

BUILDING EFFECTIVE DRINKING WATER MANAGEMENT POLICIES IN RURAL AFRICA: LESSONS FROM NORTHERN UGANDA

CHRISTOPHER OPIO

KEY POINTS

- National governments should develop strong rural drinking water quality monitoring and surveillance programs to ensure that uncontaminated water is available in rural Sub-Saharan African communities.
- Governments and non-governmental organizations (NGOs) need to educate well users on proper transportation and storage of water in order to ensure their efforts to provide reliable sources of clean drinking water to rural areas are not being jeopardized.
- Communities must be engaged in the planning, installation and management of wells to foster a sense of local ownership.

INTRODUCTION

The importance of providing clean, safe drinking water and sanitation to rural inhabitants of developing countries is widely recognized. The United Nations (UN) General Assembly, for instance, declared 2008 the International Year of Sanitation, and the World Bank has been increasing financial assistance to developing countries in support of water supply and sanitation improvements (Cho, Ogwang and Opio, 2010).

Despite the Millennium Development Goal (MDG) to reduce, by half, the number of people without sustainable access to clean and safe drinking water and basic sanitation by 2015 (Cho, Ogwang and Opio, 2010; Opio, 2010), most countries in

CIGI-AFRICA INITIATIVE POLICY BRIEF SERIES

The CIGI-Africa Initiative Policy Brief series presents analysis and commentary emerging from field-based research on issues critical to the continent. Findings and recommendations in this peer-reviewed series aim to inform policy making and to contribute to the overall African research enterprise. Policy briefs in this series are available for free, full-text download at www.africaportal.org and www.cigionline.org/publications.

ABOUT THE AUTHOR

Christopher Opio is an associate professor in the Ecosystem Science and Management Program at the University of Northern British Columbia. He is also president of the Northern Uganda Development Foundation (NUDF). Dr. Opio’s research focuses on forest science, land reclamation and drinking water issues in developing countries.

ACRONYMS

MDG	Millennium Development Goal
NGO	non-governmental organization
NUDF	Northern Uganda Development Foundation
PACN	Pan Africa Chemistry Network
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children’s Fund
WHO	World Health Organization
WRI	World Resources Institute

Copyright © 2012 by Christopher Opio.

The opinions expressed in this paper are those of the author and do not necessarily reflect the views of The Centre for International Governance Innovation or its Operating Board of Directors or International Board of Governors.



This work was carried out with the support of The Centre for International Governance Innovation (CIGI), Waterloo, Ontario, Canada (www.cigionline.org). This work is licensed under a Creative Commons Attribution-Non-commercial — No Derivatives Licence. To view this licence, visit (www.creativecommons.org/licenses/by-nc-nd/3.0/). For re-use or distribution, please include this copyright notice.

Sub-Saharan Africa are not on track to meet the widely adopted deadline (Harvey, 2007; United Nations Children’s Fund [UNICEF], 2012; Abenaitwe, 2012).

Globally, the MDG target is to raise drinking water’s global coverage of 77 percent in 1990 to 88.5 percent in 2015 (World Health Organization [WHO], 2012a). In 2012, the UN announced that the MDG on safe drinking water had, in fact, been met well in advance of the 2015 deadline (WHO, 2012b). But while, on average, the target has been met globally, Sub-Saharan Africa lags behind in terms of development towards the target. Only 61 percent of Sub-Saharan Africans have access to clean water supply sources, compared with 90 percent or more of the populations of Latin America, the Caribbean, Northern Africa and large parts of Asia (WHO, 2012b). Just under half of all people globally who lack access to drinking water live in Sub-Saharan Africa.

This is a serious concern, as contaminated drinking water and poor sanitation have been shown to adversely affect the health of a country’s population (United Nations Development Programme [UNDP], 2006; United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2006; Van Koppen, Giordano and Butterworth, 2007). Inadequate access to safe drinking water and sanitation also has direct and immediate consequences for quality of life, food security, long-term socio-economic development and the eradication of poverty (UNESCO, 2006; Klink, 2007).

