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Wetlands Management Department
MINISTRY OF WATER AND ENVIRONMENT, UGANDA



Uganda Bureau of Statistics



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Mapping a Better Future

How Spatial Analysis Can Benefit Wetlands
and Reduce Poverty in Uganda

AUTHORS AND CONTRIBUTORS

This publication was prepared by a core team from four institutions:

Wetlands Management Department, Ministry of Water and Environment, Uganda

Lucy Iyango

Paul Mafabi

Moses Musinguzi

Norah Namakambo

Uganda Bureau of Statistics

Thomas Emwanu

Bernard Justus Muhwezi

International Livestock Research Institute

Paul Okwi (now at the World Bank)

John Owuor

World Resources Institute

Norbert Henninger

Florence Landsberg

EDITING

Hyacinth Billings

Polly Ghazi

Greg Mock

PUBLICATION LAYOUT

Maggie Powell

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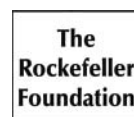
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International Livestock Research Institute
World Resources Institute

World Resources Institute: Washington DC and Kampala



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Lucy Ivango

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Foreword

Wetlands affect the lives of every one of Uganda's citizens. We depend on wetlands for food and clean water, for building materials and fuels, for livestock grazing and medicines, and for water flow regulation. They provide a powerful engine for our country's development, with wetland services and products contributing hundreds of millions of dollars a year to the national economy.

The critical importance of Uganda's wetlands has already been acknowledged by the government, and Uganda is widely recognized for taking a lead in Africa on wetlands management policy. Over the past decade, \$2 million has been invested in building a database unique in Africa to support efforts to protect and sustainably use wetlands. The National Wetlands Information System inventories 13 main uses of wetlands in 30 districts around the country and records their impacts on each individual site.

The Ugandan government is also very committed to its poverty reduction strategy. To support poverty reduction efforts, the Uganda Bureau of Statistics has recently published detailed, high resolution poverty maps which provide information on household income at a local (sub-county) level.

This publication combines and analyzes these two sets of data—on wetlands use and poverty levels—to generate information that can be used to strengthen national and local anti-poverty strategies and resource management plans. The collaboration between the Wetlands Manage-

ment Department and the Uganda Bureau of Statistics to link wetlands and poverty is a first-of-its-kind effort.

Mapping a Better Future: How Spatial Analysis can Benefit Wetlands and Reduce Poverty in Uganda marks the next step forward in our efforts to reconcile environment and development. It presents an innovative mapping approach to integrating efforts to reduce poverty while sustaining ecosystems, such as wetlands, which we believe offers significant potential for improving wetland management policy and pro-poor outcomes both in Uganda and beyond.

We value the lessons learned from this pioneering effort, and we intend to act on them. Going forward, we will use and build on the knowledge gained through this publication and leverage them into future decision-making processes on how individual wetlands should be managed. We will further develop a more systematic and comprehensive inventory and assessment of wetlands and the economic opportunities they offer to protect wetland health while optimizing the services they offer poor communities.

We hope and believe that the data and analyses presented in these pages will indeed help to “map a better future” for Uganda.

Finally, we would like to extend our sincere thanks to our international partners in this effort, the International Livestock Research Institute and the World Resources Institute.



HON. SYDA N.M. BBUMBA (MP)

MINISTER OF FINANCE, PLANNING AND ECONOMIC DEVELOPMENT



HON. MARIA MUTAGAMBA (MP)

MINISTER OF WATER AND ENVIRONMENT

Preface

Mapping a Better Future: How Spatial Analysis can Benefit Wetlands and Reduce Poverty in Uganda represents an exciting step forward in both combating poverty and protecting vital ecosystems in Uganda.

The pioneering spatial analysis contained in the report provides valuable insights aimed at helping decision-makers across government target and prioritize anti-poverty efforts and wetland protection interventions. This report is the product of an ongoing partnership between national and international organizations to develop and combine maps of poverty incidence and ecosystems use. Its approach has potential application in other developing countries which share high poverty levels and an abundance of natural resources.

