THE ORIGINATION AND IMPLEMENTATION OF THE NATIONAL WETLANDS POLICY OF UGANDA: ENVIRONMENT, KNOWLEDGE, AND POWER FROM THE LATE NINETEENTH CENTURY TO PRESENT

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ABSTRACT

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In the 1980s, following widespread environmental and intellectual changes associated with "swamp reclamation" that in Uganda had started in the early twentieth century, proponents of the emerging science of "wetland conservation" sought to influence the practices and thinking of people across the country. To do so, they created a national wetlands policy based on decentralized "community-based" projects. Yet, farmers' and investors' engagements with reclamation have continued. Meanwhile, the Ugandan wetlands policy became internationally influential for its groundbreaking approach to interdisciplinary questions about governance, emphasizing economic analyses based on concepts such as "ecosystem services" and "Environmental Economic Valuation." Ugandan wetland conservationists have had more influence abroad than domestically, as in Uganda neoliberalization and recentralization have limited the power of the community-based groups who have worked through the national policy.

Using a range of sources including but not limited to archives and interviews with conservationists, this dissertation historicizes the Ugandan wetlands conservation policy. It comprises two parts addressing overlapping time periods. The first three chapters consider the origination of this policy by analyzing environmental and intellectual changes in southeastern and southwestern Uganda, leading to the creation in the late-twentieth century of environmental regulations. The latter three chapters examine how conservationists have tried implementing the policy in rural and urban places, and in relation to the national emblem of Uganda – the Grey

Crowned Crane. They have focused their efforts on community-based projects outside Protected Areas promoting indigenous knowledges and practices to obtain economic benefits from wetlands that conservationists. This approach was an early manifestation of connected trends in international developmentalist networks. Furthermore, the limitations on its implementation have become pivotal in the global histories of neoliberalization, decentralization, and recentralization.

Historicizing Ugandan wetland conservationism contributes to four scholarly literatures. 1) Analyzing community-based projects outside "Protected Areas" advances the historiographies of conservation and watershed management in Africa by considering the significances of neoliberalization, decentralization, and recentralization beyond extraordinary legal cases. 2) Examining intellectual changes in this history – including an emphasis on community-based projects, use of the concept of ecosystem services, and the promotion of indigenous knowledges and sciences – reveals connections between changes in environmental science and global trends in developmentalism. 3) Focusing on these changes in Uganda builds on analyses of environmental management in political power there by identifying the importance of an underexamined resource in entrenched land conflicts, and by uncovering early institutional bases of recentralization. 4) Because Ugandan wetland conservationists were global leaders in policy creation, citizen science, and more changes in scientific thinking, researching their work reveals how African scientists have navigated tensions between their local, national, and international interlocutors to become internationally influential. Studying the history of Ugandan wetland conservationism reveals how different people's engagements with changes in environmental thinking have reshaped environments and livelihoods, as well as influenced international scientific networks.

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This dissertation builds on my previous training under numerous professors. As a starting point, it uses my master's research into the international governance of the waters of the Nile Basin during the late colonial era. Taylor Sherman and Rhiannon Stephens, as co-supervisors of that project, introduced me to the practice of historical research and helped develop my understanding of the issues that I analyze herein. Matthew Connelly and James Fleming advised the archival portion of that project during the 2013 seminar "The History of Climate Change and the Future of Global Governance," helping me contextualize my research in global history by focusing on the transition from "swamp reclamation" to "wetland conservation." Furthermore, I am thankful to have learned from Nwando Achebe, Virginia Aksan, Tibebe Eshete, Walter

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My preparation for this project included language training in Kiswahili and Lusoga. Although the COVID-19 pandemic prevented me from conducting a planned period of

interviews that would have maximized the utility of this training, it was invaluable in enabling me to engage with certain research materials, as well as to make more of my time in Uganda. I am indebted to Oswald Almasi, Jonathan Choti, and Jane N. Clayton and for their instruction in Kiswahili – and to Aaliyah Brooks and Leila Mukasa for Lusoga instruction.

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KEY TO ABBREVIATIONS

ACTP	African Crane Trade Project
AO	Agricultural Office
COP	Conference of Parties to the Ramsar Convention
COP9	The Ninth Conference of Parties to the Ramsar Convention (Kampala, 2005)
DRS	Doho Rice Scheme
EANHS	East Africa Natural History Society
EEV	Environmental Economic Valuation
EIA	Environmental Impact Assessment
Gibb	Sir Alexander Gibb & Partners
HSD	Hydrological Survey Department
IBA	Important Bird Area
ICF	International Crane Foundation
IUCN	International Union for the Conservation of Nature
JDA	Jinja District Archives
KCC	Kampala City Council
KDA	Kabale District Archives
KRS	Kibimba Rice Scheme
LUBUWA	Lutembe Bay Wetland Users Association
MEP	Ministry of Environment Protection
NEMA	National Environment Management Authority
NGO	Non-governmental Organization

NRM	National Resistance Movement
NWCMP	National Wetland Conservation and Management Programme
NWSC	National Water and Sewerage Corporation
PA	Protected Area (i.e., Forest Reserve, National Park, and/or Wildlife Reserve)
PACODET	Pallisa Community Development Trust
PRC	People's Republic of China
RAMCEA	Ramsar Centre for Eastern Africa
ROC	Republic of China
SMP	Secretariat Minute Papers
UBCFNA	Uganda Broadcasting Corporation Film Negative Archive
UGX	Ugandan Shilling
UKNA	United Kingdom National Archives
UN	United Nations
UNA	Uganda National Archives
UNEP	United Nations Environment Programme
USD	United States Dollar
WCU	Wildlife Clubs of Uganda
WDD	Water Development Department
WID	Wetlands Inspection Division
WMD	Wetlands Management Department
WWII	World War II

Introduction:

Wetland Conservation in the Neoliberalization, Decentralization, and Recentralization of Uganda

The year 1986 included two turning points in Ugandan history that were distant yet soon became connected. In the capital city, recently captured by the military wing of the National Resistance Movement (NRM), a new president took power. Meanwhile, in a rural region, an ornithology student began studying how wetland drainage or "swamp reclamation" for rice farming impacted the Crested Crane – the emblem of Uganda.[1] The new president and the ornithology student represented novel positions in long-standing conflicts about how to govern Uganda and how to use its wetlands, respectively. The NRM enacted decentralization and neoliberalization while Ugandan biologists advocated the new science of "wetland conservation." Urged by the conservation officials and professors who were teaching the ornithology student, and had been examining the effects of reclamation, in 1986 the NRM banned large-scale drainage. Subsequently, a program led by the former ornithology student expanded the ban into a policy promoting alternative uses. To reach the many wetlands across Uganda – most of which are outside legally Protected Areas (PAs) – while aligning with the directives for decentralization and neoliberalization, the biologists promoted community-based projects involving minimal spending. They designed these projects around the emerging concept of "ecosystem services," using economics to frame the benefits that communities have derived from wetlands through indigenous knowledges and practices. However, the NRM soon began recentralizing power while expanding neoliberalization, leaving few possibilities for community-based groups to conserve wetlands.

[1] Paul Mafabi, "Ecology and Status of The Grey Crowned Crane (Balearica regulorum gibbericeps Reich) in Uganda" (master's thesis, Makerere University, 1989).

In 1994, Uganda became the first country in Africa and the third worldwide with a national wetlands policy. Yet, the implementation of the policy has left much to be desired because of the tensions between the sciences of swamp reclamation and wetland conservation, the limitations of neoliberal conservationism, and the recentralization of power. Most wetland users in Uganda have not adopted conservationist proposals – and growing numbers have practiced reclamation. The efficacy of neoliberal conservationism is limited because funding is low, the difference between the capacities of wealthier and poorer wetland users to evade laws is high, and outside PAs the legal power of community-based groups to protect conservation sites is often nonexistent. Furthermore, the recentralization that the NRM began in the 1990s has limited the power of community-based groups while doing little to expand policy implementation by the central government. This dissertation argues that Ugandan wetland conservationists created a world-leading policy based on their engagements with local environmental knowledges, a national political transition, and international scientific networks – yet conflicts with practitioners of reclamation have limited conservation policy implementation, especially under neoliberalization and recentralization.

The significances of wetlands to people across Uganda, and the environmental and social changes associated with reclamation there, contextualize the leadership of Ugandans in international conservationism. A Ugandan environmental management student wrote that, "the majority of the [country's] population lives within walking distance from a wetland."[2] Furthermore, according to an external adviser to the wetlands program, "[v]ery few other places in the world have such a large number of small wetlands all interconnected or with complex boundaries. Many countries have wetlands, but they are usually single systems, large or small

[2] Joseph Ongol, "Livelihoods Derived from Okole Wetland" (master's thesis, Makerere University, 2006), 1.

with a simple shape [...] The small size of these dambo/valley wetlands means that people have access to all the benefits of wetlands but it is this very access that leads to the danger that excessive use could destroy them."[3] Ongoing common wetland uses with long histories there include collecting water, fishing, hunting, grazing animals, growing crops, and harvesting materials such as grasses and clays for buildings and handicrafts. These multiple uses – and additional complex ecological relationships between people and wetlands, including in terms of climate, disease, and more – made wetland conservationism a thoroughly interdisciplinary endeavour. Conservationists used the emerging science of wetland ecology to sponsor community-based projects designed to promote these practices, particularly grass harvesting, and to protect complex ecological relationships . However, reclamation has continued expanding as farmers and investors with varying degrees of wealth have cut drainage channels through – and in some cases, paved over – wetlands across Uganda.

Because of the impacts of reclamation, Ugandan conservationists created a world-leading policy promoting older practices to maintain the benefits that communities derived from wetlands. To convince NRM decision-makers and international donors of the need for support in policy implementation, conservationists designed projects using emerging concepts such as "Environmental Economic Valuation" (EEV) and ecosystem services, including to justify "Payment for Ecosystem Services." Meanwhile, Non-governmental Organization (NGO) personnel designated Important Bird Areas (IBAs), primarily as places to develop tourism. Despite conservationists' efforts, the decline in wetland coverage has continued from about 18%

[3] A.R.D. Taylor, "General Characteristics of Ugandan Wetlands," n.d., Kabale District Archives, Lands 33/DEV 4-5/3: 3.

of Uganda's land in 1991, to 15.5% in 1994, to 13% in 2017, to 9% in 2020.[4] However, coverage in Uganda remains above the world average, as in 1991 wetlands comprised about 6% of land globally.[5]

Besides wetland conservation, Uganda became an early example of neoliberalization, decentralization, and recentralization – particularly through the World Bank. Neoliberalization included selling state assets, relying on donors to provide social services, and loosening regulations, especially on foreign investment.[6] By 2005, almost half of the national budget was financed by donors, "with the World Bank the largest."[7] In 2008, a World Bank publication proclaimed that, "Uganda is considered a forerunner in Africa with respect to decentralization."[8] International donors and investors associated their growing influence with the declining power of the central government, framing neoliberalization as democratization. Decentralization included forming "Resistance Councils" (later "Local Councils") and devolving powers from the central government to these and other local bodies. Doing so addressed a promise that the NRM had made as guerillas.[9] However, the NRM reproduced central governmental power by appointing loyalists to local positions – and by creating new government bodies under their direct

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[4] Margaret Lwanga, "Social and Cultural Values of Wetlands" (master's thesis, Makerere University, 1991), 10. National Environment Management Institute, *National State of the Environment Report 2018-19* (Kampala, Uganda: NEMA, 2019), *x*. Lucy Iyango, interview by author, Kampala, 10 February 2020.
[5] Kerry Turner and Tom Jones, eds., *Wetlands: Market and Intervention Failures: Four Case Studies* (London, UK: Earthscan, 1991), 6.
[6] Holger Bernt Hansen and Michael Twaddle, eds., *Changing Uganda: The Dilemmas of Structural Adjustment and Revolutionary Change* (London, UK: James Currey, 1991). Jörg Wiegratz, Guiliano Martiniello, and Elisa Greco, eds., *Uganda: The Dynamics of Neoliberal Transformation* (London, UK: Zed Books, 2018).
[7] Christopher Gore, "Environment and Development in Uganda: Understanding the Global Influence on Domestic Policy," in *Environmental Management in Global Context: Perspectives from the South*, eds. Jordi Díez and O.P. Dwivedi (Peterborough, ON: Broadview Press, 2008), 161.
[8] John A. Okidi and Madina Guloba, "Decentralization and Development: Emerging Issues from Uganda's Experience," in *Agriculture and Development*, eds. Gudrun Kochendörfer-Lucius and Boris Pleskovic (Washington, DC: World Bank, 2008), 165.
[9] Bakulumpagi Wamala et al, eds., *Mission to Freedom: Uganda Resistance News 1981-1985* (Kampala, Uganda: Fountain Publishers, 2014).

supervision.[10] The NRM further recentralized power by working with the World Bank to control the largest wetland in Kampala, benefitting wealthy Ugandans and foreign investors.

