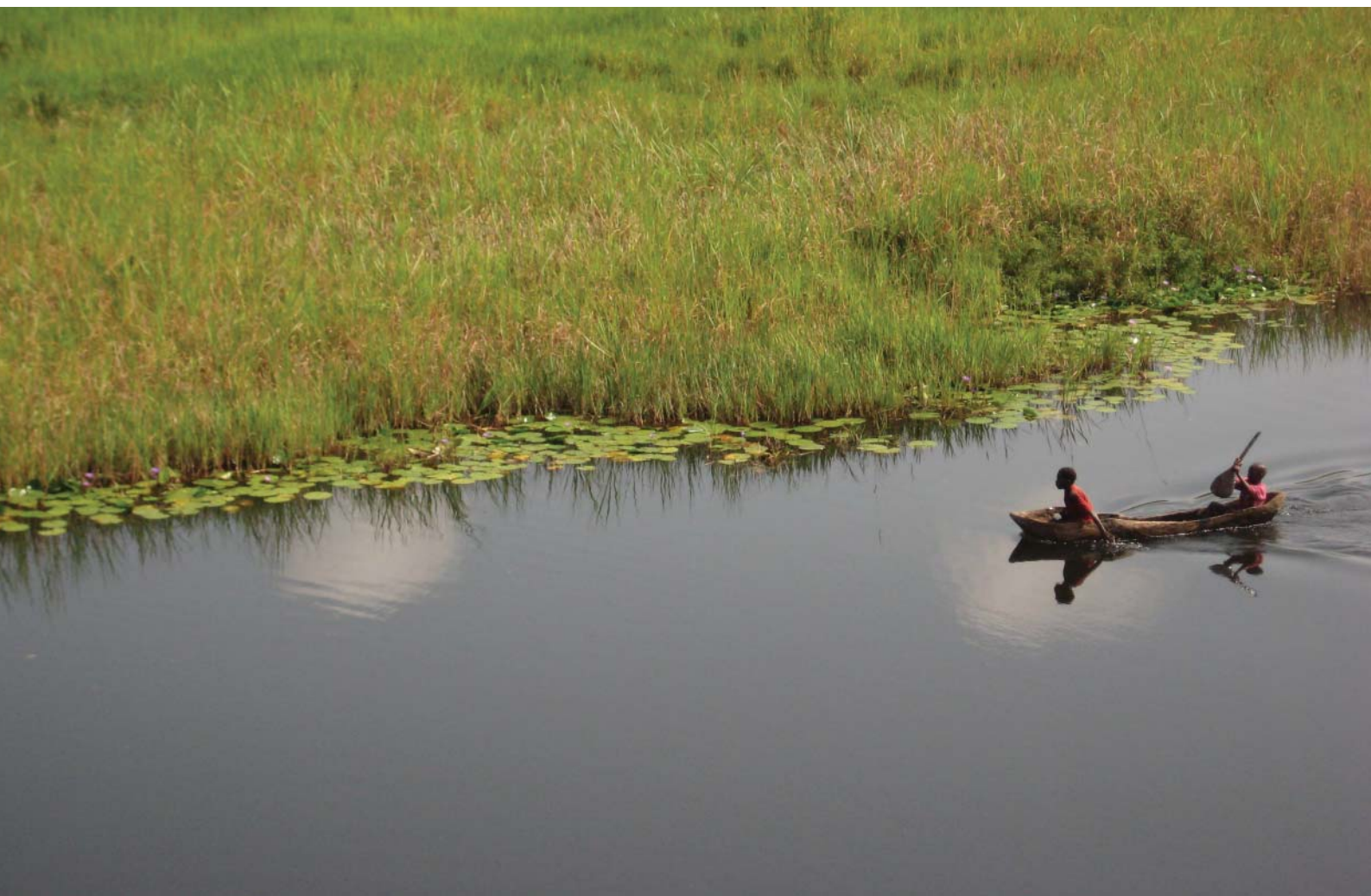




Moving Forward:

Lessons Learned and Recommendations

This publication is based on innovative mapping techniques and analyses with potentially far-reaching implications for sustainable wetland management and poverty reduction in Uganda and around the world.

It demonstrates how poverty and wetland maps can be combined to generate new information relevant to designing and implementing poverty reduction strategies, wetland management efforts, and national development plans. These new maps and analyses can in turn help to classify wetlands by their main uses, conditions, and poverty profile in order to identify regions or communities with greater need for pro-poor wetland management interventions.