The geographic approach inherent in the report can enable Ugandan decision-makers to literally “see” and “value” the nation’s ubiquitous wetlands in a new light. We hope that decision-makers will use the maps and analytical examples to develop further analyses and apply their findings to policies and interventions in the field.

To this end, the report’s target audiences include the following: The Ministry of Finance, Planning and Economic Development; the Budget Monitoring and Accountability Unit; the Uganda Bureau of Statistics; the Wetlands Management Department; planning experts; and—to hold decision-makers accountable for wetland conservation and poverty reduction efforts—civil society representatives and nongovernmental organizations.

In particular, we hope that the Ministry of Finance, Planning and Economic Development will use the wetland and poverty maps to refine its budgeting and planning to reflect the importance of healthy wetlands to local livelihoods and the national economy. We also hope that all areas of government involved in wetlands management will use the data to inform sustainable use of wetlands that optimizes poverty reduction. Such efforts should include leveraging increased funding that targets needy subcounties based on their poverty and wetland use profiles.

The high quality datasets and maps on which this publication is based were developed and recorded by the Ugandan government. The Wetlands Management Department of the Ministry of Water and Environment produced the comprehensive wetlands database or National Wetlands Information System, which is unique in Africa. The Uganda Bureau of Statistics, which is affiliated to the Ministry of Finance, Planning and Economic Development, produced the detailed and highly localized poverty maps. Both the World Resources Institute and the International Livestock Research Institute supplied technical support to derive new maps and analyses. The collaboration of a team of authors from all four institutions is the first of its kind, and one on which we plan to build.

This publication encapsulates an area of critical importance at the interface of people and the natural world. It builds on pioneering poverty and ecosystem mapping work undertaken in Kenya and points the way toward further work in East Africa aimed at informing national strategies and plans to reduce poverty.

We hope that the poverty-wetland use linkages and the policy pathways illuminated by this publication will be effectively applied by government, and used by other audiences, both in Uganda and beyond.

PAUL MAFABI
COMMISSIONER
WETLANDS MANAGEMENT DEPARTMENT
MINISTRY OF WATER AND ENVIRONMENT, UGANDA

JOHN B. MALE-MUKASA
EXECUTIVE DIRECTOR
UGANDA BUREAU OF STATISTICS

CARLOS SERÉ
DIRECTOR GENERAL
INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

JONATHAN LASH
PRESIDENT
WORLD RESOURCES INSTITUTE

Executive Summary

INTRODUCTION

Uganda has abundant natural wealth. Its varied wetlands, including grass swamps, mountain bogs, seasonal floodplains, and swamp forests, provide services and products worth hundreds of millions of dollars per year, making them a vital contributor to the national economy. Ugandans use wetlands—often called the country’s “granaries for water”—to sustain their lives and livelihoods. They rely on them for water, construction material, and fuel, and use them for farming, fishing, and to graze livestock. Wetlands supply direct or subsistence employment for 2.7 million people, almost 10 percent of the population. In many parts of the country, wetland products and services are the sole source for livelihoods and the main safety net for the poorest households. Sustainable management of Uganda’s wetlands is thus not only sound economic policy, it is also a potent strategy for poverty reduction.

Recognizing this, Uganda’s Government was the first to create a national wetlands policy in Africa. Over the past decade, Uganda has also instituted the National Wetlands Information System, a rich database on the use and health of Uganda’s wetlands which in its coverage and detail is unique in Africa.

This publication builds on those initiatives by combining information from the wetlands database with pioneering poverty location maps developed by the Uganda Bureau of Statistics. The new maps and accompanying analyses will help policy-makers classify wetlands by their main uses, conditions, and poverty profile and identify areas with the greatest need of pro-poor wetland management interventions. The information generated can also be fed into national poverty reduction strategies and resource management plans.

This is an innovative, pragmatic approach to integrating efforts to reduce poverty while sustaining ecosystems which has implications for improving policy-making in Uganda and beyond.