Meeting the MDG goal on safe drinking water in Sub-Saharan Africa requires policy action informed by sound evidence. Unfortunately, little data derived from rigorous, empirical studies on water quality is available and much of the literature on the quality of Africa’s drinking water is based on very limited field and laboratory tests.

Rural Sub-Saharan Africa varies in geology, climate, weather, infrastructure, government policy, land use practices, poverty, levels of education and many other socio-economic conditions that affect the quality and management of drinking water in the region. Specific, country-by-country empirical studies of water quality are needed, therefore, in order to generate reliable scientific data that can be used to formulate a sound, realistic and meaningful drinking water management policy.

This brief advances this discourse, offering practical policy recommendations on keeping the drinking water in rural areas of Sub-Saharan Africa clean and safe on a sustained basis. These recommendations are based on insights gained from field research in rural Uganda, where empirical testing was conducted on water samples from bore wells and storage containers in private households. Because bore wells and household storage are common in rural Sub-Saharan Africa, these recommendations are applicable across national jurisdictions, and address the role policy makers, NGOs and individual well users can play in keeping water clean and safe.

UNDERSTANDING CLEAN VS. CONTAMINATED WATER

Clean and safe drinking water is defined by the World Resources Institute (WRI), a global environmental think tank, as water “that is free from disease-causing organisms, toxic chemicals, colour, smell, and unpleasant taste” (2009: 17). In Uganda, safe drinking water is more particularly defined by WRI as “water from a tap and piped water system, borehole, protected well or spring, rain water, or gravity flow schemes” (2009). Conversely, unsafe water in Uganda is typically drawn from “open water sources including ponds, streams, rivers, lakes, swamps, water holes, unprotected springs, shallow wells, and water trucks” (WRI, 2009: 17).

More than three-quarters of Africa’s drinking water comes from groundwater. The quality of this water is declining as it increasingly becomes contaminated with biological and potentially toxic substances (Pan Africa Chemistry Network [PACN], 2010). Possible biological contaminants include bacteria (e.g., *E. coli*, fecal coliform), viruses (e.g., hepatitis) and parasites (e.g., hookworm) that are harmful to humans and animals. Poor sanitation practices, such as pit latrines without slab (open pit) and open defecation are major sources of these contaminants (WHO/UNICEF Joint Monitoring Program [JMP], 2008). Contaminated drinking water can have devastating effects on health outcomes. In developing countries, the diseases causing diarrhea are most commonly attributed to dirty water. Such diseases result in the deaths of 1.4 million children annually (mostly in Africa) — a figure that is more than AIDS, malaria and measles combined (WHO/UNICEF JMP, 2006).

Bore wells are common sources of water throughout rural Sub-Saharan Africa and are part of many governments’ programs to meet the MDG to provide clean and safe drinking water to their rural populations by 2015 (WRI, 2009). In recent years, many NGOs, such as the Northern Uganda Development Foundation (NUDF) that works to provide clean water in the Oyam District of Northern Uganda, have also become involved in drilling these wells.

TESTING TO ENSURE WATER QUALITY IN SUB-SAHARAN AFRICA

Unlike urban water supplies, which are regularly tested for contamination by national authorities, rural water supplies are rarely tested in Sub-Saharan African countries. The widely held assumption that water from bore wells and protected springs is clean (and therefore safe to drink) results in the water supplies not being checked for contamination. As such, it is not known whether these wells contribute to, or detract from, the UN clean water

goal; moreover, the quality of water stored in households, which also goes untested, is unknown.

Water testing for harmful bacteria is rarely done in rural Sub-Saharan Africa because the standard methods involved in such a test “require materials and facilities which are either not available or are unaffordable” (Klink, 2007: 3). However, Metcalf (cited in Klink, 2007) showed that Colilert® MPN and E. coli count Petrifilm™ biological tests for point source testing for E. coli successfully worked in Tanzania and Kenya. Colilert® MPN and E. Coli Petrifilm™ biological tests¹ are simple, require no laboratory and provide clear results within one day. Villagers can be trained to test their own water for E. coli.

In November 2011, in response to the health concerns raised by residents in the Oyam District, the NUDF conducted tests to determine the quality of the region’s water, from samples taken directly from wells and stored in the households. The aim of the tests was to establish whether the wells provided clean and safe water fit for domestic consumption and if the water stored in the households remained clean and safe for use. Water samples from the wells and from the households were collected and analyzed by the National Water and Sewerage Corporation laboratory located in Uganda’s capital, Kampala.