Such analyses are only possible because of the substantial and consistent investments the Uganda government has made to collect wetland and poverty data. By advancing the integration and spatial analyses of these data, Ugandan analysts can take advantage of this investment to strengthen wetland management and poverty reduction efforts. The examples presented illustrate how an examination of the spatial relationships among poverty, wetland use, and wetland conditions can provide new information to assist in more effective wetland management and poverty reduction efforts.

Mapping a Better Future also highlights the need for Ugandan decision-makers to demand additional analytical returns for their data investments. Examples show that maps and spatial analyses can contribute to the understanding of poverty-wetland interactions in specific locations and provide the foundation for more evidence-based wetlands management and poverty reduction efforts.

LESSONS LEARNED

The primary goal of this publication has been to encourage readers to carry out their own improved examinations of poverty and wetland maps. Nevertheless, the collaboration of national and international organizations to produce this report provides some general lessons. A number of more specific conclusions can also be drawn from the spatial analyses of the maps presented, despite the exploratory nature of these examples.

Observations

Based on the process of compiling the data, producing the maps, and analyzing map overlays, the following observations can be made:

- Analysts working with the Wetlands Management Department and the National Forest Authority can integrate land cover data from Uganda's National Biomass Study and the National Wetlands Information System in a geographic information system to produce national maps that show the location of wetlands, the array of benefits local communities obtain from them, and the level of impacts these uses have on larger wetland systems.
- National and local decision-makers can, for the first time, access these wetlands data and produce their own maps to inform future wetlands management efforts.
- These wetland use and impact data can then be combined with maps of poverty and population density to create new wetland-poverty indicators and explore the relationships among wetland use, their condition, and levels of poverty in specific locations.
- Analysts can use these indicators and maps to select geographic areas with certain poverty and wetland characteristics for pro-poor targeting.
- Decision-makers can use these new indicators and maps to make more informed and transparent choices when designing and implementing wetland management plans and poverty reduction efforts.

Conclusions

While the maps and analyses are primarily illustrative in nature, they support the following more specific conclusions:

■ ***Maps of wetlands show that they provide multiple benefits throughout Uganda.***

Wetlands exist in every district of Uganda, and all Ugandans benefit from the products and services they provide. Over 70 percent of all wetlands in Uganda are used for three simultaneous purposes: water collection and use, livestock grazing, and harvesting of wood (for fuel and other purposes). Some uses such as hunting, fishing, and beekeeping are geographically more concentrated.

■ ***The diversity of products obtained from wetlands and the levels of wetland impacts vary greatly across Uganda.***

Grassland wetlands where users obtain few different wetland products (low product diversity) are spread across all regions of the country. However, grassland wetlands with the highest product diversity are almost exclusively located south and north of Lake Kyoga.

Wetlands with low impacts from local use are concentrated in Amuria, Katakwi, Kaberamaido, and Soroti Districts. On the other hand, Lira District has the greatest number of wetlands with very high impacts from local use. Clusters of wetlands in the Districts of Jinja, Dokolo, Amolatar, Keyenjojo, and Kamwenge also show very high impacts. Very highly impacted wetlands occur in other Districts as well, but are less concentrated.

■ ***Spatial analyses of selected poverty-wetland indicators reveal no clear pattern at the subcounty level.***

The map overlays show no clear spatial pattern for the two selected indicators (namely, the diversity of wetland products and the combined impacts of wetland uses). Both poor and better-off subcounties can be found that exhibit high diversity of wetland products; likewise, both poor and better-off subcounties can be found that exhibit low diversity of wetland products, and both poor and better-off subcounties can be found that exhibit high wetland impacts from local use. It is likely that these simple overlays only partially capture the complex relationships among the selected poverty indicator, wetland use, and wetland condition. More detailed follow-up analyses looking at specific regions, other poverty indicators, and additional variables such as agroclimate, land-use pattern, access to land and markets, and political economy are needed to examine these relationships more comprehensively.

■ ***The overlay analyses of poverty and wetland maps are most useful for identifying subcounties that share similar poverty and wetland characteristics, and thus may lend themselves to similar wetland management approaches.***

While these examples of overlay analyses do not reveal strong spatial associations, the maps can nevertheless be used for formulating questions and hypotheses to create intervention strategies. They can help, for instance, to identify areas where boosting diversification of wetland products would benefit the poorest communities or where preventing further wetland degradation could be beneficial to a large number of poor families. For example, they highlight locations with the following wetland and poverty profiles:

- Lira District has the greatest concentration of highly impacted wetlands and communities with high poverty rates.
- High diversity of grassland wetland products and high poverty coincide in Soroti, Kaberamaido, and Lira Districts.
- Katakwi District includes a large cluster of wetlands with low product diversity surrounded by communities with high poverty levels.