This dissertation contributes to four areas of scholarship, including studies of: 1) conservation and water management in Africa; 2) science in community-based conservation; 3) state power in Uganda; and 4) Africa and Africans in international scientific networks. The historiography of conservation in Africa outside PAs includes analyses of forest, soil, and water issues, although with little analysis of the changes that marked the late twentieth century. This dissertation updates this literature by historicizing the promotion of community-based projects, the concept of ecosystem services, and indigenous knowledges and practices as strategies for conservation outside PAs. Furthermore, analyzing wetland conservation advances scholarship about community-based projects, which represent a decentralized – and often neoliberalized – strategy that international conservationist networks began pursuing in the late twentieth century. It reveals the significance of the concept of ecosystem services and of an emphasis on indigenous knowledges and practices in the global emergence of these projects.

Examining the application of this approach to wetlands in Uganda contributes to scholarship about the role of environmental management in state power there. This literature focuses on land tenure reforms as well as dams and PAs, including analyses of how the

[10] Jesse C. Ribot, Arun Agrawal, and Anne M. Larson, "Recentralizing While Decentralizing: How National Governments Reappropriate Forest Resources," *World Development* 34, no. 11 (2006): 1864-1886. Umar Kakumba, "Local Government Citizen Participation and Rural Development: Reflections on Uganda's Decentralization System," *International Review of Administrative Sciences*, no. 1 (2010): 171-186. Eric A. Coleman and Forrest D. Fleischman, "Comparing Forest Decentralization and Local Institutional Change in Bolivia, Kenya, Mexico, and Uganda," *World Development* 40, no. 4 (2012): 836-849. Janet I. Lewis, "When Decentralization Leads to Recentralization: Subnational State Transformation in Uganda," *Regional and Federal Studies* 24, no. 5 (2014): 581-588. Elliott Green, "Decentralization and Development in Contemporary Uganda," *Regional and Federal Studies* 25, no. 5 (2015): 491-508. Christopher D. Gore and Nansozi K. Muwanga, "Decentralization is Dead, Long Live Decentralization! Capital City Reform and Political Rights in Kampala, Uganda," *International Journal of Urban and Regional Research* 38, no. 6 (2014): 2201-16. Nabukeera Madinah et al, "Recentralization of Kampala City Administration in Uganda: Implications for Top and Bottom Accountability," *SAGE Open* 5, no. 3 (2015): 1-13.

decentralization of PA management gave way to neoliberalization and recentralization. Studying government-sponsored conservation beyond these large-scale projects provides an alternative view on state power in Uganda since 1986, revealing multiple ways in which communities have engaged with conservation – and historicizes the significance of reclamation for debates about land tenure. Beyond national issues, analyzing Ugandan wetland conservationism contributes to scholarship about Africa and Africans in international scientific networks. It shows that Ugandans became leaders in international scientific networks by navigating the tensions between reclamation and conservation, as well as between local, national, and global changes. An analysis of these scholarly contributions follows a brief explanation of the connections between socioeconomic inequalities and wetland usage in Uganda. This chapter concludes by overviewing the primary sources and subsequent chapters of the dissertation.

Socioeconomic Inequalities and Wetland Usage in Uganda

Reclamation began in colonial Uganda and has continued in the postcolonial era – particularly by wealthy Ugandans and foreign investors, despite their greater environmental impacts. Some inequalities related to wetland usage pre-dated colonialism then expanded through reclamation, while others began in the colonial era based on reclamation. Older inequalities included tensions between rice growers and merchants, and between crop growers and cattle herders. In the early twentieth century, reclamation began enabling wealthier men to make a new kind of environmental claim by individualizing ownership of wetlands – which had previously been available for communal use – and to practice relatively new forms of production there. These practices included: growing crops via drainage and irrigation channels, mostly using recent introductions including sweet potatoes, rice, and European or “Irish” potatoes – although women

have usually been responsible for potato-growing; dairying longhorn and "exotic" cattle; and constructing industrial factories. From potato- and rice-growing to factory ownership, respectively, these uses have required lesser or greater levels of investment, have represented relatively older or newer practices, and have shorter- or longer-lasting effects on wetlands.[11] Reclamation by wealthier wetland users, often for dairying and factories, has had more permanent and more unprecedented environmental impacts than has reclamation by poorer wetland users, often for potatoes and rice. Furthermore, the permanence of environmental impacts associated with reclamation for a particular practice varies with the socioeconomic level of the practitioner. This is because reclamation basically consists of lining parts of a wetland with channels and cutting a drain into the soil at the lowest end of a wetland, and practitioners have built their channels using different materials that last varying lengths of time – from repurposed wooden beehives (which deteriorate relatively quickly) to concrete (which lasts much longer). However, under neoliberalization, conservationists have been less effective in stopping reclamation by wealthier wetland users despite its more considerable environmental impacts.

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[11] There was almost no irrigation-based cultivation in Uganda (except at the Agoro Hills in the north) until the early twentieth century (J.M. Watson, "The Agoro Systems of Irrigation," *Uganda Journal* 16, no. 2 (1952): 159-163).

The introduction of sweet potatoes in the area that is now Uganda happened sometime between the turn of the seventeenth century and the mid-eighteenth century (Patricia J. O'Brien, "The Sweet Potato: Its Origin and Dispersal," *American Anthropologist* 74, no. 3 (1972): 347. Frederick Peter Batala-Nayenga, "An Economic History of the Lacustrine States of Busoga, Uganda: 1750-1939" (PhD diss., University of Michigan, 1976).

Traders introduced rice in the regions that are now central and southeastern Uganda during the mid- and late nineteenth century (see Chapter Two).

The introduction of European potatoes was around the turn of the twentieth century, possibly by missionaries ("International Year of the Potato 2008: Africa," *Food and Agriculture Organization*, https://www.fao.org/potato-2008/en/world/africa.html, accessed 17 October 2021).

Dairying in Uganda is concentrated in the southwest. Herders from nearby parts of central-eastern Africa introduced longhorn cattle there sometime since the sixteenth century (Marius Cisternino, *The Proverbs of Kigezi and Ankole (Uganda)* (Rome, Italy: Comboni Missionaries, 1987), 15. People in the northern portion of the southwest – the Kingdom of Ankole – adopted them to the point of developing an eponymous breed. However, in the southern portion – which the colonialists grouped as Kigezi District – most people had shorthorns even by the 1930s (May M. Edel, *The Chiga of Uganda*, 2nd ed. (New Brunswick, NJ: Transaction Publishers, 1996), 2.

Large-scale dairying – including through the introduction of European cattle – began in the 1950s (see Chapter One).

Most factory construction in Uganda followed the 1954 completion of the Owen Falls Dam (Christopher D. Gore, *Electricity in Africa: The Politics of Transformation in Uganda* (Suffolk, UK: James Currey, 2017), 38-44).

Wetlands have become focal points of tension as farmers with varying levels of wealth, government officials representing different ministries, and – in the postcolonial era – personnel from multiple NGOs have practiced various wetland uses. Large-scale farmers as well as agricultural and industrial officials have pursued reclamation. In contrast, since the late colonial era, small-scale farmers have criticized reclamation by emphasizing the usefulness of grasses like papyrus in making buildings and household items. Yet, small-scale farmers have increasingly reclaimed areas for themselves because the undrained wetlands available for cropping, fishing, grazing, harvesting materials for buildings and handicrafts, and water collection have become fewer, smaller, and more fragmented. Most landowners are men, although in some cases women have gained land ownership through reclamation. In contrast, women do most of the handicraft production using wetland grasses. By promoting grass harvesting, conservation officials and NGO personnel reproduced earlier critiques of reclamation. They combined local knowledge across Uganda with the emerging science of wetland ecology to create a world-leading policy – as well as strategies to implement it despite the limited power of the central government over most wetlands and the entrenchment of reclamation across the country.

As the NRM and Ugandan biologists rose to global prominence in their respective fields of neoliberal reformism and wetland conservation, respectively, their projects intertwined. The NRM used their sponsorship of conservationism to distinguish themselves from the environmental practices of previous administrations, cultivating an international image as a responsible government – which they were building primarily on their wholesale adoption of the neoliberalism that the World Bank and associated institutions began promoting in the 1980s.[12]

[12] Hansen and Twaddle, eds., *Changing Uganda*. Gore, "Environment and Development in Uganda." Wiegratz, Martiniello, and Greco, eds., *Uganda*.

The biologists used state authority to create a world-leading national wetlands policy, as well as to facilitate localized interventions for policy implementation. Yet, as the government depended increasingly on external donors, since the late 1990s NGO personnel have replaced government officials in many aspects of wetland policy implementation, although in close coordination with them. Furthermore, the NRM's lack of commitment to implementing the wetland policy – even while recentralizing power – has revealed that their differences from previous administrations are grounded in neoliberalization rather than in conservationism. Through conservation projects at some wetlands, Ugandans have been able to create improvements in their livelihoods and environments. At others, conservationist proposals have been ineffective and even counter-productive in addressing environmental and social issues. Despite the intellectual and political changes in Uganda associated with 1986, socioeconomic inequalities related to wetland usage have continued because officials have been unable or unwilling to apply the conservation policy equally.

Scholarly Contributions: Conservation and Science in Uganda, Africa, and Worldwide

This dissertation shows how the power dynamics between people using different knowledges influenced the creation and implementation of policies regarding wetland use, from reclamation to conservation. It contributes to scholarship regarding: 1) conservation and water management in African history, 2) the significance of science in conservation the emergence of community-based projects, 3) the relationships between conservation and state power in Uganda, especially since 1986, and 4) the roles of Africans in global science, including ornithologists, rice farmers, and others. The history of Ugandan wetland conservationism offers a window onto conservation and water management in Africa outside PAs, particularly through community-based projects,

the concept of ecosystem services, and an emphasis on indigenous knowledges and practices. Analyzing connections between these trends reveals the significance of scientific dynamism in the emergence of community-based conservation. It also reveals the importance of wetlands to state power in Uganda, as the government has exercised increasing control over these places in multiple ways – including by abdicating managerial functions to corporations. Putting these changes in broader context reveals that Ugandans became leaders in international scientific networks by navigating the tensions between reclamation and conservation, as well as between local, national, and global intellectual changes.