DISAPPOINTING RESULTS OF WATER TESTING IN UGANDA

Test results from the samples drawn directly from the bore wells closely conformed to Uganda’s potable water quality standards and were considered safe for human and livestock consumption. It was concluded that a well-constructed and properly situated bore well can be a reliable source of clean

¹ These tests are done as follows: “Colilert tubes and petrifilms are inoculated and incubated at 35 degrees Celsius for 24 hours. Second, Colilert tubes, which fluoresce blue under a long wave UV (ultra violet) light, indicate the presence of E. coli; and the blue colonies with gas bubbles on the petrifilms provide a specific quantification and a permanent record” (Klink, 2007).

water. Results from samples collected from water stored in households, however, showed poor biological quality. Harmful bacteria colonies, such as fecal coliform and E. coli, were detected in almost all the samples drawn from the households. This is a key insight for water policy and recommended storage practices.

According to the tests conducted by NUDF, uncontaminated water drawn from clean wells became contaminated during household storage. Possible causes of contamination include: the use of contaminated plastic jerry cans or clay pots to carry water from clean wells for household storage; the use of contaminated storage containers that are rarely cleaned or disinfected; uncovered storage containers; and the use of a common (but contaminated) household cup to draw water from the containers (since there is no tap system on most storage containers).

RECOMMENDATIONS FOR MAINTAINING CLEAN AND SAFE DRINKING WATER ACROSS THE CONTINENT

The results indicate that efforts to ensure sustainable clean water supplies should not end with the construction of a well; rather, efforts must be made to ensure that water is also safely stored. Governments, NGOs, communities and individuals all have a stake in ensuring that clean and safe drinking water is available for everyone, thus a number of recommendations for each of these stakeholders are proposed.

ACTIONS FOR NATIONAL GOVERNMENTS

Poor water quality is often the result of a combination of many factors, including poor site selection, contaminated extraction and delivery facilities, dirty collection containers and improper storage. It is recommended that the following

steps be taken by national governments to ensure that water is fit for human consumption:

- Develop strong rural drinking water monitoring and surveillance programs to ensure that water quality is maintained. The goal of such a strategy would be to guarantee that all water sources are free from human, industrial or farm wastes and that wells are properly situated away from sewer lines, pit latrines and areas with a history of flooding. Measurable potable water standards should be included and water from new wells should conform to those standards prior to being declared fit for consumption. Water test results with fecal coliform colonies greater than 1 for every 100 ml of water indicate contamination. The national program should include regulations that ensure water is purified prior to consumption, most commonly achieved through chlorination and shock chlorination (Oram, 2012a, 2012b).
- Implement education programs that promote sound water management practices, with an emphasis on proper sanitation in the handling of water containers and storage facilities. Such educational programs should be designed to appeal to different learning styles. Workshops should emphasize the relationship between drinking water and health; demonstrate, through testing, whether or not the water in the villagers' homes is contaminated; show villagers how to avoid contaminating drinking water sources and how boiled or safe water gets re-contaminated during handling and storage; and explain methods to make water safe for drinking (Klink, 2007). The public should also be made

aware that all water sources, including bore wells, can be contaminated with disease-causing micro-organisms.²

- Engage communities in the planning, installation and management of bore well drinking water delivery systems and sanitation programs. Drinking water and sanitation technology used in rural Sub-Saharan African communities should be simple, reliable, low-cost and easy to maintain (PACN, 2010).

ACTIONS FOR NGOS AND OTHER NON-STATE ACTORS

In their efforts to improve health standards and living conditions, many NGOs and other non-state actors have supported government initiatives to provide drinking water and have helped to improve sanitation facilities throughout the developing world. To ensure that such support continues to bring about positive changes, the following measures should be undertaken by the NGO community:

- Consult technical staff, public health authorities and a hydrogeologist when siting new wells.
- Test newly constructed wells regularly to ensure the water is fit for consumption. Any indication of contamination should be reported to the responsible authorities for prompt action. Great care should be taken when informing the public of such results as it may lead to the community's rejection of the water source.
- Support government initiatives to educate the rural public. Radio programs, videos and pamphlets are excellent methods of disseminating such information.