■ ***Economic valuation studies can be linked to poverty and wetland maps to enhance the analysis of wetland benefits.***

Information from economic valuation studies that track the quantity and value of each product or service obtained from a wetland can be linked to these maps to gauge the potential economic contribution of different wetland uses on poverty levels. The example in this publication relies on the most readily available economic data of a wetland benefit—harvesting raw papyrus. It is an activity that is generally easily accessible to the poor but has low financial returns. The example shows that selling the raw material does not provide sufficient revenue in the aggregate to move all poor households above the poverty line for most subcounties.

However, there are a number of subcounties where papyrus harvesting could make a significant contribution to reduce poverty, but this will require specific targeting of poor households. Further investigation at local and household levels is needed to explore where papyrus harvesting could help to reduce poverty, where solely harvesting papyrus may represent a poverty trap, and where support to promote other value-added papyrus products is most promising.

RECOMMENDATIONS

While the primary objective of this report is to highlight ideas on how wetland-poverty maps can be developed and analyzed, it also seeks to catalyze greater use of this type of information in decision-making. Central and local government agencies can increase the likelihood of this happening by intervening on the supply side of information and on the demand side for these kinds of maps and analyses.

Strengthening the supply of data and analytical capacity will provide large returns to future planning and prioritization of wetland management efforts. Improvements in the following two areas are the most promising:

■ *Complete data entry and collection for the National Wetlands Information System, improve data consistency, and update wetland and land cover information.*

- Maintaining up-to-date wetland inventories is essential to ensure the policy relevance of the data and subsequent analyses. The Wetlands Management Department needs to finalize all data entry for the National Wetlands Information System for the Districts with completed wetland inventories. New wetland inventories need to be carried out for northern Districts that were not inventoried because of security issues. The Wetlands Management Department needs to secure funding and develop a long-term plan with regularly scheduled updates for the National Wetlands Information System.
- Information on the location and extent of specific wetlands in the National Wetlands Information System still relies on a 1996 land cover map. The Wetlands Management Department in collaboration with other national institutions (National Forest Authority, Ministry of Lands, Housing and Urban Development, etc.) need to promote and invest in new land cover information to improve planning for wetland management, support gazettement of vital wetlands, and aid in analyzing potential pressures from land-use change.
- A technical team consisting of wetland officers and other experts needs to reassess the consistency of methods used for wetland inventories, especially when investigators apply qualitative measures to gauge the level of use, impact, and threat.
- The Wetlands Management Department, in collaboration with technical experts, needs to explore the best option to collect data on two new wetland indicators: the quantities of wetland products and services used, and the overall health of wetlands. The former indicator will help to determine more sustainable use patterns and provide the foundation for better economic valuation of wetlands. The latter indicator, although not easy to develop, could pro-

vide information on a wetland and its ability to provide desired ecosystem services over the long term, such as the capacity to supply a consistent quantity of fish, or the ability to filter additional loads of pollutants. The Department should also explore how to better account for and monitor regulating services of wetlands.

■ *Strengthen analysis, mapping, and economic valuation efforts.*

- Compared to the financial resources spent on data collection and entry, few resources have been earmarked to analyze and communicate the data from the National Wetlands Information System. The in-house technical and analytical capacities within the Wetlands Management Department to extract, map, interpret, and communicate these data require strengthening.
- The indicators described in this publication represent only a subset of possible indicators that have planning, policy formulation, and decision-making relevance. The Wetlands Management Department can lead efforts to create other relevant indicators, for example by incorporating information such as land ownership or pressures from land-use change into future maps.
- There is a clear need to apply economic valuation to all major wetland products and services (particularly their importance in filtering drinking water supplies and regulating hydrological flows). Linking the economic value of wetlands ecosystem services to a map can provide decision-makers with a more complete picture of the relative value of all ecosystem services in that location. This makes it less likely that important ecosystem services will be overlooked in management decisions (e.g., converting wetlands to another land use).