Conservation and Water Management in African History

Much of the historiography of conservation in Africa analyzes PAs – attributing the state's displacement of, and other restrictions on, nearby communities to the special legal status of these areas. Early entries in this scholarship find that the creation of PAs displaced people across Eastern and Southern Africa, and that their operation as sites for forestry and tourism have continued to marginalize communities local to them.[13] Subsequent scholarship analyzes tensions between the perspectives of different groups of people regarding PAs, particularly government bodies and local communities.[14] Furthermore, it historicizes the emergence of community involvement in PAs that started in the late twentieth century through the fisheries, forestry, and

[13] Jane Carruthers, *The Kruger National Park: A Social and Political History* (Pietermaritzburg, South Africa: University of South Africa Press, 1995). Roderick P. Neumann, *Imposing Wilderness: Struggles Over Livelihood and Nature Preservation in Africa* (Berkeley, CA: University of California Press, 1998). Terence Ranger, *Voices from the Rocks: Nature, Culture and History in the Matopos Hills of Zimbabwe* (Oxford, UK: James Currey, 1999).
[14] Tamara Giles-Vernick, *Cutting the Vines of the Past: Environmental Histories of the Central African Rain Forest* (Charlottesville, VA: University of Virginia Press, 2002), 2. Jan Bender Shetler, *Imagining Serengeti: A History of Landscape Memory in Tanzania from Earliest Times to the Present* (Athens, OH: Ohio University Press, 2007), 201-237. Clapperton Chakanetsa Mavhunga, *Transient Workspaces: Technologies of Everyday Innovation in Zimbabwe* (Cambridge, MA: MIT Press, 2014), 151-170, 203-220. Matthew V. Bender, *Water Brings No Harm: Management Knowledge and the Struggle for the Waters of Kilimanjaro* (Athens, OH: Ohio University Press, 2019), 230-253.

tourism industries.[15] These studies reveal the power of states to control PAs through forestry and wildlife management for generating foreign exchange via exports and tourism, respectively, while excluding or limiting the presence of local communities.

However, PA regulations only cover a fraction of Africa. To analyze power dynamics in their absence, scholarship about conservation in Africa published through the 2000s also examines community-based projects beyond PA boundaries. These include government-backed conservation initiatives promoting community-based projects – through forestry, grazing, and water management schemes, as well as general soil policies – which scholars often identify as environmentally and socially damaging.[16] Yet, scholars also identify certain instances in which communities adopted government proposals for soil conservation, and continued them even after official support ended because of their benefits.[17] Additionally, this scholarship analyzes indigenous forms of forest and water management, which colonial officials critiqued yet scholars identify as environmentally beneficial.[18] Subsequent publications expand consideration of forest and soil conservation by analyzing contrasts between how farmers and officials have understood

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[15] Christine J. Walley, *Rough Waters: Nature and Development in an East African Marine Park* (Princeton, NJ: Princeton University Press, 2004). David McDermott Hughes, *From Enslavement to Environmentalism: Politics on a Southern African Frontier* (Seattle, WA: University of Washington Press, 2006). Dan Brockington, Rosaleen Duffy, and Jim Igoe, *Nature Unbound: Conservation, Capitalism and The Future of Protected Areas* (London, UK: Routledge, 2008).

[16] Peter D. Little and David W. Brokensha, "Local Institutions, Tenure and Resource Management in East Africa," in *Conservation in Africa: People, Policies and Practice*, eds. David Anderson and Richard Grove, 193-210 (Cambridge, UK: Cambridge University Press, 1987). Francine Hughes, "Conflicting Uses for Forest Resources in the Lower Tana River," in *Conservation in Africa*, 211-228. Andrew Millington, "Environmental Degradation, Soil Conservation and Agricultural Policies in Sierra Leone, 1895-1984," in *Conservation in Africa*, 229-248. Bender, *Water Brings No Harm*, 166-198. Steven M. Feierman, *Peasant Intellectuals: Anthropology and History in Tanzania* (Madison, WI: University of Wisconsin Press, 1990).

[17] Mary Tiffen, Michael Mortimore, and Francis Gichuki, *More People, Less Erosion: Environmental Recovery in Kenya* (Nairobi, Kenya: African Centre for Technology Studies Press, 1994).

[18] Henrietta L. Moore and Megan Vaughan, *Cutting Down Trees: Gender, Nutrition, and Agricultural Change in the Northern Province of Zambia, 1890-1990* (Portsmouth, NH: Heinemann, 1994). James Fairhead and Melissa Leach, *Misreading the African Landscape: Society and Ecology in a Forest-Savanna Mosaic* (Cambridge, UK: Cambridge University Press, 1996). Bender, *Water Brings No Harm*, 118-165.

changes relating to conservation initiatives.[19] Additionally, Wangari Maathai shows how the Green Belt Movement built on Kenyan women's knowledge to promote conservation despite government disinterest.[20] This literature offers a basis for considering the diverse historical significances of conservationism for communities in Africa outside PAs.

However, the historiography of community-based conservation in Africa outside PAs has had few updates since the 2000s. Therefore, this literature focuses on the impacts of the colonial era while saying little about intellectual changes in government- and NGO-sponsored conservation in the late twentieth century, when three concepts became globally prominent: community-based projects, ecosystem thinking, and an emphasis on indigenous knowledges and practices. The Green Belt Movement, which Maathai started in 1977, was an early community-based initiative that international networks soon began trying to emulate.[21] Matthew Bender's analyses of tensions between communities and government bodies in Tanzania include further consideration of intellectual changes in environmental management during the late twentieth century. Bender examines how the creation of a neoliberal parastatal company replacing free services after *Ujamaa* socialism impacted rural communities' access to drinking water – and how communities repaired pipes when the company did not.[22] Here, rather than community-based projects promoting indigenous practices, "the introduction of new technologies, along with changing economic and social realities, gradually eroded many aspects of local knowledge, reduced the roles of local experts, and made people dependent on government-controlled water

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[19] John McCracken, "Conservation and Resistance in Colonial Malawi: The 'Dead North' Revisited," in *Social History and African Environments*, eds. William Beinart and Joann McGregor, 155-174 (Oxford, UK: James Currey, 2003). Kate Barger Showers, *Imperial Gullies: Soil Erosion and Conservation in Lesotho* (Athens, OH: Ohio University Press, 2005). Grace Carswell, *Cultivating Success in Uganda: Kigezi Farmers and Colonial Policies* (Oxford, UK: James Currey, 2007).
[20] Wangari Maathai, *The Green Belt Movement: Sharing the Approach and the Experience*, (New York, NY: Lantern Books, 2004), 6-32.
[21] Ibid., 102-110.
[22] Bender, *Water Brings No Harm*, 199-229.

resources."[23] In contrast, in Dar es Salaam, Bender finds that residents have created boreholes, often privately-owned, despite government inaction regarding water infrastructure.[24] Bender's studies offer accounts of the repair and creation of water infrastructure under neoliberalism, finding the creation of new forms of environmental management via piping, and the adaptation of rural approaches to urban contexts via boreholes.

In contrast, this dissertation analyzes government- and NGO-sponsored projects based on the continued application of indigenous knowledges and practices by communities at wetland ecosystems local to them. It analyzes the impact of the colonial era through the introduction of reclamation – and the significance of the late-twentieth century emergence of wetland conservation. Community-based projects at wetlands in Uganda used the concept of ecosystem services to promote indigenous knowledges and practices (through grass harvesting, avi-tourism, and more) over a recently-introduced form of environmental management (reclamation) relatively early in the history of international conservationist networking. Analyzing their experiences reveals historical connections between the issues they faced – particularly neoliberalization, decentralization, and recentralization – and international conservationist networks' growing emphasis on community-based projects, the concept of ecosystem services, and indigenous knowledges and practices. Furthermore, it shows how gendered and socioeconomic tensions within communities, as well as land conflicts between communities and corporations, have limited efforts to implement this approach.

Scholarship published since 2010 regarding environmental histories of Africa outside PAs foregrounds large-scale developmentalism, sometimes including attention to neoliberal

[23] Ibid., 4.
[24] Idem., "Water for Bongo: Creative Adaptation, Resilience and Dar es Salaam's Water Supply," *Dædalus* 150, no. 4 (2021): 48-63.

environmental management. Studies of dams, irrigation systems, and drinking water infrastructure are prominent in this literature. Some of these studies focus on tensions between communities and governments regarding projects by the latter that have reshaped major rivers, or impacted people's access to water.[25] Most emphasize the relationships between water management and statecraft, and/or corporate power.[26] The above studies focus on projects designed for centralized control, often finding them to have resulted in the neoliberalization of watershed management through user fees and the empowerment of wealthy investors. Bender's analysis of urban residents creating boreholes despite government inaction is an exception, revealing the potential for local – and often privatized – development to manifest social services.[27]

This dissertation analyzes approaches to water usage that focused on decentralized conservation, rather than on the creation of centralized infrastructure. It finds that in Uganda, the decentralization of watershed management accompanied neoliberalization before the

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[25] Stephan Miescher with Dzozi Tsikata, "Hydro-Power and the Promise of Modernity and Development in Ghana: Comparing the Akosombo and Bui Dam Projects," *Ghana Studies* 12/13 (2009/2010): 15-53. Allen F. Isaacman and Barbara S. Isaacman, *Dams, Displacement, and the Delusion of Development: Cahora Bassa and its Legacies in Mozambique, 1965-2007* (Athens, OH: Ohio University Press, 2013). Bender, *Water Brings No Harm*, 118-229. Muchaparara Musemwa, "Urban Struggles Over Water Scarcity in Harare," *Dædalus* 150, no. 4 (2021): 27-47.
[26] Terje Tvedt, ed., *The River Nile in the Post-Colonial Age: Conflict and Cooperation among the Nile Basin Countries* (London, UK: I.B. Tauris, 2010). Jessica Teisch, "Home Is Not So Very Far Away: Civilizing the South African Frontier," in *Engineering Nature: Water, Development, and the Global Spread of American Environmental Expertise*, 98-131 (Chapel Hill, NC: University of North Carolina Press, 2011). Nancy Y. Reynolds, "Building the Past: Rockscapes and the Aswan High Dam in Egypt," in *Water on Sand: Environmental Histories of the Middle East and North Africa*, edited by Alan Mikhail, 181-206 (Oxford, UK: Oxford University Press, 2013). Jessica Barnes, "Expanding the Nile's Watershed: The Science and Politics of Land Reclamation in Egypt," in *Water on Sand*, 251-271. Heather Hoag, *Developing the Rivers of East and West Africa: An Environmental History* (London, UK: Bloomsbury, 2013). Julia Tischler, *Light and Power for a Multiracial Nation: The Kariba Dam Scheme in the Central African Federation* (New York, NY: Palgrave Macmillan, 2013). Meredith McKittrick, "An Empire of Rivers: The Scheme to Flood the Kalahari, 1919-1945," *Journal of Southern African Studies* 41, no. 3 (2015): 485-504. Harry Verhoeven, *Water, Civilisation and Power in Sudan: The Political Economy of Military-Islamist State Building* (Cambridge, UK: Cambridge University Press, 2015). Bender, *Water Brings No Harm*, 4, 199-229. Jennifer L. Derr, "The Dammed Body: Thinking Historically about Water Security and Public Health," *Dædalus* 150, no. 4 (2021): 143-158. Stephan Miescher's forthcoming *A Dam for Africa: Akosombo Stories from Ghana* (Indianapolis, IN: Indiana University Press, 2022) combines analysis of corporations, the state, and communities regarding a major dam.
[27] Bender, "Water for Bongo," 48-63.

recentralization of power. Furthermore, it builds on Bender's analyses of infrastructure in rural and urban Tanzania by focusing on the impact of neoliberalization on the development of ecosystem conservation outside PAs. Despite Ugandan wetland conservationists operating mainly outside PAs and large-scale irrigations schemes, they reproduced strategies used at PAs and other large schemes including evictions and other alienations of communities from land and water. This finding prompts scholars to question the significance of the legal status of PAs in the evictions of communities, and to refocus on the political dynamics underlying conservation initiatives.

Science in Community-based Conservation

The promotion of community-based projects, the concept of ecosystem services, and an emphasis on indigenous knowledges and practices began gaining prominence in international conservationist networks during the late twentieth century. Beyond conservationist networks, developmentalists more generally emphasized the potential to create change across countries through community-based projects building on local cultural, economic, and political traditions.[28] Analyzing these changes in the context of conservationism enables considering a crucial aspect of locality: environment. Community-based projects shape, and are shaped by, their environments. Additionally, many indigenous knowledges and practices relate to environmental phenomena. Wetland conservationists used the concept of ecosystem services to explain to neoliberal decision-makers the benefits that communities have derived from wetlands via indigenous knowledges and practices.

[28] Daniel Immerwahr, *Thinking Small: The United States and the Lure of Community Development* (Cambridge, UK: Harvard University Press, 2015).