² A lack of education is not necessarily a factor. For example, individuals may knowingly choose to not take steps such as boiling water due to the time required to do so properly. To address these cases, education programs should also emphasize the value of taking the time to ensure clean drinking water relative to the potential health consequences.

- Plan the digging, site selection, installation and management of new wells in close consultation with the villagers who will use them.³ It is important that villagers have a sense of ownership and are involved throughout the planning, implementation and management stages. Once the installation is completed, the organization should formally transfer the ownership and management of the well to the villagers and encourage the establishment of a community-run system to manage the well. In the NUDF's experience, water projects are most effectively managed and sustained with deep involvement from local women. The organization personnel should then take on the role of advisers to the villager owners.
- Depending on available resources, check bore wells annually to determine whether or not they are working and to identify what is wrong with those that are not. This information should be documented and shared with relevant stakeholders.
- Organize and facilitate workshops that involve water testing by villagers and communities. Villagers can test the water they have brought from their home for E. coli contamination and see the results the next day (Klink, 2007).

ACTIONS FOR COMMUNITIES AND HOUSEHOLDS

The results of the water tests conducted by the NUDF show that contamination of clean water frequently occurs in the household. Households and individuals should strictly observe the following:

- Regularly clean and disinfect water storage and collection facilities. Commercial bleach is relatively

inexpensive and readily available, at least in the area where this research was conducted.

- Always keep water collecting cans and storage pots closed when not in use.
- Assign a management committee (chairman, secretary and treasurer) for each water source. The committee would work to ensure that the well sites are kept clean and free from human, farm and industrial waste at all times.
- Take ownership of the systems and programs to increase the likelihood of long-term success in providing clean water.

CONCLUSION

A lack of access to safe drinking water in rural Sub-Saharan Africa can have serious effects on the health outcomes of local inhabitants. The efforts of governments and NGOs to provide reliable sources of drinking water are being jeopardized by poor handling and storage practices that contaminate the drinking water after it has been drawn from the well. Governments and NGOs should involve rural populations in the planning, installation and management of water projects, and the well users should be educated on proper handling and storage of drinking water. Depending on the available resources, rural water systems should be checked regularly for contamination and appropriate treatment programs to deal with contamination issues should be available.

³ More information is available at www.nudf.org.