Promoting the demand for such indicators and spatial analyses will require leadership from a few government agencies (discussed below). Actions in the following four areas will help in linking the supply of new maps and analyses with specific decision-making opportunities:

■ *Incorporate poverty information in wetlands management.*

Poverty maps can improve wetlands management. The Wetlands Management Department has developed a framework (Kampala Matrix) to classify all wetlands by their ecological and social importance and their threat status in order to prioritize wetland management interventions (such as restoring wetlands, monitoring use more strictly, or encouraging more sustainable use). Future wetland classifications could incorporate poverty levels into this prioritization effort. For example, the Wetlands Management Department could work with

the Ministry of Finance, Planning and Economic Development to identify all critically important wetlands that are located within the poorest subcounties. These wetlands could then become priority areas for developing management plans that reflect the needs of poor communities. Resources from the Poverty Action Fund could support these planning efforts to ensure that the dependence of poor households on current and future wetland benefits is given adequate consideration.

■ ***Consider wetland management in poverty reduction efforts.***

Wetland management interventions can be designed to prevent families from falling further into poverty, or to create new economic opportunities. For example, the Ministry of Finance, Planning, and Economic Development could collaborate with the Wetlands Management Department to systematically evaluate the potential of wetlands to reduce poverty. Such an evaluation may include the following activities:

- Identify all wetlands in the poorest communities (subcounties).
- Identify all wetlands that are highly impacted by current use.
- Identify all wetlands that have the potential for greater product diversification.
- Carry out an economic valuation of the products and services from these different wetlands.

Based on this analysis, districts and local communities could work with Central Government to lobby for changes in recurrent and development budgets (both from Central Government and District Local Government). Depending on the specific wetland profile, these new funds could support one or more of the following:

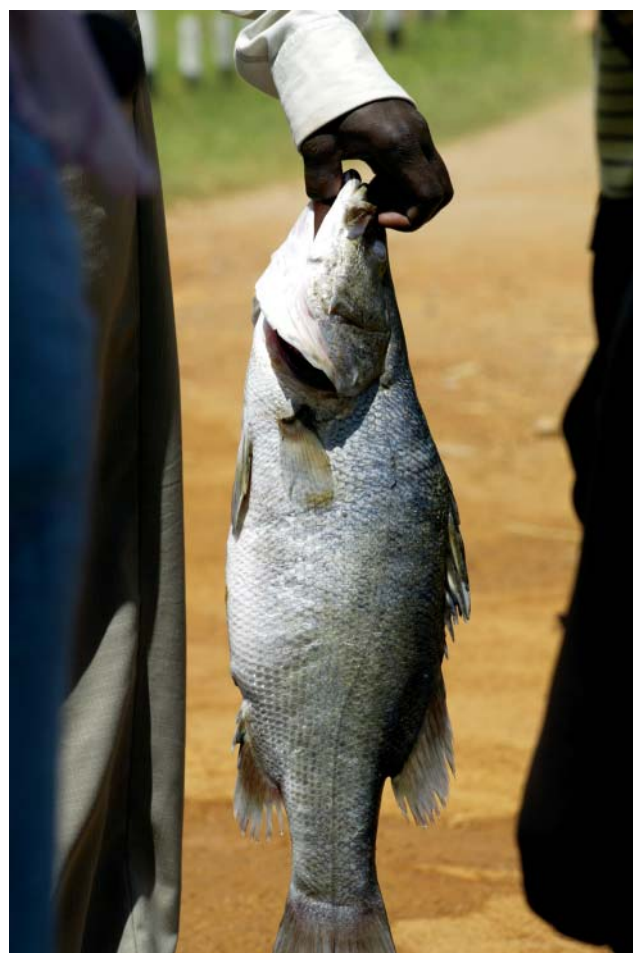
- Boost product diversification in certain wetlands.
- Restore or enhance the supply of wetlands products and services.
- Establish new markets for ecosystem services to capture new wetland revenues.

■ ***Promote cross-sectoral efforts that support poverty, wetland, and sectoral goals.***

The short example in Box 3 (page 20) highlighted how collaboration between the health, water, sanitation, and environment sector could result in both environmental health and wetland benefits. The Wetlands Management Department and the Wetlands Advisory Group could explore other sectoral synergies, for example between wetlands and dry season grazing, or between general biomass supplies and fuelwood supplies in wetlands.

■ ***Incorporate poverty and wetland maps and their analyses into local decision-making.***

The underlying data and maps discussed in this publication are, in most cases, at a geographic scale detailed enough to inform local decision-making. However, many local decision-makers still have difficulty accessing these data, conducting such analyses, and incorporating the findings into their planning. The Wetlands Management Department can provide technical and analytical support to a few pilot districts. The efforts would concentrate on improving District Wetland Action Plans and making these action plans an essential component of District Development Plans.