This dissertation builds on scholarship about the concept of watershed governance, i.e., the management of places where land meets water. Conservationists worldwide have used it mobilize around environments outside PAs based on their localized values. Yet, scholars identify complex relationships between this concept and political power because its flexibility enables its use by community-based groups, conservation scientists, and neoliberal reformers.[29] Furthermore, local governments under decentralization sometimes pursue conflicting proposals for wetland usage.[30] This dissertation historicizes the tensions that proponents of watershed thinking have navigated under neoliberalization, decentralization, and recentralization, by focusing on efforts to promote community-based projects as localized conservation initiatives. Analyzing changing environmental practices in Uganda enables examining connections between these global trends towards the promotion of local conservation. Furthermore, focusing on the intellectual history of these trends promotes engagement with the interdisciplinary knowledges that conservationists developed regarding agriculture, climate, disease, hydrology, wildlife, and more – although they favoured economic analyses above other ways of knowing wetlands.

The historiography of wetland conservationism focuses on Australia, Europe, and North America. It addresses government activity – including large purchases of land, centralized "wetland banking," and international networking.[31] The official history of the Ramsar Convention (published before the completion of Uganda's policy) examines the creation of an international bureau but offers little regarding the emergences of more localized manifestations

[29] Alice Cohen, "Rescaling Environmental Governance: Watersheds as Boundary Objects at the Intersection of Science, Neoliberalism, and Participation," *Environment and Planning A* 44, no. 9 (2012): 2207-24.
[30] Sandra Lee Pinel et al, "Scaling Down or Scaling Up? Local Actor Decisions and the Feasibility of Decentralized Environmental Governance: A Case of *Páramo* Wetlands in Southern Ecuador," *Scottish Geographical Journal* 134, nos. 1-2 (2018): 45-70.
[31] Turner and Jones, eds., *Wetlands*. Morgan M. Robertson, "The Neoliberalization of Ecosystem Services: Wetland Mitigation Banking and Problems in Environmental Governance," *Geoforum* 35, no. 3 (2004): 361-373.

of wetland conservationism, particularly outside Europe and North America.[32] North Americanist historiography analyzes the emergence of wetland conservationism, and the implementations of certain conservationist proposals – including government purchases of rural and urban wetlands for restoration.[33] This scholarship considers how neoliberalism has impacted watershed conservation.[34] Emily O'Gorman's analysis of Australia reveals that conservationists there defined wetlands as requiring protection based not on their localized significances, but in relation to international bird migrations – leading to the creation of PAs.[35] However, this scholarship does little to analyze community-based projects, the roles of NGOs, or wetland conservationism in Africa, Asia, and South America. Analyzing Ugandan wetland conservationism expands the geo-political scope of this literature. Examining the community-based approach that Ugandan conservationists have pursued as part of neoliberalization, decentralization, and recentralization enables historicizing political dynamics regarding wetlands beyond Australia, Europe, and North America.

Regarding Africa, Asia, and South America, the historiography of international conservationist networks analyzes the emergence of an emphasis on promoting indigenous knowledges and practices. In colonial Africa, some officials critiqued imperialist models based on their observations regarding localized indigenous knowledges and practices. Yet, beyond

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[32] G.V.T. Matthews, *The Ramsar Convention on Wetlands: Its History and Development* (Gland, Switzerland: Ramsar Convention Bureau, 1993).

[33] Hugh Prince, *Wetlands of the American Midwest: A Historical Geography of Changing Attitudes*, (Chicago, IL: University of Chicago Press, 1997), 287-335. Ann Vileisis, *Discovering the Unknown Landscape: A History of America's Wetlands* (Washington, DC: Island Press, 1997). Adam Rome, *The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (Cambridge, UK: Cambridge University Press, 2001), 154-165. Nancy Langston, *Where Land and Water Meet: A Western Landscape Transformed* (Seattle, WA: University of Washington Press, 2003). Jennifer L. Bonnell, *Reclaiming the Don: An Environmental History of Toronto's Don River Valley*, (Toronto, ON: University of Toronto Press, 2014), 112-138.

[34] Cohen, "Rescaling Environmental Governance." Rebecca Lave, *Fields and Streams: Stream Restoration, Neoliberalism, and the Future of Environmental Science* (Athens, GA: University of Georgia Press, 2012).

[35] Emily O'Gorman, *Wetlands in a Dry Land: More-Than-Human Histories of Australia's Murray-Darling Basin* (Seattle, WA: University of Washington Press, 2021), 117, 120-167.

research agendas, historians provide few examples of colonial governments using these critiques to create alternative agricultural or environmental policies.[36] International conservationist networks began further incorporating indigenous knowledges and practices during the late twentieth century.[37] This dissertation builds on this historiography by analyzing how changes in scientific thinking shaped the rise of community-based conservation.

Historical analyses of PAs consider how alignments and tensions between different knowledges shaped community-based conservation.[38] Christine Walley's study of Mafia Island Marine Park shows that although park management and local communities both opposed dynamite fishing, beyond this point of agreement management sought to replace indigenous practices.[39] Amanda Lewis's analysis of Amboseli National Park reveals the significance of Maasai people's associations between honour and lions in the design of community-based conservation there – although park management disliked Maasai approaches to rangelands.[40] This dissertation builds on Lewis's research by analyzing conservation projects based on

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[36] Joseph Morgan Hodge, in *Triumph of the Expert: Agrarian Doctrines of Development and the Legacies of British Colonialism* (Athens, OH: Ohio University Press, 2007) reveals that in 1935, in response to mounting evidence of localized problems, officials in London "called for the appointment of full-time soil erosion officers in each of the Central and East African territories" (163). However, Hodge attributes the subsequent shift policy shift towards diversification and self-sufficiency in local food supplies to other causes, i.e., demand for better living conditions, rapid population growth, and "the Depression ha[ving] exposed the vulnerability of primary-producing economies and the instability of international markets" (193-194).

Helen Tilley, in *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* (Chicago, IL: University of Chicago Press, 2011), analyzes how British agricultural officials' conceptualizations about African environmental practices shaped agricultural and environmental research, but not connections between this research and policy. Tilley shows that: in 1888 the governor of Lagos "sought to persuade the Colonial Office" of the value of crop diversification, but not how they responded (127); around 1925 some high-ranking officials "thought highly of" agriculturalist critiques, but not what became of those thoughts (137); in 1938 the Director of the AO in Uganda said regional policies should incorporate African farming methods, but not how anyone received this recommendation (158); and in the 1930s some "other government advisors" advocated agriculturalist critiques, yet failed to advance them due to financial and institutional limitations (162-163).

[37] William M. Adams, *Green Development: Environment and Sustainability in a Developing World* 3rd ed. (New York, NY: Routledge, 2009), 131, 364-365.

[38] Brockington, Duffy, and Igoe, *Nature Unbound*.

[39] Walley, *Rough Waters*, 5, 184.

[40] Amanda E. Lewis, "Amboseli Landscapes: Maasai Pastoralism, Wildlife Conservation, and Natural Resource Management in Kenya, 1944-Present" (PhD diss., Michigan State University, 2015), 217, 228.

indigenous knowledges and practices regarding ecosystems or places, rather than species. It contributes to studies of community-based projects, particularly community-based conservation, by incorporating an analysis of economic concepts such as ecosystem services, and of a national program emphasizing indigenous knowledges and practices.

Looking beyond PAs enables focusing on conservationists' attempts to reframe wetlands in terms of ecosystem services – and to promote indigenous knowledges and practices – as a decentralized approach involving minimal government spending. It also reveals that recentralization has marked conservationism both inside and outside of PAs. Scholarship about international conservation finds that the global shift towards decentralizing control of PAs that began in the late twentieth century has often given way to recentralization.[41] This dissertation builds on these findings by analyzing recentralization not based on PA boundaries, but based on the application of a combination of strategies used at PAs. Wetland conservationists have focused on developing tourism, pursuing evictions and jailing, and applying the concept of payment for ecosystem services in which corporations pay the central government directly for causing environmental degradation. They have used the concept of ecosystem services to create bases for applying older strategies (i.e., tourism, evictions, and jailing) and developing a new one (i.e., payment for ecosystem services) to promote conservation outside PAs.

Historicizing Ugandan wetland conservationism affords a new scholarly perspective on ecosystem thinking, particularly the idea of ecosystem services. It contrasts with the application of these concepts through centralized land purchases and "wetland banking" in North America. In the mid-twentieth century, the formalization of the ecosystem concept identified the

[41] Ribot et al, "Recentralizing While Decentralizing." Anne M. Larson and Fernanda Soto, "Decentralization of Natural Resource Governance Regimes," *Annual Review of Environment and Resources* 33 (2008): 213-239.

significance of interconnected and localized ecological relationships in discrete places.[42] Attempts to measure the significance of these interconnections included the first publication of the term "environmental services," a 1970 report coordinated at the Massachusetts Institute of Technology regarding global climate change called the *Study of Critical Environmental Problems.*[43] The term was part an attempt to identify the local significances of a global environmental change. It aligned with a trend among economists embracing neoclassical economics, including attempts to quantify the monetary values of environmental phenomena. In the remaining decades of the twentieth century, with the continued rise of neoclassical economics and neoliberalism, economists created the concepts of ecosystem services, EEV and other systems for quantifying the monetary values of environmental phenomena.[44] The proponents of this thinking soon expanded beyond economists.[45] Ugandan conservationists used these concepts to identify the economic significances of indigenous knowledges and practices at wetlands across the country. By addressing the concerns of international networks of conservationists and economists simultaneously, the concept of ecosystem services enabled the pursuit of funding under neoliberalization and decentralization. This concept became pivotal as conservationists favoured economic analyses from among the interdisciplinary knowledges about wetlands that they had been developing.

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[42] Frank B. Golley, *A History of the Ecosystem Concept in Ecology: More than the Sum of the Parts* (New Haven, CT: Yale University Press, 1993).
[43] Harold A. Mooney and Paul R. Ehrlich, "Ecosystem Services: A Fragmentary History," in *Nature's Services: Societal Dependence on Natural Ecosystems*, ed. Gretchen C. Daily, 11-19 (Washington, DC: Island Press, 1997), 14.
[44] Erik Gómez-Baggethun et al, "The History of Ecosystem Services in Economic Theory and Practice: From Early Notions to Markets and Payment Schemes," *Ecological Economics* 69, no. 6 (2010): 1209-1218. Philippe C. Baveye, Jacques Baveye, and John Gowdy, "Monetary Valuation of Ecosystem Services: It Matters to Get the Timeline Right," *Ecological Economics* 95 (2013): 231-235.
[45] Katherine C. Ewel, "Water Quality Improvement by Wetlands," in *Nature's Services*, ed. Daily, 329-344.

Environmental Management and State Power in Uganda

Examining changes in wetland usage in Uganda emphasizes the long-standing importance of common environments and environmental practices that have received little attention in the historiography of the country. Most humanities and social science scholarship about conservation in Uganda focuses on forest and wildlife management in PAs.[46] Outside PAs, scholarship about the colonial era analyzes officials' efforts to promote conservationist or ecological thinking in their agricultural policies.[47] Scholarship about independent Uganda analyzes attempts by the NRM to neoliberalize and recentralize fisheries – particularly their 2015 ban on community-based Beach Management Units.[48] Christopher Gore shows the influence of international donors on Ugandan environmental policy-making, particularly regarding energy.[49] Gore analyzes the influence of neoliberalization in the creation of hydroelectric dams, and the impacts thereof on communities as well as national energy consumers.[50] These studies analyze the colonial roots of general conservation policies, the recent neoliberalization and recentralization of power, and the significance of these changes in the lives of Ugandan farmers and fishers. Historicizing wetland usage gives a new perspective on the neoliberalization, decentralization, and recentralization of environmental management at places beyond major dams and PAs. It builds on fisheries scholarship by taking a historical approach to these changes, and by examining land issues.