WORKS CITED

- Abenaitwe, Cliff (2012). "Sub-Saharan Africa Fails to Meet Access to Clean Water Goal Ahead of Time." *WaterSan Perspective*, March 9, <http://waterjournalistsafrica.wordpress.com/2012/03/09/>.
- Cho, D. I., T. Ogwang and C. Opio (2010). "Simplifying the Water Poverty Index." *Social Indicators Research* 97, no. 2: 257–267.
- Harvey, Peter A. (2007). "Cost Determination and Sustainable Financing for Rural Water Services in Sub-Saharan Africa." *Water Policy* 9, no. 4: 373–391.
- Klink, Jenna (2007). "E. coli Contaminated Drinking Water in Rural Uganda: Using Results to Make an Impact." Bachelor of Science thesis, University of Wisconsin-Madison. Available at: <http://digital.library.wisc.edu/1793/8130>.
- Opio, C. (2010). "Biological and Physical Characteristics of Drinking Water from Wells in Kamdini Parish, Northern Uganda." Natural Resources and Environmental Studies Institute Research Extension Note No. 6, University of Northern British Columbia.
- Oram, Brian (2012a). "Water Treatment Systems." Water Research Center Online Education, Professional Training, Resources for Private Well Owners, www.water-research.net/fecalcoliform.htm.
- (2012b). "How to Shock Chlorinate or Disinfect Your Private Water Supply or Water Well." Water Research Center Online Education, Professional Training, Resources for Private Well Owners, www.water-research.net/shockwelldisinfection.htm.
- PACN (2010). *Africa's Water Quality: A Chemical Science Perspective*. Joint Royal Society of Chemistry and Syngenta UK Report. March.
- UNDP (2006). *Human Development Report 2006: Beyond Scarcity: Power, Poverty and the Global Water Crisis*. New York: United Nations Development Programme. Available at: <http://hdr.undp.org/en/reports/global/hdr2006/chapters/>.
- UNICEF (2012). "Statistics by Area/Water and Sanitation." UNICEF ChildInfo. Available at: www.childinfo.org/water_status_trends.html.
- UNESCO (2006). *Water: A Shared Responsibility*. The United Nations World Water Development Report 2. Joint UNESCO and Berghahn Books Report, New York. Available at: www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/wwdr2-2006/downloads-wwdr2/.
- WHO (2012a). "Health through Safe Drinking Water and Basic Sanitation." WHO Water Sanitation and Health. Available at: www.who.int/water_sanitation_health/mdg1/en/index.html.
- (2012b). "Millennium Development Goal Drinking Water Target Met," news release, March 6. Available at: www.who.int/mediacentre/news/releases/2012/drinking_water_20120306/en/.
- WHO/UNICEF JMP (2006). *Meeting the MDG Drinking Water and Sanitation Target: The Urban and Rural Challenge of the Decade*. Geneva: WHO Press.
- (2008). *A Snapshot of Drinking Water and Sanitation in Africa*. Report prepared for the African Ministers' Council on Water for the 11th Summit of Heads of State and Government of the African Union's special theme conference: Meeting the Millennium Goal on Water and Sanitation. Available at: www.wssinfo.org/fileadmin/user_upload/resources/1251454622-A_Snapshot_of_Drinking_Water_in_Africa_Eng.pdf.
- WRI (2009). "Safe Drinking Water Coverage and Poverty." In *Mapping a Healthier Future: How Spatial Analysis Can Guide Pro-Poor Water and Sanitation Planning in Rural Uganda*. Pages 17–28. Available at: www.wri.org/publication/mapping-a-healthier-future.
- Van Koppen, B., M. Giordano and J. Butterworth (2007). *Community-based Water Law and Water Resource Management Reform in Developing Countries*. Comprehensive Assessment of Water Management in Agriculture Series, vol. 5. Oxfordshire, UK: CABI.

CIGI MASTHEAD

Managing Editor, Publications
Carol Bonnett

Publications Editor
Jennifer Goyder

Publications Editor
Sonya Zikic

Assistant Publications Editor
Vivian Moser

Media Designer
Steve Cross

EXECUTIVE

President
Rohinton Medhora

Vice President of Programs
David Dewitt

Vice President of Public Affairs
Fred Kuntz

AFRICA INITIATIVE

Series Director
James Orbinski

Series Manager
Erica Shaw

Series Coordinator
Andy Best

COMMUNICATIONS

Communications Specialist
Kevin Dias
kdias@cigionline.org
1 519 885 2444 x 7238

Public Affairs Coordinator
Kelly Lorimer
klorimer@cigionline.org
1 519 885 2444 x 7265

ABOUT CIGI

The Centre for International Governance Innovation is an independent, non-partisan think tank on international governance. Led by experienced practitioners and distinguished academics, CIGI supports research, forms networks, advances policy debate and generates ideas for multilateral governance improvements. Conducting an active agenda of research, events and publications, CIGI’s interdisciplinary work includes collaboration with policy, business and academic communities around the world.

CIGI’s current research programs focus on four themes: the global economy; global security; the environment and energy; and global development.

CIGI was founded in 2001 by Jim Balsillie, then co-CEO of Research In Motion, and collaborates with and gratefully acknowledges support from a number of strategic partners, in particular the Government of Canada and the Government of Ontario.

Le CIGI a été fondé en 2001 par Jim Balsillie, qui était alors co-chef de la direction de Research In Motion. Il collabore avec de nombreux partenaires stratégiques et exprime sa reconnaissance du soutien reçu de ceux-ci, notamment de l’appui reçu du gouvernement du Canada et de celui du gouvernement de l’Ontario.

For more information, please visit www.cigionline.org.

