Engineering & Remote Sensing.

McCracken SD, Siqueira AD, Moran E, Brondizio ES. (2002) Land use patterns on an agricultural frontier in Brazil: insights and examples from a demographic perspective. In: Wood CH, Porro R, editors. Deforestation and Land Use in the Amazon. University Press of Florida; Gainesville, FL.

McSweeney K. (2004) Forest product sale as natural insurance: the effects of household characteristics and the nature of shock in eastern Honduras. Society and Natural Resources.

McSweeney K. (2005) Natural insurance, forest access, and compounded misfortune: forest resources in smallholder coping strategies before and after Hurricane Mitch, eastern Honduras. World Development.

Moran EF, Brondizio ES, VanWey LK. (2005) Population and Environment in Amazônia: Landscape and Household Dynamics. In: Entwisle B, Stern PC, editors. Population, Land Use and the Environment. National Research Council; Washington, DC: 2005.

Murphy LL. (2001). Colonist farm income, off-farm work, cattle, and differentiation in Ecuador's northern Amazon. Human Organization.

National agriculture research organization (2001) agriculture in Uganda volume 4 livestock and fisheries .published by fountain publishers limited

National environment management authority (1998) state of environment report for Uganda. Published by national environmental management authority

National Environmental Management Authority(2010) state of environmental authority published by national environmental authority

Nepstad D, Schwartzman S, Bamberger B, Santilli M, Ray D, Schlesinger P, Lefebvre P, Alencar A, Prinz E, Fiske G, Rolla A.(2006). Inhibition of Amazon deforestation and fire by parks and indigenous lands. *Conservation Biology*.

O'Neill BC, MacKellar FL, Lutz W.(2001). *Population and Climate Change*. Cambridge University Press; Cambridge, UK:

Perz SG, Walker RT, Caldas MM. (2006). *Beyond Population and Environment: Household Life Cycle Demography and Land Use Allocation among Small Farm Colonists in the Amazon*. *Human Ecology*.

Reardon T, Vosti SA. (1995). Links between rural poverty and the environment in developing countries: asset categories and investment poverty. *World Development*.

Rudel TR, Horowitz B. (1993) *Tropical deforestation: Small farmers and land clearing in the Ecuadorian Amazon*. Columbia University Press

Rugalema G, Khanye V.(2002) *African Rural Development in the Face of HIV/AIDS*. *Agriculture and Rural Development*.

Sousan J, Emmel N, Howorth C. (1999). *A Contribution to IUCN's Vision for Water and Nature in the 21st Century*. . *Freshwater Ecosystems Management and Social Security*.

Stocks A, McMahan B, Taber P. (2006) Working Paper, and Dept. of Anthropology. Idaho State University, Pocatello, ID. *Beyond the map: indigenous and colonist impacts and territorial defense in Nicaragua's BOSAWAS Biosphere Reserve*.

Strauss J, Thomas D. (1995). *Human Resources: Empirical Modeling of Household and Family Decisions*. In: Behrman J, Srinivasan TN, editors. *Handbook of Development Economics*, iii(A) Amsterdam; North Holland:

Sutherland EG, Carr DL, Curtis SL. (2004) *Fertility and the environment in a natural resource dependent economy: Evidence from Petén, Guatemala*. *Población y Salud en Mesoamérica*.

Takasaki Y, Barham BL, Coomes OT. (2004). Risk coping strategies in tropical forests: floods, illnesses, and resource extraction. *Environment and Development Economics*.

Thomas, D. S. G., M. Knight, and G. F. S. Wiggs. (2005). Remobilization of southern African desert dune systems by twenty-first century global warming. *Nature*

UNFPA (United Nations Population Fund) IUCN-The World Conservation Union Report of the International Workshop on Population-Poverty-Environment Linkages. IUCN Headquarters, Gland; Switzerland: Sep 23-25, (1999, 1998).

Urdal H. (2005). People vs. Malthus: Population pressure, environmental degradation, and armed conflict revisited. *Journal of Peace Research*.

Van Liere MJ. (2002). HIV/AIDS and Food Security in Sub-Saharan Africa; 7th Annual ECOWAS Nutrition Forum; Banjul, Gambia.

Vance C, Geoghegan J. (2002) Temporal and spatial modeling of tropical deforestation: a survival analysis linking satellite and household survey data. *Agricultural Economics*.

VanLandingham M, Hirschman C (2001) Population pressure and fertility in pre- transition Thailand. *Population Studies*.