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[46] Ribot et al, "Recentralizing While Decentralizing." Larson and Soto, "Decentralization of Natural Resource Governance Regimes." Coleman and Fleischman, "Comparing Forest Decentralization and Local Institutional Change in Bolivia, Kenya, Mexico, and Uganda." Kristen Lyons, "Plantation Forestry and Carbon Violence in Neoliberal Uganda," in *Uganda*, 218-33. Adrian Nel, "Neoliberalism as Ugandan Forestry Discourse," in *Uganda*, 201-17. Chris Sandbrook, Connor Joseph Cavanagh, and David Mwesigye Tumusiime, eds., *Conservation and Development in Uganda* (Abingdon, UK: Routledge, 2018).

[47] Shane Doyle, *Crisis and Decline in Bunyoro: Population and Environment in Western Uganda 1860-1955* (Nairobi, Kenya: British Institute in Eastern Africa, 2006). Grace Carswell, *Cultivating Success in Uganda: Kigezi Farmers and Colonial Policies* (Oxford, UK: James Currey, 2007).

[48] Karin Wedig, "Water Grabbing or Sustainable Development? Effects of Aquaculture Growth in Neoliberal Uganda," in *Uganda*, 249-65. Anne J. Kantel, "Fishing for Power: Incursions of the Ugandan Authoritarian State," *Annals of the American Association of Geographers* 109, no. 2 (2019): 443-455.

[49] Gore, "Environment and Development in Uganda."

[50] Idem., *Electricity in Africa*.

Scholarship about land issues in Uganda emphasizes tensions over reforms in tenure systems since the colonial era. This literature emphasizes the socioeconomic tensions that emerged with the colonial codification of patriarchal laws as "customary" and with the proliferation of private land ownership.[51] It also examines efforts in independent Uganda to resolve these tensions, finding that the continued formalization of land ownership in Uganda has been integral to neoliberalization.[52] Even the initiative to formalize customary land ownership for communal use "falls within a broader neoliberal agenda […] towards the strengthening of property rights."[53] Beyond studies taking national scopes, research regarding local changes identifies the importance of reclamation in changing land tenure.[54] This dissertation contributes to this literature by analyzing how reclamation has shaped tensions in different parts of the country, as changes in land ownership and environmental practices have become connected. Across Uganda, people – particularly the wealthy – have relied on the state's formalization of land ownership to establish exclusive control of lands that previously were communally-accessible.

Conversely, scholarship about wetlands in Uganda offers relatively little analysis of state power, particularly beyond PAs. Ugandan wetland conservationists' academic publications contain some commentary on policy implementation, identifying the challenges of opposing

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[51] Archie Mafeje, *Agrarian Revolution and the Land Question in Buganda* (The Hague, The Netherlands: Institute of Social Sciences, 1973). Elisabeth Holly Hanson, *Landed Obligation: The Practice of Power in Buganda* (Portsmouth, NH: Heinemann, 2003). Deborah Naybor, "Land as Fictitious Commodity: The Continuing Evolution of Women's Land Rights in Uganda," *Gender, Place and Culture* 22, no. 6 (2015): 885.
[52] Ambreena Manji, "Commodifying the Land, Fetishising Law: Women's Struggles to Claim Land Rights in Uganda," *Australian Feminist Law Journal* 19, no. 1 (2003): 81-92.
[53] Rose Nakayi, "The Politics of Land Law Reforms in Neoliberal Uganda," in *Uganda*, 268.
[54] M.K. Christopher Kizito and Nsubuga Edward, "Individualization of Common Wetlands in Uganda and the Role of Changing Economic Opportunities: A Case Study of Igogero Wetland, Iganga District" (Kampala, Uganda: Makerere Institute of Social Research, 1996).

wealthy investors.[55] Scholarship about Ugandan PAs analyzes the significance of forests and wetlands in the decentralization of environmental management, finding that confusion regarding governmental regulations and responsibilities has hindered policy implementation.[56] This dissertation contributes to this literature by analyzing the significance of Ugandan wetlands outside PAs (i.e., most Ugandan wetlands) during the transition from colonial developmentalism to postcolonial neoliberalization, decentralization, and recentralization. Historicizing wetland usage reveals how conservationism has shaped, and been shaped by, the exercise of state power outside PAs.

Wetlands have occupied key places in the decentralization and recentralization of the country. Analyzing the roles of Ugandan government bodies in wetland conservationism enables considering the role of environmental management in the recentralization of power outside PAs. It reveals that the national government was using control of wetlands to recentralize control by the mid-1990s. Furthermore, it reveals that the recentralization of wetland usage has included scientific changes. Ugandan wetland conservationists used the concept of ecosystem services – which they initially pursued to identify the importance of wetlands for communities – to obtain payment for the central government in response to the degradation of a major Kampala wetland.

Africa and Africans in International Scientific Networks

Studying Ugandan wetland conservationism also contributes to scholarship about Africa and Africans in international scientific networks. Scholarship about science in Africa analyzes

[55] Paul Mafabi, "The Role of Wetland Policies in the Conservation of Waterbirds: The Case of Uganda," *Ostrich* 71, nos. 1 and 2 (2000): 96-98. Reint J. Bakema and Paul Mafabi, "Towards Sustainable Wetlands Management: The Ugandan Experience," in *Wetlands of Ethiopia: Proceedings of a Seminar on the Resources and Status of Ethiopia's Wetlands*, edited by Yilma D. Adebe and Kim Geheb (Nairobi, Kenya: IUCN, 2003), 97-107.
[56] Joel Hartter and Sadie J. Ryan, "Top-down or Bottom-up? Decentralization, Natural Resource Management, and Usufruct Rights in the Forests and Wetlands of Western Uganda," *Land Use Policy* 27, no. 3 (2010): 815-826.

diverse knowledges and networks. Some scholars historicize African sciences that derive meaning based exclusively on their significances in Africa and to Africans.[57] Others analyze how Africans have used knowledge circulating in international scientific networks to address issues in Africa.[58] In contrast, this dissertation builds on studies examining how Africans' uses of sciences to address issues in Africa have shaped not only African history, but also global history. It analyzes an example of African leadership in an international scientific network and shows the roles of African farmers in experimenting with different sciences. Analyzing Ugandans' work at the historical forefront of ornithology and wetland conservation enables consideration of cultural, economic, and social dynamics in international scientific networks. Furthermore, it complexifies scholarship regarding different forms of knowledge in Africa. Instead of analyzing binary relationships between Africans and outsiders, it considers Ugandans' simultaneous engagements with representatives of international scientific networks that have promoted conflicting practices, i.e., reclamation and conservation.

Waterbird and wetland conservationists established international NGOs – based primarily in Europe and North America – in the mid-twentieth century. Through this organizing, they gained considerable influence when neoliberalization began later in the century. Initially these networks focused on waterbirds, but in the 1970-80s, they began focusing increasingly on the wetlands upon which waterbirds relied.[59] This reflected a broader trend in conservationism

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[57] Clapperton Chakanetsa Mavhunga, ed., *What Do Science, Technology, and Innovation Mean from Africa?* (Cambridge, MA: MIT Press, 2017).
[58] Melissa Graboyes, *The Experiment Must Continue: Medical Research and Ethics in East Africa, 1940-2014* (Athens, OH: Ohio University Press, 2015). Jennifer Tappan, *The Riddle of Malnutrition: The Long Arc of Biomedical and Public Health Interventions in Uganda* (Athens, OH: Ohio University Press, 2017).
[59] E. Kuijken, "A Short History of Waterbird Conservation," in *Waterbirds Around the World: A Global Overview of the Conservation, Management, and Research of the World's Waterbird Flyways*, edited by G.C. Boere, C.A. Galbraith, and D.A. Stroud (Edinburgh, UK: The Stationery Office, 2006): 53, 55. "Our History," *WetlandsInternational*, https://www.wetlands.org/about-us/our-history/, accessed 10 October 2019.

towards habitat protection.[60] However, species-focused projects continue around the world based on their capacity to generate funding, or to enhance ecosystem conservation. Biologists have based these approaches on "surrogate species" concepts, including "flagships," "indictors," and other ways of identifying the broader values of individual species. Scholarship about surrogate species projects frames crane conservation projects as exemplary of this approach.[61] In the early twentieth century, North American ornithologists became interested in crane conservation. In the mid-twentieth century, following the emergence of wetland ecology, they began promoting habitat protections in two regions.[62] By promoting waterbird and wetland conservation, Ugandan biologists have shaped connections between community-based groups, the NRM, as well as international NGOs. They became early practitioners of citizen science in crane counts, and in applying surrogate species concepts to a nation-wide conservation initiative.

By analyzing the work of Ugandan ornithologists, this dissertation builds on Nancy Jacobs's *Birders of Africa: History of a Network*, which focuses on bird guides and ornithological assistants in South Africa.[63] Contrasts between the professional statuses of African birders in Uganda and in South Africa in the late twentieth century reflected differences in the colonial histories of these two countries. White South Africans entrenched formal race-based exclusions through Apartheid. In Uganda, informal racial separation often continued from the colonial era, including the ongoing prevalence of Europeans in the top positions of technical

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[60] Mark V. Barrow, "The Specter of Extinction: Taking a Long View of Species Loss," *Environmental History* 16, no. 3 (2011): 428-32.
[61] Paul Jepson, "Towards an Indonesian Bird Conservation Ethos: Reflections from a Study of Bird-Keeping in the Cities of Java and Bali," in *Ethno-Ornithology: Birds, Indigenous Peoples, Culture and Society*, eds. Sonia Tidemann and Andrew Gosler (London, UK: Earthscan, 2011), 325. Timothy J. Farnham, *Saving Nature's Legacy: Origins of the Idea of Biological Diversity* (New Haven, CT: Yale University Press, 2007), 78-80. Barrow, "The Specter of Extinction," 430. Futoshi Nakamura, ed., *Biodiversity Conservation Using Umbrella Species: Blakiston's Fish Owl and the Red-crowned Crane* (Singapore, Singapore: Springer Nature, 2018).
[62] Thomas R. Dunlap, "Organization and Wildlife Preservation: The Case of the Whooping Crane in North America," *Social Studies of Science* 21, no. 2 (1991): 197-221.
[63] Nancy Jacobs, *Birders of Africa: History of a Network* (New Haven, CT: Yale University Press, 2016).

fields. In ornithology, Makerere hired Derek Pomeroy from the United Kingdom in 1969. However, the small size of the settler community in Uganda – made even smaller by President Idi Amin's expulsion of Asians in 1972 – meant that Pomeroy's students were Ugandan, including the future Professor Pantaleon Kasoma. Their students have since taken leadership roles in international bird and wetland conservation.

The positions of Ugandan ornithologists have also contrasted with those of African botanists and psychiatrists, based on differences between the cultural, economic, and social dynamics of these sciences.[64] Pharmaceutical corporations have commodified African botanical knowledge to a major extent, marginalizing many African experts.[65] In contrast, despite growth in the avi-tourism industry, international capitalization on ornithology has remained limited. Furthermore, whereas pharmaceutical companies have been able to decontextualize and package certain aspects of African knowledges for sale across the world, international avi-tourism depends on the continued work of people with local knowledges.

Additionally, social interactions in ornithological research are relatively indirect despite their importance to ornithologists, who often employ or interview lay people. Ornithologists often rely on other people for knowledge about specific places – by employing, interviewing, or otherwise involving them in recording observations – but rarely to interpret this knowledge. Ornithology contrasts with psychiatry, in which a practitioner must develop an intimate understanding of a patient's experiences with a treatment. In Nigeria, psychiatrists have faced tensions between the knowledge of Africans and that of international networks, manifesting in

[64] I am uncertain how Marissa Mika's forthcoming *Africanizing Oncology: Creativity, Crisis, and Cancer in Uganda* (Athens, OH: Ohio University Press, 2021) analyzes relationships between Ugandan oncologists and their peers internationally.
[65] Abena Osseo-Asare, *Bitter Roots: The Search for Healing Plants in Africa* (Chicago, IL: University of Chicago Press, 2014).

disagreements about the reasons for social issues. Furthermore, the cultural implications of contrasts in ideas about birds are different than those about people. Nigerian psychiatrists became critics of the Eurocentric approaches that were dominant in their international professional network.[66] Regarding ornithology, scholars analyze racism in formal restrictions on membership and ongoing racial disparities in birding groups, as well as in bird-naming and in the content of field guides.[67] In Uganda, with the decline of restrictions and disparities in birding, ornithologists were able to gain positions of international leadership by incorporating local knowledges. The history of racism in bird-naming and bird-guiding in Uganda is beyond the scope of this dissertation, which analyzes how Ugandan ornithologists navigated their international professional network. In this context, the amount of international private capitalization on ornithological knowledge remained low and the social relations of ornithology were relatively distant.