ABOUT THE AFRICA INITIATIVE

The Africa Initiative is a multi-year, donor-supported program, with three components: a research program, an exchange program and an online knowledge hub, the Africa Portal. A joint undertaking by CIGI, in cooperation with the South African Institute of International Affairs, the Africa Initiative aims to contribute to the deepening of Africa’s capacity and knowledge in five thematic areas: conflict resolution, energy, food security, health and migration — with special attention paid to the crosscutting theme of climate change. By incorporating field-based research, strategic partnerships and online collaboration, the Africa Initiative is undertaking a truly interdisciplinary and multi-institutional approach to Africa’s governance challenges. Work in the core areas of the initiative focus on supporting innovative research and researchers, and developing policy recommendations as they relate to the program’s core thematic areas.

EDITORIAL REVIEW PANEL

Dr. Berhanu M. Abegaz

Professor of Chemistry and Executive Director, African Academy of Sciences

Dr. Rita Abrahamsen

Associate Professor, Graduate School of Public and International Affairs and School of International Development and Global Studies, University of Ottawa

Dr. Emmanuel K. Akyeampong

Professor of History and of African and African American Studies, Harvard University

Dr. Elizabeth Asiedu

Associate Professor of Economics, The University of Kansas

Dr. David R. Black

Professor of Political Science, International Development Studies and Director of Centre for Foreign Policy Studies, Dalhousie University

Dr. Kwabena Mante Bosompem

Professor of Parasitology, Noguchi Memorial Institute for Medical Research (NMIMR), College of Health Sciences, University of Ghana, Legon and President of Ghana Red Cross Society (GRCS)

Dr. Colin Chapman

Professor and Canada Research Chair in Primate Ecology and Conservation, McGill University

Dr. Marc J. Cohen

Senior Researcher, Oxfam America

Dr. Jonathan Crush

Professor of Global Development Studies and Director of Southern African Research Centre, Queen's University

Dr. Abdallah S. Daar

Professor of Public Health Sciences and of Surgery, and Senior Scientist and Director of Ethics and Commercialization at the McLaughlin-Rotman Centre for Global Health, University of Toronto.

Dr. Chris Gore

Associate Professor of Politics and Public Administration, Ryerson University

Dr. James P. Habyarimana

Assistant Professor of Economics, Georgetown University

Dr. Ahmed Hassanali

Professor of Chemistry, Kenyatta University

Dr. Sue Horton

Professor of Global Health Economics, Associate Provost, University of Waterloo and CIGI Chair in Global Health Economics, Balsillie School of International Affairs (BSIA)

Dr. Uford S. Inyang

former Director General of the National Institute for Pharmaceutical Research and Development (NIPRD)

Dr. Abbi Mamo Kedir

Lecturer in Economics, University of Leicester

Dr. Gilbert O. Kokwaro

Professor of Pharmacokinetics and Director of Consortium for National Health Research (CNHR), University of Nairobi

Dr. Ronald Labonte

Professor of Epidemiology and Community Medicine and Canada Research Chair in Globalization and Health Equity, University of Ottawa

Dr. Jacob O. Midiwo

Professor of Chemistry, University of Nairobi

Dr. Winnie V. Mitullah

Associate Research Professor, Institute for Development Studies, University of Nairobi

Dr. Nakanyike Musisi

Associate Professor of History, University of Toronto and former director of Makerere Institute of Social Research (MISR)

Dr. Hassan Mshinda

Professor of Microbiology and Director General of Tanzania Commission for Science and Technology

Dr. Romain Murenzi

Professor of Physics and Executive Director of The Academy of Sciences for the Developing World (TWAS)

Dr. Burton L. M. Mwamila

Professor of Engineering and Vice Chancellor of The Nelson Mandela African Institute of Science and Technology

Dr. Stephen Nyanzi

Professor of Chemistry, Makerere University

Dr. Alexander Nyarko

Professor of Pharmacology and Toxicology and Director of Noguchi Memorial Institute for Medical Research, College of Health Sciences, University of Ghana, Legon

Dr. Obiora Chinedu Okafor

Professor of Law, Osgoode Hall Law School, York University

Dr. George Philander

Knox Taylor Professor of Geosciences and Research Director of Africa Centre for Climate and Earth Systems Science, Princeton University/University of Cape Town