References

- BRACKENRIDGE, G.R., E. ANDERSON, AND S. CAQUARD. 2006. *Global Active Archive of Large Flood Events*. Data selected for Lake Victoria. Hanover, New Hampshire, USA: Dartmouth Flood Observatory. (Online at <http://www.dartmouth.edu/~floods>, last access 07/22/08)
- EMERTON, L., L. IYANGO, P. LUWUM, AND A. MALINGA. 1999. *The Present Economic Value of Nakivubo Urban Wetland, Uganda*. Kampala, Uganda: IUCN-The World Conservation Union, Eastern Africa Regional Office, Nairobi, and National Wetlands Programme, Wetlands Inspectorate Division, Ministry of Water, Land and Environment, Kampala. (Online at <http://cmsdata.iucn.org/downloads/casestudy07nakivubo.pdf>, last access 07/18/08)
- KARANJA, F., L. EMERTON, J. MAFUMBO, AND W. KAKURU. 2001. *Assessment of the Economic Value of Pallisa District Wetlands*. Kampala, Uganda: Biodiversity Economics Programme for Eastern Africa, IUCN-The World Conservation Union and Uganda National Wetlands Programme.
- LANGERGRABER, G. AND R. HABERL. 2004. *Application of Constructed Wetland Technology in EcoSan Systems*. (Paper No. 116541.) Marrakech, Morocco: Proceedings of the 4th IWA World Water Congress 2004.
- MACLEAN, I., R. TINCH, M. HASSALL, AND R. BOAR. 2003. *Social and Economic Use of Wetland Resources: A Case Study from Lake Bunyonyi, Uganda*. CSERGE Working Paper ECM 03-09. Norwich, United Kingdom: University of East Anglia, Centre for Social and Economic Research on the Global Environment. (Online at http://www.uea.ac.uk/env/cserge/pub/wp/ecm/ecm_2003_09.pdf, last access 07/21/08)
- MILLENNIUM ECOSYSTEM ASSESSMENT (MA). 2005. *Ecosystems and Human Well-Being: Wetlands and Water, Synthesis*. Washington, DC, USA: World Resources Institute. (Online at <http://www.maweb.org/en/Synthesis.aspx>, last access 07/21/08)
- MINISTRY OF FINANCE, PLANNING AND ECONOMIC DEVELOPMENT (MFPED). 2004. *Poverty Eradication Action Plan (2004/5-2007/8)*. Kampala, Uganda: Government of Uganda. (Online at <http://www.finance.go.ug/docs/PEAP%202005%20Apr.pdf>, last access 02/11/08)
- MINISTRY OF NATURAL RESOURCES (MNR). 1995. *National Policy for the Conservation and Management of Wetland Resources*. Kampala, Uganda: Government of Uganda. (Online at http://www.ramsar.org/wurc/wurc_policy_uganda.htm, last access 07/21/08)
- MINISTRY OF WATER AND ENVIRONMENT (MWE). 2007. *Water and Sanitation Sector Performance Report 2007*. Kampala, Uganda: Government of Uganda. (Online at <http://www.watsanuganda.watsan.net/content/download/572/6603/file/WSSDPG%20Ug%20FINAL%20PROOF%20SPR%202007%20small.pdf>, last access 07/21/08)
- NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA). 2007. *State of the Environment Report for Uganda 2006/2007*. Kampala, Uganda: Government of Uganda.
- NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA). 2008. *Summary Environmental Social Impact Assessment (ESIA) of Kampala Sanitation Program, July 2008*. Kampala, Uganda: NEMA. (Online at <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Environmental-and-Social-Assessments/ADF-BD-IF-2008-144-EN-UGANDA-ESIA-KAMPALA-SANITATION-PROGRAMME.PDF>, last access 07/30/08)
- NATIONAL FOREST AUTHORITY (NFA). 1996. *Land Cover GIS Database*. Kampala, Uganda: Government of Uganda.
- NATIONAL FOREST AUTHORITY (NFA). 2007. *Gazetted Areas GIS Database*. Kampala, Uganda: Government of Uganda.
- NATIONAL IMAGERY AND MAPPING AGENCY (NIMA). 1997. *Vector Map Level 0 (Digital Chart of the World), 3rd Edition*. Fairfax, Virginia: NIMA.
- RAMSAR CONVENTION ON WETLANDS (RAMSAR). 2006. *The Annotated Ramsar List: Uganda*. Gland, Switzerland: Ramsar. (Online at http://www.ramsar.org/profile/profiles_uganda.htm, last access 07/21/08)
- RANGANATHAN, J., C. RAUDSEPP-HEARNE, N. LUCAS, F. IRWIN, M. ZUREK, K. BENNETT, N. ASH, AND P. WEST. 2008. *Ecosystem Services: A Guide for Decision Makers*. Washington, DC, USA: World Resources Institute.
- UGANDA BUREAU OF STATISTICS (UBOS). 2002a. *Uganda Administrative Boundaries GIS Database*. Kampala, Uganda: Government of Uganda.
- UGANDA BUREAU OF STATISTICS (UBOS). 2002b. *2002 Uganda Population and Housing Census GIS Database*. Kampala, Uganda: Government of Uganda.
- UGANDA BUREAU OF STATISTICS (UBOS). 2003. *Uganda National Household Survey 2002/3, Report on the Socio-Economic Survey*. Entebbe, Uganda: Government of Uganda. (Online at <http://www.ubos.org/index.php?st=pagerelations2&id=32&p=related%20pages%202:National%20Household%20Surveys>, last access 07/21/08)
- UGANDA BUREAU OF STATISTICS (UBOS). 2006a. *Uganda Administrative Boundaries GIS Database*. Kampala, Uganda: Government of Uganda.
- UGANDA BUREAU OF STATISTICS (UBOS). 2006b. *Uganda National Household Survey 2005/2006, Report on the Socio-Economic Module*. Kampala, Uganda: Government of Uganda. (Online at <http://www.ubos.org/index.php?st=pagerelations2&id=32&p=related%20pages%202:National%20Household%20Surveys>, last access 07/21/08)
- UGANDA BUREAU OF STATISTICS (UBOS). 2007. *2002 Uganda Population and Housing Census, Census Atlas. Mapping Socio-Economic Indicators for National Development*. Kampala, Uganda: Government of Uganda.
- UGANDA BUREAU OF STATISTICS (UBOS) AND INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE (ILRI). 2004. *Where are the Poor? Mapping Patterns of Well-Being in Uganda*. Kampala, Uganda: UBOS and ILRI. (Online at <http://www.ilri.org/ILRIPubAware/ShowDetail.asp?CategoryID=TS&ProductReferenceNo=TS%5F051101%5F002>, last access 02/11/08)