Africanist scholars analyze relationships between farmers and government officials regarding agriculturalist and conservationist proposals in multiple historical contexts, although usually in terms of binary relationships between Africans and outsiders. These include bidirectional frameworks considering: conflict between people practicing indigenous knowledges and those practicing foreign ones, adoption of externally-advised reforms, class division among African farmers regarding colonialist sciences, negotiation between farmers and officials regarding best practices, and colonialists' appropriation of indigenous knowledges.[68] This

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[66] Matthew M. Heaton, *Black Skin, White Coats: Nigerian Psychiatrists, Decolonization, and the Globalization of Psychiatry* (Athens, OH: Ohio University Press, 2013).
[67] Spencer Schnaffner, *Binocular Vision: The Politics of Representation in Birdwatching Field Guides* (Amherst, MA: University of Massachusetts Press, 2011). Oliver Cashman-Brown, "Birds of a Feather: The Whiteness of Birding," in *On Whiteness*, eds. Nicky Falkof and Oliver Cashman-Brown, 173-182 (Oxford, UK: Inter-Disciplinary Press, 2012). Jacobs, *Birders of Africa*. Robert J. Driver and Alexander L. Bond, "Towards Redressing Inaccurate, Offensive and Inappropriate Common Bird Names," *Ibis* 163, no. 4 (2021): 1492-99.
[68] These are the respective frameworks of: Feierman, *Peasant Intellectuals*; Deborah Brautigam, *Chinese Aid and African Development: Exporting Green Revolution* (New York, NY: St. Martin's Press, 1998); Monica M. van

dissertation builds on these approaches by analyzing multidirectional tensions regarding new forms of knowledge: swamp reclamation and wetland conservation. It considers different Ugandans' engagements with British and Chinese officials, as well as with personnel from organizations based in South Africa, Switzerland, the United Kingdom, and the United States regarding often-conflicting proposals. This expanded framework enables considering the roles of Africans in the global circulation and production of science not by privileging their relationships with representatives of one national group or international organization, but in terms of their changing relationships with multiple scientific networks.

Primary Sources: Archives, Interviews, Periodicals, and Scholarship

This dissertation is based mainly on three research periods in Uganda (Chapter One also uses the United Kingdom National Archives). These included two summers of research in Kampala and Jinja in 2016 and 2017, and a six-month period of fieldwork from 2019-20 based in Kampala punctuated by brief visits to the southeast and southwest for archival and oral research. In March 2020, the COVID-19 pandemic prevented the completion of planned fieldwork around the two major rice farms in the southeast.[69] Using a combination of primary sources – primarily archives, oral interviews, periodicals, and additional scholarship – this dissertation analyzes the historical significances of connections between academics, farmers, officials, and NGO personnel.

The archival sources include the Uganda National Archives as well as the Jinja District Archives (which contain records from across the southeast) and the Kabale District Archives

Beusekom, *Negotiating Development: African Farmers and Colonial Experts at the Office du Niger, 1920-1960* (Portsmouth, NH: Heinemann, 2002); Carswell, *Cultivating Success in Uganda*; and Tilley, *Africa as a Living Laboratory*.

[69] The Institutional Review Board at Michigan State University suspended permission for face-to-face research (other than COVID-19 studies) March 27th, the President of Uganda indicated that the Ugandan government would implement restrictions on movement, and the Prime Minister of Canada urged Canadians abroad to return.

(which contain record from across the southwest). These sources span the colonial and early postcolonial eras, with a smaller number of post-1986 documents. The archival sources also include records at the office of the Doho Irrigation Farmers Cooperative Society, which are from the 1970s onward (however, this dissertation does not include all available documents at this office because COVID-19 prevented a planned return visit). Additionally, sources from the United Kingdom National Archives provide further detail regarding the colonial era.

The oral sources are twenty-nine interviews, including two follow-ups with previous participants. Interview participants included artists, a journalist, NGO personnel, university faculty (primarily ornithologists), as well as former and present Ugandan officials ranging from district officers to a cabinet minister. Most interview participants were former and present officials from the Ministry of Water and Environment, particularly the Wetlands Management Department (and its predecessor institutions) – or personnel from NatureUganda, which has become the main NGO active in Ugandan wetland conservation. Most of the interviews were in Kampala, although they also included interviews in southwestern Uganda with three NatureUganda personnel, as well as with one former and one present district officer responsible for wetlands conservation. All interviews were in English. COVID-19 prevented planned oral history work in southeastern Uganda, including Soga-language interviews with farmers and English-language interviews with officials. The scope of the completed interviews enables analyzing the emergence of, and changes in, approaches to wetlands by Kampala-based conservationists that also considers dynamics between conservationists in the capital city and in the southwest, where their activities are concentrated.

The periodical sources include newspapers, newsletters, and scholarly journals. Successive incarnations of the state newspaper, from the colonial *Uganda Argus* to the NRM's

New Vision, have information about specific wetlands as well as about the government's overall approach to wetlands. Newspapers including the independent *Monitor*, and sometimes *New Vision*, also provide critical analyses of the government. Beyond general-interest newspapers, newsletters from conservationist organizations – such as the International Crane Foundation's *Bugle* and the Ugandan wetland office's *WetNews* – give closer looks at wetlands since the late twentieth century. Furthermore, this dissertation uses biology periodicals as primary sources to examine the intellectual history of wetlands among Ugandan and other conservationists.

Additional scholarly sources include research about Uganda by biologists, geographers, natural resource managers, and sociologists. The work of Makerere graduates, faculty, and students is prominent in this source base. Many people associated with Makerere have been part of agricultural extension projects and produced research oriented towards increasing food production, especially in the years before Ugandan wetland conservationism. There were also biologists at the university, but their conservationism focused on PAs, especially big game. Interest in conservation outside this system began in the late twentieth century, including research conducted or supervised by Pomeroy starting in 1969. Because of the importance of Makerere students in reclamation and conservation, their hundreds of theses and dissertations regarding wetlands are vital sources. They not only provide scholarly detail regarding the usages of specific wetlands, but also constitute primary sources that reflect the historical transition from reclamation to conservation. Studies from before the 1980s are reclamationist examinations of drainage projects, often recommending expansions thereof to increase agricultural production. Conservationist analyses of specific wetlands started in the 1980s – especially by ornithology students, many of whom professors Kasoma and Pomeroy taught. In addition to reading theses and dissertations, interviewing these faculty provided knowledge about the history of Makerere

ornithology – and contacts to former students such as Paul Mafabi (the first commissioner of the national wetlands program) as well as Achilles Byaruhanga and Jimmy Muheebwa (senior staff at NatureUganda) who became key interview participants.

Dissertation Outline: Originating and Implementing the Conservation Policy

This dissertation includes six narrative chapters ordered chronologically – following national turning points – although their start- and end-dates overlap. Chapters One through Three analyze the origination of the national wetlands policy by historicizing changes in wetland usage: the start of the centralized push for drainage projects in the southwest, the subsequent expansion of reclamation across the southeast, and the creation of the national conservation policy in response. Chapters Four through Six use various geographic scopes – nation-wide, rural, and urban – to examine the implementation of this policy. This division also affords coverage of multiple regions: Chapters One and Two focus on the southwest and southeast, respectively; Chapters Three and Four take nation-wide scopes; Chapter Five considers rural areas in central, southeastern, and southwestern Uganda; and Chapter Six considers Kampala. The analysis thereby includes relatively little information about northern Uganda, because it has fewer wetlands than other parts of the country. The conclusion considers the significance of Ugandan conservationism for global networks of economic and scientific policy-makers, and of neoliberalization and recentralization for community-based groups.

Chapter 1 examines the start of reclamation under the colonial government. British officials in southwestern Uganda had a pro-reclamation policy by 1931. In the 1940s, the central government expanded their push for drainage projects. Some farmers in southwestern Uganda began growing crops in wetland interiors rather than along their edges. These farmers,

particularly the early adopters of reclamation, were disproportionately wealthy. Yet, many chiefs and farmers argued against drainage, emphasizing the importance of harvesting papyrus and other grasses. Colonial agricultural officials also opposed reclamation – based not on grasses but on the belief that drainage would undermine sweet potato production and cause climatic changes. Nonetheless, after 1953, the central government intensified its push for drainage after hydrologists identified the continued existence of papyrus as a limitation on Uganda's potential for irrigation. This followed a change in the international governance of the Nile Basin, in which the governments of the states in the basin agreed that removing papyrus entitled them to new water rights from the river. Hydrologists in colonial Uganda led the basin-wide effort to label papyrus as wasteful of water and to incentivize its removal through reclamation. Early independent Ugandan governments continued promoting reclamation, and wealthier farmers oversaw the creation of a large-scale dairying industry. As the availability of wetlands for other uses declined, an increasing number of small-scale farmers began reclaiming areas for themselves to avoid losing access altogether.

Chapter 2 analyzes the spread of rice farming across southeastern Uganda, which became the largest expanse of reclamation in the country. Changes in landscape and language use, in conjunction with changing rice markets, indicate the extent to which farmers combined local and global knowledges by adapting rice and reclamation wetlands across the region. In the late nineteenth century, traders introduced rice to the area that is now Uganda and farmers began growing it as a cash crop in large enough quantities that, when the British stationed troops there at the end of the century, they could buy enough rice locally for rations. The colonial regime continued promoting rice throughout its existence. Farmers grew rice when economically expedient, although faced additional pressures during the government's production drive during

World War II. In the early postcolonial era, successive administrations hosted Chinese experts to expand reclamation through two demonstration rice farms. Subsequently, farmers continued adapting and implementing reclamation throughout southeastern Uganda based on their economic needs, although again facing additional pressures during Amin's Double Production drive. As has been the case in southwestern Uganda (with dairying and other reclamationist projects), changes in wetland usage that began before neoliberalism have facilitated the continued expansion of reclamation under neoliberalization. These changes include issues that pre-dated reclamation, such as the social dynamics associated with monetizing wetland usage, and issues that have followed reclamation, such as individual assertions of wetland ownership.

Chapter 3 considers how neoliberalization, decentralization, and recentralization in Uganda shaped the process of creating its national wetland conservation policy and the legal framework through which government officials enforce it. Ugandan conservationists responded to the environmental effects of reclamation by urging key decision-makers to ban drainage. They started a program to create a national policy that would facilitate conservation in a context of relatively low central governmental control over, and investment in, wetlands, especially those outside PAs. They created interdisciplinary linkages to address the complex overlapping relationships between communities and wetlands – although ultimately, conservationists and other government officials favoured economic analyses. The national wetlands program identified community-based groups as the most viable way to promote policy implementation, based on their understanding of wetlands as localized ecosystems as well as the pressures they faced to take an approach aligned with decentralization and neoliberalization. Conservation officials also facilitated Uganda's entry into the Ramsar Convention, which furthered the NRM's international credentialization while enabling biologists to network globally. Through work

abroad as experts and by hosting international exchanges of knowledge in Uganda, they became global leaders in wetland conservation.