Dr. E. Jane Robb

Professor of Molecular and Cellular Biology, University of Guelph

Dr. Timothy M. Shaw

Professor Emeritus, University of London

Dr. Richard Stren

Professor Emeritus, University of Toronto

Dr. Camilla Toulmin

Director, International Institute for Environment and Development

Dr. Robert I. Rotberg

Professor Emeritus, Harvard University

Dr. Sandro Vento

Professor and Head of Internal Medicine Department, University of Botswana

Dr. Charles Wambebe

Professor of Pharmacology, International Biomedical Research in Africa

Dr. Kwesi Yankah

Professor of Linguistics and Pro-Vice Chancellor, University of Ghana, Legon

Dr. Paul Zeleza

Dean, Bellarmine College of Liberal Arts and Presidential Professor of African American Studies and History

CIGI-AFRICA INITIATIVE PUBLICATIONS

DISCUSSION PAPER SERIES

The CIGI-Africa Initiative Discussion Paper Series promotes discussion and advances knowledge on issues relevant to policy makers and opinion leaders in Africa.

DISCUSSION PAPER SERIES
NO. 2 — AUGUST 2011
Global Warming and Health: The Issue of Malaria in Eastern Africa's Highlands
Moses Tesi

DISCUSSION PAPER SERIES
NO. 3 — APRIL 2012
How Perks for Delegates Can Influence Peace Process Outcomes
Thomas Kwasi Tiekou

DISCUSSION PAPER SERIES
NO. 4 — JULY 2012
Promoting Reconciliation through Exhuming and Identifying Victims in the 1994 Rwandan Genocide
Erin Jessee

DISCUSSION PAPER SERIES
NO. 5 — JULY 2012
Increasing the Uptake of HIV Testing in Maternal Health in Malawi
Monique van Lettow, Alupele Kapito-Tembo, Blessings Kaunda-Khangwala, Emmanuel Karika, Sonja Mwaanga, Medson Semba, Martias Joshua, Luguhano Ndovi and Fabian Cataldo

New papers in this series will be offered throughout 2012.

POLICY BRIEFS

The CIGI-Africa Initiative Policy Brief Series presents the innovative policy recommendations which emerge from the fieldwork of Africa Initiative Research Grant recipients.

POLICY BRIEF
NO. 1 • JUNE 2012
LESSONS FOR AN ELECTORAL CERTIFICATION FROM THE 2010 DISPUTED PRESIDENTIAL POLL IN CÔTE D'IVOIRE
LORRAINE THEROUX-BÉNIGNI

KEY POINTS

- While UN electoral certification in Côte d'Ivoire did not prevent parties from contesting the election results, the Ivorian case shows the utility and limits of certification as a tool in the UN electoral toolbox.
- Maintaining flexibility in the definition and implementation of electoral certification measures—rather than a rigid approach—may be the key to the successful use of this tool in post-conflict situations.
- The UN should work closely with regional and continental organizations when deciding whether to certify post-conflict elections.
- If the decision to undertake certification is made, it should be embedded in the legal framework governing the post-conflict election and the UN should define and clarify post-certification follow-up measures.

CIGI-AFRICA INITIATIVE POLICY BRIEF SERIES

The CIGI-Africa Initiative Policy Brief Series presents innovative and contemporary findings from field-based research on issues critical to the continent's challenge and opportunities in the post-conflict era. The series is available for free, full-text download at www.cigionline.org and www.cigionline.org/publications.

POLICY BRIEF
NO. 2 • JULY 2012
PROMOTING RECONCILIATION THROUGH EXHUMING AND IDENTIFYING VICTIMS IN THE 1994 RWANDAN GENOCIDE
ERIN JESSEE

KEY POINTS

- The Government of Rwanda, working in collaboration with the international community and survivor communities within Rwanda, should take the following actions:
 - establish a forensic testing facility and laboratory in Rwanda to expedite on the location of mass graves, and the exhumation, identification and repatriation of the unrepatriated victims of the 1994 genocide;
 - create a database of DNA samples from survivors of the 1994 genocide;
 - perform scientifically rigorous exhumations mandated to retrieve DNA samples from any human remains recovered from mass graves or interred in the Rwandan genocide memorials, and cross-reference samples with the survivor DNA database to provide definitive identifications whenever possible; and
 - ensure that any identified remains are returned to surviving relatives to bury with respect to the manner they choose.