UGANDA BUREAU OF STATISTICS (UBOS) AND INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE (ILRI). 2007. *Nature, Distribution and Evolution of Poverty and Inequality in Uganda*. Kampala, Uganda: UBOS and ILRI. (Online at http://www.ilri.org/ILRIPubAware/ShowDetail.asp?CategoryID=TS&ProductReferenceNo=TS_071224_001, last access 02/11/08)

UGANDA BUREAU OF STATISTICS (UBOS) AND INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE (ILRI). 2008. *2005 Poverty GIS Database*. Kampala, Uganda: Government of Uganda.

UN-WORLD WATER ASSESSMENT PROGRAMME (UN-WWAP) AND DIRECTORATE OF WATER DEVELOPMENT (DWD), UGANDA. 2005. *National Water Development Report: Uganda, Second UN World Water Development Report*. Paris, France: United Nations Educational, Scientific, and Cultural Organization. (Online at <http://unesdoc.unesco.org/images/0014/001467/146760e.pdf>, last access 08/21/08)

WETLANDS INSPECTION DIVISION (WID). 2001. *Wetlands Sector Strategic Plan 2001-2010*. Kampala, Uganda: Government of Uganda. (Online at http://www.foodnet.cgiar.org/SCRIP/docs&databases/ifpriStudies_UG_nonScrip/pdfs/Nationa_Wetlands_Programme/Uganda%20Wetland%20Sector%20Strategic%20Plan%202001-10.pdf, last access 07/18/08)

WETLANDS INSPECTION DIVISION (WID). 2006. *Uganda National Wetlands Information System – Calculations of indicators and summary statistics based on data from 1997–2001*. Kampala, Uganda: Ministry of Water and Environment.

WETLANDS INSPECTION DIVISION (WID) AND WORLD CONSERVATION UNION (IUCN). 2005. *From Conversion to Conservation – Fifteen Years of Managing Wetlands for People and the Environment in Uganda*. Kampala, Uganda: IUCN-The World Conservation Union, Eastern Africa Regional Office, Nairobi and National Wetlands Programme, Wetlands Inspectorate Division, Ministry of Water, Land and Environment, Kampala.

WETLANDS MANAGEMENT DEPARTMENT (WMD). 2007. Personal communication.