To implement the policy, Ugandan wetland conservationists have pursued a range of strategies. As Chapter 4 shows, this has included a focus on cranes to interest people nation-wide in wetland conservation. Because cranes are dependent upon wetlands to breed, conservationists have used their reproduction an indicator of changing wetland conditions and as a flagship to attract support for wetland conservation. This approach has also facilitated courting international networks of waterbird conservationists for funding. Yet, Ugandan wetland conservationists promoted sometimes-conflicting ideas including ethnic and other localized representations of cranes, Ugandan nationalism, non-monogamous indigenous marriage traditions, and a discourse lauding the monogamy of cranes. Beyond the challenges that cultural changes have posed to conservationists, the economic priorities of neoliberalization have further impacted crane conservation. As conservation officials became less involved regarding cranes, NatureUganda personnel became crucial based on their research and funding from international donors. Today, crane conservationists continue their focus on community-based projects based on the limitations of neoliberalism and successes in restoring a growing number of wetlands in southwestern Uganda.

Realizing that focusing on cranes alone would be inadequate, Ugandan wetland conservationists quickly developed additional strategies to increase interest in their proposals. Chapter 5 analyzes the changing designs of community-based projects in rural areas in central, southeastern, and southwestern Uganda, finding the places of people in them have been

increasingly limited by neoliberalization and recentralization.[70] The designs of government-sponsored "demonstration sites" have begun to position people outside wetlands, and the creation of NatureUganda-sponsored IBAs has not prevented the expansion of reclamation by wealthy investors. Communities' receptions of government and NatureUganda projects have varied in the southeast and southwest. However, this difference is relative. In the southwest, there has been violent resistance to wetland conservation, and in the southeast, conservation officials continue to be active. In response to the challenges of community-based projects – due either to communities not being convinced of the proposals, participants being unable to secure sufficient livelihoods through them, or private companies taking control of conservation sites – officials have worked increasingly through strategies predicated on the absence of people from wetlands.

The exception to Ugandan wetland conservationists' focus on community-based projects has been the capital city, Kampala. Here, they have worked with law enforcement officials while extending their connections with representatives of neoliberal institutions. Chapter 6 reveals the significance of wetlands in the class struggles that have shaped Kampala since the 1990s. This is where socioeconomic inequalities in Uganda are largest. Furthermore, the national government has been recentralizing a considerable amount of power over Kampala, where support is widespread for the NRM's political opposition.[71] Kampala has therefore yielded the most possibilities for neoliberalization and recentralization to impact wetland usage. Pressures on urban land have prompted people with varying levels of wealth to reconceptualize wetlands in

[70] Conservationists have been more active in central, southeastern, and southwestern Uganda than in the north, where wetlands are fewer due to its drier climate – and where civil war limited conservation until the early twenty-first century.
[71] Gore and Muwanga, "Decentralization is Dead, Long Live Decentralization!," 2201-16. Madinah et al, "Recentralization of Kampala City Administration in Uganda," 1-13.

monetary terms. This includes many people creating enterprises and housing – as well as conservationists creating or encountering fines, fees, fundraisers, bribes, EEV, payment for ecosystem services, and unequal wetland zoning. Conservationists' reconsideration of Kampala wetlands in monetary terms has enabled them to engage in debates on the same basis as investors. However, they have had limited success in convincing key decision-makers to adopt their proposals. This approach has left wealthier residents and foreign investors largely unchallenged in paving wetlands for factories and other large-scale uses, and in taking lands that poorer residents had reclaimed before officials evicted them. In the 2000s, the wetlands office became part of recentralization in Kampala through the creation of Uganda's first PA focused on wetland protection, which impacted poorer residents more than wealthier ones, and a World Bank-funded project that reduced costs for factory-owners while doing little to implement conservationists' proposals. Kampala is where the neoliberalization and recentralization of Uganda are at their most prominent, and where their mutual exclusivity with community-based wetland conservation is clearest.

Chapter 1 –

Dammed Papyrus: Environmental Practices, Reclamation Science, and Wetland Policies in Southwestern Uganda, 1931 to 1986

People in southwestern Uganda have a long history of making houses and household items using papyrus and other grasses from the region's many wetlands. In 1974, a group of vegetable growers and other relatively poor residents of Kigezi District wrote to their District Commissioner that dairy farmers were monopolizing wetland usage through reclamation, preventing them from harvesting grasses. They noted that the dairy farmers had "already loofed their homes houses [sic] with iron sheets, are no longer using our local materials. In fact what you find in their houses are these english materials E.G. plates cups, etc."[1] When colonial officials began a co-ordinated push for reclamation in the 1950s, they based their argument on the new international agreement that papyrus wasted the waters of the Nile basin – and that therefore its removal justified claiming a share of Nile waters. As the central government began promoting reclamation projects, the resistance that followed based on the importance of grass harvesting ultimately was unable to prevent the expansion of drainage. Socioeconomic inequalities widened as reclamation enabled the creation of a new kind of land claim – ownership of wetlands – that limited communal grass harvesting while facilitating new environmental practices.

This chapter argues that the new claims to land ownership and water rights, and the changing environmental practices that emerged in association with reclamation, resulted from conflicts regarding papyrus and other grasses that unfolded on multiple scales from subcounty

[1] People from Kasheregyenyi to South Kigezi District Commissioner, 25 May 1974, Kabale District Archives (KDA), Agriculture 21/218iii/95.

councils to Nile Basin governance. It begins by analyzing the significance of papyrus in early colonial Kigezi District, where officials had a "policy of swamp-drainage" by 1931. Next it considers the late colonial period, when the central government expanded the implementation of this policy based on the politics of the Nile after 1953, when British governments across East Africa resolved to remove papyrus from the Nile basin via reclamation – against localized opposition by farmers at multiple wetlands based on grass harvesting. Other critics of reclamation included British agricultural officials, who emphasized the value of Kigezi farmers' usage of wetlands to cultivate potatoes for consumption during droughts.

It then analyzes the early postcolonial era when reclamation continued expanding despite the emergence of community conflicts about wetland usage and the imperative for drainage becoming unlinked from the international governance of the Nile Basin. It finds that British critics of reclamation lost the policy debate (which, initially, they swayed using arguments about drought cultivation) by ignoring the value of grass harvesting. Subsequently, reclamation by government schemes and wealthy farmers pressured other farmers to reclaim their own wetlands despite their needs for grasses. Doing so contributes to the historiographies of colonial environmental policies in Africa by showing the indirect impacts of dam-building on environmental practices, and by analyzing how the limitations of agricultural officials' interpretations of African environmental practices shaped policies regarding wetlands.

Reclamation involved digging channels at the low ends of wetlands to drain the water in which papyrus grew, although how people achieved this objective varied by socioeconomic status. By 1972, the approximate hectarages under government schemes and private cultivation were 1,600 and 2,700, respectively.[2] Farmers dug many of the channels by hand because officials

[2] E.R. Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," Occasional Paper No. 23 (Department of Geography, Makerere University, 1972), 72-73.

deemed most projects too small for their floating tractor. To line drainage channels, some farmers repurposed wooden beehives while hydrological officials and wealthier farmers used concrete. However, other farmers and officials argued that wetlands should be reserved for drought cultivation and grass harvesting. Reclamation proponents claimed to offer greater crop yields; critics argued these could decline over time. Juxtaposing policy debates about reclamation with information about the spread of drainage reveals how some officials and wealthier farmers used changing ideas about papyrus to initiate a regional environmental transformation, in which other farmers have reclaimed sections of wetlands for their own use to prevent losing access altogether.

British officials tasked with wetland issues have represented multiple government bodies with competing agendas, structuring debate among them. Colonial officials from the Hydrological Survey Department (HSD), which in 1955 expanded into the Water Development Department (WDD), advocated reclamation. Officials in the Agricultural Office (AO) critiqued reclamation until the 1960s.[3] The majority of the District Council agreed with the AO until 1957, when Paul Philip Howell – whom the British Colonial Office considered its "greatest living expert" on the Nile – toured.[4] He advocated for the drainage projects that a 1956 report by engineering consultants Sir Alexander Gibb & Partners (Gibb) proposed. Nonetheless, most saza (county) and gombolola (subcounty) councils remained opposed until 1959-1960. This was when Denis G. Kabega joined the WDD as the Executive Engineer in-charge of reclamation becoming the first Ugandan in the department above Assistant Engineer. In the early postcolonial era Kabega became Commissioner of the WDD and continued advocating drainage. Later, the

[3] This dynamic reversed in the postcolonial era: agriculture ministries promoted drainage projects despite critique from environment and/or water ministries.
[4] J.W. Stacpoole to W.B.L. Monson, 1 September 1960, United Kingdom National Archives (UKNA), CO 822/2202/minute regarding folio 40.

disagreement among officials reversed: agricultural officials began promoting reclamation in the 1960s, and in the 1980s environment and water officials started opposing it. Historicizing debates between officials reveals the originations and limitations of policy changes.

However, wetlands policy implementation also depended on farmers' interests, which differed by gender, class, place, and time. Women did most of the cropping including of potatoes (including sweet potatoes and, in growing quantities since the early twentieth century, "English"/"European"/"Irish" potatoes); men did the cattle-keeping.[5] Men and women have harvested grasses, although for different reasons and in changing proportions. In 2001-02, social scientists observed that grass harvesting was mostly men's work – and that, by that point, the main use of papyrus was not handicrafts but men burning it for porridge.[6] However, in 1930, anthropologist May Edel observed that women "prepare the materials for" grass handicrafts, although men also harvested papyrus for constructing houses and granaries.[7] This may have been part of why it was common in marriage ceremonies for brides' aunts to harvest grass and make a mat for her to rest on "to prevent the bride from being bewitched and dying," according to local historian Paul Ngologoza.[8] It may also be part of why colonial critics of reclamation overlooked the productivity of grass harvesting despite its alignment with their position – and despite the many farmers who opposed reclamation identifying the main reason for their opposition as their need for grasses. As agricultural officials this was outside their mandate (which periodically compelled them to consider the urgency of women's planting of sweet potatoes along wetland edges), but so were the speculations they offered about the climatological significance of papyrus. Meanwhile, most African men on subcounty- to district-level councils opposed

[5] May M. Edel, *The Chiga of Uganda* 2nd Ed. (New Brunswick, NJ: Transaction Publishers, 1996), 33-34.
[6] Ilya M.D. Maclean et al, "Social and Economic Use of Wetland Resources: A Case Study from Lake Bunyonyi, Uganda," *Environmental Change and Management Working Paper* 03-09 (2003): 14.
[7] Edel, *The Chiga of Uganda*, 83, 231.
[8] Paul Ngologoza, *Kigezi and its People* (Kampala, Uganda: Fountain Publishers, 1998), 37. Ngologoza criticized "what he would describe as paganism" ("Editorial Introduction," *Kigezi and its People*, 7).

reclamation, favouring grass harvesting. However, some council members – particularly those with access to drainage equipment and expertise – reclaimed wetlands against local policies. With time, more farmers reclaimed wetlands for their own use "before […] anybody else" did.[9] Amidst debates about wealthier men monopolizing wetlands, more farmers began reclaiming places in wetlands.

Analyzing how tensions regarding wetlands in Kigezi District and its successor jurisdictions followed the construction of the Owen Falls Dam contributes to the historiography of dams in Africa by showing how dams can have broad impacts on environmental policies and practices. In 1953, reclamation proponents began focusing on papyrus because of a new imperative in Nile management. Governments throughout the basin agreed that papyrus transpired more water than would any crop, and that therefore anyone who removed it would be entitled to begin irrigation with the reclaimed water. This international agreement followed negotiations regarding the construction of the Owen Falls Dam on the Victoria Nile in Uganda. Analyzing its impacts on Kigezi District builds on the historiography of dams in Africa. Historians are developing a comprehensive understanding of the relationships between damming projects and national ideology in Africa but have said little about changes in environmental thinking or environmental practices associated with dams.[10] The environmental historiography of dams in Africa extends this focus on state-building and national identity – including histories of the other dams they inspired, of materials that construction workers used, of planners' economic

[9] Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," 132.
[10] Stephan Miescher with Dzozi Tsikata, "Hydro-Power and the Promise of Modernity and Development in Ghana: Comparing the Akosombo and Bui Dam Projects," *Ghana Studies* 12/13 (2009/2010). Heather Hoag, *Developing the Rivers of East and West Africa: An Environmental History* (London, UK: Bloomsbury, 2013), 175-207. Allen Isaacman and Barbara Isaacman, *Dams, Displacement, and the Delusion of Development: Cahorra Bassa and its Legacies in Mozambique, 1965-2007* (Athens, OH: Ohio University Press, 2013). Julia Tischler, *Light and Power for a Multiracial Nation: The Kariba Dam Scheme in the Central African Federation* (New York, NY: Palgrave Macmillan, 2013). Stephan Miescher, "'Nkrumah's Baby': The Akosombo Dam and the Dream of Development in Ghana," *Water History* 6, no. 4 (2014).

calculations, of the transmission of electricity, and of the malaria they worsened – but includes little analysis of their impacts on environmental policy.[11] Following international discussions about the Nile dam, colonial and early postcolonial governments pursued a pro-reclamation policy that facilitated the spread of reclamation practices.