The publication is aimed at high level decision-makers and has two key purposes:

- To show decision-makers responsible for Uganda’s wetlands where sustainable wetland management can have the greatest impacts on reducing poverty, and how community profiles derived from poverty maps can facilitate wetland interventions which better serve the poor. Maps of poverty and wetland indicators can serve as a bridge between different government sectors as they consider opportunities for achieving multiple socioeconomic and environmental objectives.
- To show decision-makers involved in poverty reduction how maps derived from Uganda’s National Wetlands Information System can help to identify wetlands with degradation risks or economic potential, and show how these areas coincide with different poverty levels. Such knowledge can improve efforts to integrate wetland issues into poverty reduction strategies.

Mapping a Better Future: How Spatial Analysis Can Benefit Wetlands and Reduce Poverty in Uganda uses an innovative approach to integrate spatial data on poverty and wetlands use. Drawing on Uganda’s rich baseline of wetland data and poverty mapping, the report provides a detailed examination of the links between ecosystem services and the location of poor communities and presents practical lessons for policy-makers across government. The report covers the following issues:

Background: A Brief History of Wetlands Management in Uganda gives an overview of the Ugandan government’s efforts to date on wetlands management and its relation to poverty.

Managing Wetlands and Reducing Poverty: Issues and Challenges highlights the many benefits wetlands provide to Uganda’s people, and introduces the latest poverty maps. It then summarizes how wetlands and poverty issues are addressed in Uganda’s Poverty Eradication Action Plan and Wetlands Sector Strategic Plan.

Wetland Characteristics and Uses presents maps of permanent and seasonal wetlands and of wetland area per capita. It also examines main wetland uses as inventoried in the National Wetlands Information System.

KEY FINDINGS AND RECOMMENDATIONS

Findings

The maps and analyses in this publication are primarily illustrative, but do support the following conclusions:

- Detailed mapping of previously unused data confirms that wetlands provide multiple benefits in every district, and to every citizen of Uganda.
- The diversity of products obtained from wetlands in specific locations ranges widely, from a handful to up to 24 products; levels of harmful impacts on wetlands by people also vary greatly across the country.
- Spatial analyses of selected poverty-wetland indicators reveal no clear pattern at the subcounty level—despite popular belief that the poorest areas are always the most degraded.
- 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 and intervention strategies. Economic studies that quantify the value of wetland products and services can be linked to poverty and wetland maps to gauge the economic potential of specific wetland uses in reducing poverty.

Recommendations

Further strengthening Uganda's supply of data and analytical capacity will provide major returns for the country's people and natural resource base by improving wetland management planning and prioritization efforts, especially in these two areas:

- Complete data entry and collection for the National Wetlands Information System, improve data consistency, and update wetland and land cover information.
- Strengthen analysis, mapping, and economic valuation efforts within the Wetlands Management Department.

Improvements in lives, livelihoods, and wetland health could result directly from this supply of new maps and analyses. Specifically, government agencies could use the information to act on decision-making opportunities in these four areas:

- Incorporate poverty information into the existing system for selecting wetlands for priority management interventions.
- Consider wetland management as part of local poverty reduction efforts, such as creating new livelihood strategies.
- Promote “win-win” collaboration to support poverty, wetland health, and other goals between agencies responsible for health, water, sanitation, agriculture, energy, and environment.
- Make poverty and wetland maps and their analyses a central component of local decision-making at district level.

Spatial Analysis of Wetland and Poverty Indicators demonstrates how combining spatial analyses of such indicators can improve the information and analytical basis for decision-making. These comparisons incorporate the diversity of wetland products and the impacts of wetland use.

Adding Value: Combining Wetland and Poverty Maps with Economic Analysis illustrates how the depth and benefits of these analyses can be further advanced by augmenting wetland and poverty maps with findings from economic valuation studies. A case study of papyrus harvesting's potential to reduce poverty is included.

Moving Forward: Lessons Learned and Recommendations looks ahead, describes lessons learned, and makes recommendations for stakeholders involved in poverty reduction and the sustainable use of wetlands in Uganda and around the world.