Vittor AY, Gilman RH, Tielsch J, Glass G, Shields T, Lozano WS, Pinedo-Cancino V, Patz JA (2006). The effect of deforestation on the human-biting rate of *Anopheles darlingi*, the primary vector of falciparum malaria in the Peruvian Amazon. *American Journal of Tropical Medicine and Hygiene*.

Vosti SA, Witcover J, Carpentier CL. (2002) Agricultural Intensification by Small- holders in the Western Brazilian Amazon: From Deforestation to Sustainable Land Use. International Food Policy Research Institute (IFPRI); Washington, DC:

Walker R, Perz SG, Caldas M, Teixeira Silva LG. (2002) Land use and land cover change in forest frontiers: the role of household life cycles. *International Regional Science Review*.

Walker RT, Moran E, Anselin L. (2000). Deforestation and Cattle Ranching in the Brazilian Amazon: External Capital and Household Processes. *World Development*.

Walker RT. (2003). Mapping Process to Pattern in the Landscape Change of the Amazonian Frontier. *Annals of the Association of American Geographers*.

White J, Robinson E. (2000). HIV/AIDS and Rural Livelihoods in Sub-Saharan Africa. Natural Resources Institute, University of Greenwich; Chatham, UK: 2000. (Policy Series 6).

Wilk R. (1990). Household Ecology: Decision Making and Resource Flows. In: Moran Emilio, Editor. *The Ecosystem Approach in Anthropology: From Concept to Practice*. University of Michigan Press.

Zimmerer KS. (2004) Cultural ecology: placing households in human-environment studies--the cases of tropical forest transitions and agrobiodiversity change. *Progress in Human Geography*.

Zwick, K., Smith, D., (2001). Access to Rural Non-farm Livelihoods: Report of Preliminary Field Work in Rakai District, Uganda. NRI Report No: 2592, Natural Resources Institute, Chatham, United Kingdom.

Electronic source

Carney D. Implementing the Sustainable Rural Livelihoods Approach. Overseas Development Institute; London, UK: (1998). Available at:

<http://www.dfid.gov.uk/public/what/advisory/group6/-rld/dianakey.html>.

Food and Agriculture Organization of the United Nations (FAO) AIDS: A Threat to Rural Africa. FAO; Rome, Italy: (2001). [Accessed on 27 October 2010]. Available online:

<http://www.fao.org/FOCUS/E/aids/aids1-e.htm>

<http://econwpa.wustl.edu/eps/mac/papers/0401/0401005.pdf>

<http://www.livelihoods.org/info/docs/lacv3.pdf>

<http://www.livelihoods.org/info/docs/nrcadc.pdf>

<http://www.livelihoods.org/info/nrac/care.pdf>

Hunter LM, Twine W, Johnson A. Adult Mortality and Household Dietary Use of the Local Environment: Qualitative Evidence from the Agincourt Field Site in Rural South Africa. Institute of Behavioral Science Research Program on Environment and Behavior Working Paper Series. (2006). EB2005,001. <http://www.colorado.edu/ibs/pubs/eb/eb2005-0001.pdf>

Marcoux A. (1999) Population and Environmental Change: from Linkages to Policy Issues. <http://www.fao.org/sd/wpdirect/WPre0089.htm>

Poverty-Environment Partnership Investing in Environmental Wealth for Poverty Reduction. UNDP, UNEP, IIED, IUCN and WRI; (2005). Available at <http://www.povertyenvironment.net/pep/>

Tukahirwa JMB. (2002) Policies, People and Land Use Change in Uganda: A Case Study in Ntungamo, Lake Mburo and Sango Bay Sites. (Land Use Change Impacts and Dynamics (LUCID) Working Paper Series No. 17). Available at http://www.lucideastafrica.org/publications/Tukahirwa_Lucid_WP17.pdf

World Bank, (2008). World Development Report 2008, Agriculture for Development. The World Bank, Washington, D.C. www.wwf.org.uk/.../livelihoods-and-natural-resources

Zaba B, Madulu N. (1998) A Drop to Drink? Population and Water Resources: Illustrations from Northern Tanzania. In: de Sherbinin A, Dompka V, editors. Water and Population Dynamics: Case Studies and Policy Implications. AAAS; Washington, DC: available at <http://www.aaas.org/international/ehn/waterpop/zaba.htm>

Sallu, S. M., C. Twyman, and L. C. Stringer. (2010), Resilient or vulnerable livelihoods? Assessing livelihood dynamics and trajectories in rural Botswana. *Ecology and Society* 15(4): 3. [online] URL: <http://www.ecologyandsociety.org/vol15/iss4/art3/>