WORLD HEALTH ORGANIZATION (WHO), REGIONAL OFFICE FOR AFRICA. 2006. *Country Health System Fact Sheet 2006 – Uganda*. (Online at http://www.afro.who.int/home/countries/fact_sheets/uganda.pdf, last access 07/21/08)



Acknowledgments

Mapping a Better Future: How Spatial Analysis Can Benefit Wetlands and Reduce Poverty in Uganda was possible because of financial support from the Swedish International Development Cooperation Agency; the Netherlands Ministry of Foreign Affairs; Irish Aid at the Department of Foreign Affairs; the United States Agency for International Development; the Rockefeller Foundation; the International Livestock Research Institute; and the Danish International Development Agency at the Ministry of Foreign Affairs. We deeply appreciate their support. A special thank you goes to Mats Segnestam, Michael Colby, and Carrie Stokes for their early interest in poverty and ecosystem mapping and their consistent support for this work in East Africa.

We wish to express our gratitude to the following institutions which contributed generously with data, maps, staff, or expert advice: the Wetlands Management Department at the Ministry of Water and Environment, Uganda; the Uganda Bureau of Statistics; the National Forest Authority, Uganda; and the International Livestock Research Institute.

This publication is the result of many efforts—large and small—of a larger team. We would like to express our appreciation to: Dan Tunstall for his ideas, guidance, and encouragement throughout the project; Patti Kristjanson for her early support and advice from the launch to the completion of the publication; Nelson Mango for ensuring administrative and institutional support when this project was in a transition period; Paul Okwi for his ideas, technical advice, persistence, and diplomatic skills that helped to overcome many obstacles; John B. Male-Mukasa for his guidance and institutional support; Paul Mafabi for being an early champion and advisor; Lucy Iyango and Norah Namakambo for their technical support throughout multiple drafts and their respective presentation of results to the National Wetlands Advisory Group in Kampala and to the tenth meeting of the Conference of the Parties of the Ramsar Convention in Changwon, Korea; and Craig Hanson for presenting findings at the ninth meeting of the Conference of the Parties of the Convention on Biological Diversity in Bonn, Germany.

A special thank you goes to Moses Musinguzi who extracted spatial indicators from Uganda's National Wetlands Information System; Paul Okwi, John Owuor, Thomas Emwanu, and Bernard Justus Muhwezi for producing and sharing the latest poverty data; and Bernard Justus Muhwezi for preparing administrative boundary data files. Their efforts provided the spatial datasets from which we derived the final maps.

The report has greatly benefited from the writing and editing skills of the following individuals: Greg Mock for his consistent editing from the first to the last word; Polly Ghazi for crucial writing and editing support, especially on the executive summary, preface, and foreword; Hyacinth Billings for copyediting and guidance on the production process; and Nelson Mango, Abisalom Omolo, and Patti Kristjanson for guiding the publication through its final production stage in Nairobi.

We greatly appreciate the efforts of Henry Bongyereirwe and Regina Namakula to obtain images of wetland use and thank the individuals who agreed to be photographed. It has been a pleasure to work with Maggie Powell on layout and production. We thank the staff at Regal Press for a timely and efficient printing process.

We would like to thank Jennie Hommel and Janet Ranganathan for organizing a smoothly run review process. We have greatly benefited from our reviewers who provided timely and detailed comments on various drafts of the text and the maps: Panta Kasoma at the Jane Goodall Institute – Uganda; John Owuor, International Livestock Research Institute; Thomas Emwanu and Bernard Justus Muhwezi at the Uganda Bureau of Statistics; Maria Eugenia Stolk and Trevor Wickham at Wetlands International; Lucy Iyango, Paul Mafabi, Moses Musinguzi, and Norah Namakambo at the Wetlands Management Department of the Ministry of Water and Environment, Uganda; Paul Okwi at the World Bank (formerly at the International Livestock Research Institute); and John Finisdore, Janet Ranganathan, and Dan Tunstall at the World Resources Institute. Without implicating them in any way, we thank them for their comments that helped to improve this document. We retain full responsibility for any remaining errors of fact or interpretation.

F.L. and N.H.

WETLANDS MANAGEMENT DEPARTMENT
MINISTRY OF WATER AND ENVIRONMENT
P.O. Box 9629
Kampala, Uganda
www.wetlands.go.ug



The Wetlands Management Department (WMD) in the Ministry of Water and Environment promotes the conservation of Uganda's wetlands to sustain their ecological and socio-economic functions for the present and future well-being of the people.