This policy brief considers the past, present and future of forensic exhumations in Rwanda in the aftermath of the 1994 genocide. Past exhumations conducted by Physicians for Human Rights (PHR) at the request of the International Criminal Tribunal for Rwanda (ICTR) were abandoned and controversial, but the investigations, led there is widespread support among survivors for renewed

CIGI-AFRICA INITIATIVE POLICY BRIEF SERIES

The CIGI-Africa Initiative Policy Brief Series presents innovative and contemporary findings from field-based research on issues critical to the continent's challenge and opportunities in the post-conflict era. The series is available for free, full-text download at www.cigionline.org and www.cigionline.org/publications.

POLICY BRIEF
NO. 3 • JULY 2012
INCREASING THE UPTAKE OF HIV TESTING IN MATERNAL HEALTH IN MALAWI
FABIAN CATALDO, FELIX LUMBANI AND MONIQUE VAN LETTOW

KEY POINTS

- The key to reducing the rate of mother-to-child HIV transmission is improving the uptake of HIV testing among women who have an unknown HIV status.
- Pregnant women present themselves at labour wards with unknown HIV status and do not receive HIV testing as a result of a combination of the following factors: poor programme design, unaccepting testing practices, household power relations, lack of knowledge about HIV and other system-related barriers to access to care.
- Findings from this study have operational and policy-level implications for the programming of engaging prevention of mother-to-child transmission (PMTCT) programmes in Malawi.
- The success of Option B Plus, the new PMTCT program in Malawi, depends on adequately organized health services and PMTCT service delivery. There is the potential to improve both by integrating cultural values and addressing current attitudes towards testing and perceptions associated with the consequences of test results.

INTRODUCTION

Mother-to-child transmission (MCT) of HIV is the primary means of HIV infection in children. The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimates that 20 percent of all children born in sub-Saharan Africa are exposed to HIV among their children, 10,000 new HIV infections occurred in 2010 (UNAIDS, 2010).

CIGI-AFRICA INITIATIVE POLICY BRIEF SERIES

The CIGI-Africa Initiative Policy Brief Series presents innovative and contemporary findings from field-based research on issues critical to the continent's challenge and opportunities in the post-conflict era. The series is available for free, full-text download at www.cigionline.org and www.cigionline.org/publications.

POLICY BRIEF
NO. 4 • AUGUST 2012
INTEGRATING FOOD SECURITY WITH LAND REFORM: A MORE EFFECTIVE POLICY FOR SOUTH AFRICA
THEMBELE APE AND DANIELLE TESSORO

KEY POINTS

- South Africa needs a new food security policy that is integrated with its land reform program.
- Food security and land reform policies should respect, and be based on, a broader understanding of dynamic land use practices in post-rural areas.
- A stronger governance regime is required around land deals between semi-private business interests and rural residents to better protect the land rights of the rural poor.

INTRODUCTION

Food security is broadly defined as households' access at all times to adequate, safe and nutritious food for a healthy and productive life. Whether or not individuals and households are entirely self-sufficient in food production (see Daverman and Mwanza, 2010), achieving food security requires secure access to, and control over, land resources.

This clause of the post-apartheid Constitution is critically important to food security in the country: Section 27 guarantees food security and poverty reduction, and Section 25 promotes land reform that entitles those who have historically been deprived of property "to a fair and equitable redistribution of land or other property" in a way that is not socially discriminatory (see also "property" clause in the inalienable resources). These two clauses of the constitution often have

CIGI-AFRICA INITIATIVE POLICY BRIEF SERIES

The CIGI-Africa Initiative Policy Brief Series presents innovative and contemporary findings from field-based research on issues critical to the continent's challenge and opportunities in the post-conflict era. The series is available for free, full-text download at www.cigionline.org and www.cigionline.org/publications.

New policy briefs in this series will be offered throughout 2012.



57 Erb Street West
Waterloo, Ontario N2L 6C2, Canada
tel +1 519 885 2444 fax +1 519 885 5450
www.cigionline.org