Sound wetland management is a responsibility of everybody in Uganda. WMD informs Ugandans about this responsibility, provides technical advice and training about wetland issues, and increases wetland knowledge through research, mapping, and surveys. This includes the following activities:

- ◆ *Assessing the status of wetlands.* WMD continuously collects and collates wetland information and maintains the National Wetlands Information System.
- ◆ *Protecting vital wetlands and their functions.* WMD identifies vital wetlands and puts proper protective management systems in place.
- ◆ *Monitoring compliance.* WMD undertakes compliance monitoring of the National Wetlands Policy and evaluates Environmental Impact Assessments with a bearing on wetlands.
- ◆ *Empowering communities to manage wetlands.* WMD promotes community wetland management planning. With support from the Poverty Action Fund, WMD assists local governments in developing and implementing wetlands action plans.
- ◆ *Coordinating the Ramsar Convention.* WMD serves as the administrative authority and national focal point.
- ◆ *Reaching out to the public.* WMD raises awareness about wetland issues at local, national, and international level.

INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE
P.O. Box 30709
Nairobi 00100, Kenya
www.ilri.org



The International Livestock Research Institute (ILRI) works at the intersection of livestock and poverty, bringing high-quality science and capacity-building to bear on poverty reduction and sustainable development.

ILRI's strategy is to place poverty at the centre of an output-oriented agenda. ILRI's strategy focuses on three livestock mediated pathways out of poverty: (1) securing the assets of the poor; (2) improving the productivity of livestock systems; and (3) improving market opportunities.

ILRI's research portfolio comprises four issue-oriented themes:

- ◆ Targeting and innovation.
- ◆ Improving market opportunities.
- ◆ Using biotechnology to secure livestock assets.
- ◆ People, livestock, and the environment.

ILRI also coordinates the Systemwide Livestock Programme of the Consultative Group on International Agricultural Research (CGIAR).

To achieve its goals, ILRI works in partnerships with other national and international organizations in livestock research, training, and information. ILRI works in all tropical developing regions of Africa, Asia, and Latin America and the Caribbean.

UGANDA BUREAU OF STATISTICS
Plot 9 Colville Street
P.O. Box 7186
Kampala, Uganda
www.ubos.org



The Uganda Bureau of Statistics (UBOS), established in 1998 as a semi-autonomous governmental agency, is the central statistical office of Uganda. Its mission is to continuously build and develop a coherent, reliable, efficient, and demand-driven National Statistical System to support management and development initiatives. UBOS is mandated to carry out the following activities:

- ◆ Provide high quality central statistics information services.
- ◆ Promote standardization in the collection, analysis, and publication of statistics to ensure uniformity in quality, adequacy of coverage, and reliability of statistics information.
- ◆ Provide guidance, training, and other assistance as may be required to other users and providers of statistics.
- ◆ Promote cooperation, coordination, and rationalization among users and providers of statistics at national and local levels so as to avoid duplication of effort and ensure optimal utilization of scarce resources.
- ◆ Promote and be the focal point of cooperation with statistics users and providers at regional and international levels.
- ◆ Be a source of official statistical information.

WORLD RESOURCES INSTITUTE
10 G Street NE, Suite 800
Washington DC 20002, USA
www.wri.org



WORLD
RESOURCES
INSTITUTE

The World Resources Institute (WRI) is an environment and development think tank that goes beyond research to find practical ways to protect the earth and improve people's lives. WRI's mission is to move human society to live in ways that protect Earth's environment and its capacity to provide for the needs and aspirations of current and future generations. Because people are inspired by ideas, empowered by knowledge, and moved to change by greater understanding, WRI provides—and helps other institutions provide—objective information and practical proposals for policy and institutional change that will foster environmentally sound, socially equitable development.

WRI organizes its work around four key goals:

- ◆ **People and Ecosystems:** Reverse rapid degradation of ecosystems and assure their capacity to provide humans with needed goods and services.
- ◆ **Access:** Guarantee public access to information and decisions regarding natural resources and the environment.
- ◆ **Climate Protection:** Protect the global climate system from further harm due to emissions of greenhouse gases and help humanity and the natural world adapt to unavoidable climate change.
- ◆ **Markets and Enterprise:** Harness markets and enterprise to expand economic opportunity and protect the environment.

Wetlands Management Department, Ministry of Water and Environment, Uganda
Uganda Bureau of Statistics
International Livestock Research Institute
World Resources Institute



ISBN: 978-1-56973-716-3