Analyzing how the limitations of colonial interpretations of African environmental practices shaped policy debates – and how farmers engaged with these limitations – contributes to the historiographies of environmental thinking in late colonial developmentalism. Economic historians of late colonial developmental projects analyze how officials attempted to use land enclosures to promote class formation and reconsolidate control.[12] In Uganda, reclamation projects began as part of the central government's developmental planning to obtain rights over Nile waters. Meanwhile, private projects expanded under wealthy and well-connected farmers even faster than government-sponsored reclamation. As poorer farmers' access to wetlands decreased, they increasingly made their own claims to wetland ownership through reclamation. Showing how new claims to land and water rights drove the relationship between class formation and changing environmental practices provides a new perspective on the history of late colonial developmentalism.

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[11] Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley, CA: University of California Press, 2002). James Mulira, "Independent Uganda and the Nile: Hydroelectric Projects and Plans," in *The River Nile in the Post-Colonial Age: Conflict and Cooperation among the Nile Basin Countries*, edited by Terje Tvedt, 125-160 (London, UK: I.B. Tauris, 2010). Nancy Y. Reynolds, "Building the Past: Rockscapes and the Aswan High Dam in Egypt," in *Water on Sand: Environmental Histories of the Middle East and North Africa*, edited by Alan Mikhail, 181-206 (Oxford, UK: Oxford University Press, 2013). Hoag, *Developing the Rivers of East and West Africa*, 175-199. Jennifer L. Derr, "The Dammed Body: Thinking Historically about Water Security and Public Health," *Dædalus* 150, no. 4 (2021): 143-158.

[12] Gavin Kitching, *Class and Economic Change in Kenya: The Making of an African Petit Bourgeoisie 1905-1970* (New Haven, CT: Yale University Press, 1980). Sara S. Berry, *No Condition is Permanent: The Social Dynamics of Agrarian Change in Sub-Saharan Africa* (Madison, WI: University of Wisconsin Press, 1993).

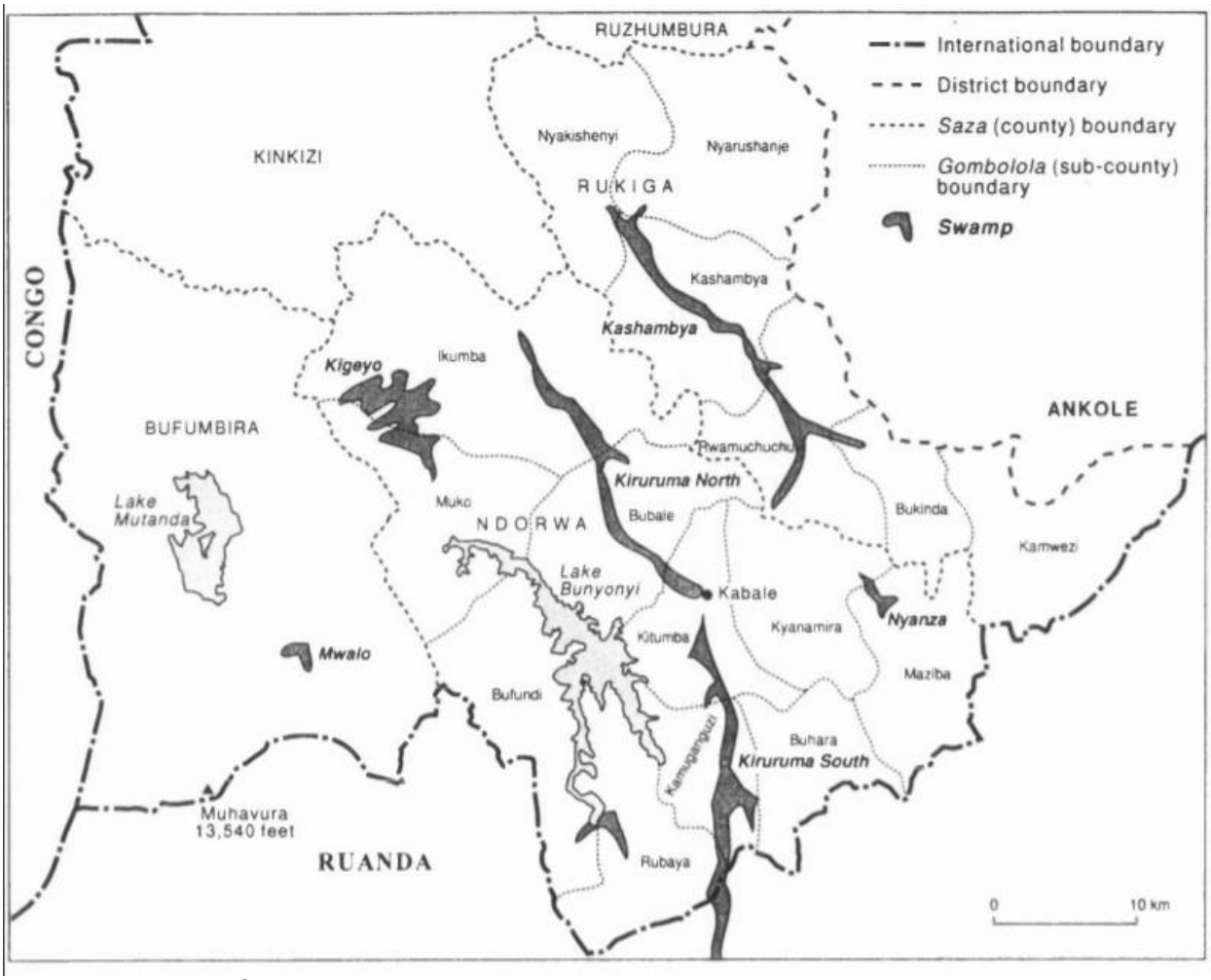

Figure 1.1: Map of Kigezi District *(Carswell, Cultivating Success in Uganda, 189).*

Considering the relationship between new claims and changing environmental practices regarding wetlands in Kigezi builds on geographer Grace Carswell's work. Carswell reveals that reclamation increased socioeconomic inequality there because many of the farmers who could afford to capitalize on reclamation gained land by paying chiefs, or by enacting drainage before chiefs allocated it.[13] This chapter is further indebted to Carswell for mapping the major wetlands in southern Kigezi (see Figure 1.1).

It also builds on Carswell's analyses by historicizing policy changes regarding wetlands

[13] Grace Carswell, "African Farmers in Colonial Kigezi, Uganda, 1930-1962: Opportunity, Constraint and Sustainability" (PhD diss., SOAS, 1996), 187-228. Idem., "Continuities in Environmental Narratives: The Case of Kabale, Uganda, 1930-2000," *Environment & History* 9, no. 1 (2003): 3-29. Idem., *Cultivating Success in Uganda: Kigezi Farmers and Colonial Policies* (Oxford, UK: James Currey, 2007), 124-125, 134-140.

and subsequent changes in environmental practices. Carswell identifies the importance of grass harvesting, but does not incorporate it in her analyses of debates about reclamation – focusing instead on how chiefly authority enabled some farmers to fence large areas of previously communal areas.[14] This chapter shows that farmers and officials contested reclamation based on the importance of older environmental practices, although British critics of reclamation ignored grass harvesting. Whereas Carswell notes that in 1935 the District Agricultural Officer recommended swamp reclamation and took credit for the practice of cultivating sweet potatoes on wetland edges during droughts, starting in the 1940s AO officials argued against it. Carswell identifies the 1956 Gibb report as the key turning point in the expansion of drainage, claiming that "[f]rom then onwards official policy was in favour of large-scale reclamation."[15] However, Carswell does not explore the origins of the 1956 report nor how it became influential in Kigezi – i.e., with Howell's 1957 visit in relation to Nile waters. Reclamation was not only a locus for class conflicts among farmers but was also a way to implement a policy for Nile management. Furthermore, the idea of "official policy" requires scrutiny because of disagreements between the policies of different departments, and between different councils (from subcounty to district). Analyzing these class tensions and debates among officials reveals the connections between changing environmental practices and new claims to land ownership and water rights.

Identifying disagreement among colonial officials about different environmental practices in the late colonial era – and demonstrating how this disagreement shaped a policy debate – builds on research by Joseph Hodge and Helen Tilley.[16] As Hodge and Tilley would predict, AO officials critiqued reclamation based on their own valuations of environmental practices that

[14] Carswell, "African Farmers in Colonial Kigezi, Uganda, 1930-1962," 187, 198, 200-204.
[15] Ibid., *Cultivating Success in Uganda*, 124-125.
[16] Joseph Morgan Hodge, *Triumph of the Expert: Agrarian Doctrines of Development and the Legacies of British Colonialism* (Athens, OH: Ohio University Press, 2007). Helen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* (Chicago, IL: University of Chicago Press, 2011).

predated colonialism. However, these officials did so selectively. Initially AO officials shaped policy by emphasizing the value of sweet potato production – but lost influence with the District Commissioner and Council after hydrologists proposed removing papyrus to expand irrigation, and AO officials failed to identify the importance of papyrus and other grasses to Kigezi households.

Studying the limitations of colonial interpretations of African environmental practices contests Hodge's and Tilley's characterizations of the impact of AO critiques of imperialist farming models. Tilley asserts that critiques favouring older practices "were never powerful enough to challenge capitalism."[17] Yet, Tilley offers few examples of agricultural officials' involvement in policy creation outside researchers' methodological debates.[18] Conversely, Hodge argues that "debates, divisions, and fundamental doubts […] ultimately hamstrung" colonial developmentalism.[19] Yet, beyond debates among researchers, Hodge offers few examples of policies that mobilized these critiques.[20] In Kigezi, AO officials failed to recognize the productivity of grass harvesting despite its importance to farmers and despite their own interest in stopping wetland drainage. They did not lose the policy debate simply because they were not "powerful enough"; initially, they succeeded in limiting government support for reclamation. However, reclamation expanded across Kigezi after its proponents framed as wasteful. Later, Ugandan critics of reclamation argued that reclamation was causing environmental changes. In 1986, they created a policy for "wetland conservation" favouring drought cultivation and grass harvesting.

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[17] Ibid., 28.
[18] In *Africa as a Living Laboratory*, Tilley analyzes numerous debates among researchers, although not their broader impacts (127, 137, 158, 162-163).
[19] Hodge, *Triumph of the Expert*, 7.
[20] In *Triumph of the Expert*, Hodge attributes the late colonial policy shift towards diversification and self-sufficiency in local food supplies to causes other than changes in scientific thinking (193-194).

Colonizing the Highland Valleys of Kigezi, circa 1900 to 1950

The British began colonizing the region around the turn of the twentieth century including through reclamation, which farmers soon resisted based on their needs for grasses. Kigezi residents resisted early expansion through warfare and the Nyabingi religion.[21] The landscape, dominated by forested mountains and papyrus wetlands in the valleys between them, facilitated resistance. The British began major economic interventions in the 1920-30s, including a policy of wetland drainage for agricultural and timber production. Officials' interest in drainage grew in the late 1940s with increased attention to the hydrology of the Nile in Uganda as the government began work on the Owen Falls Dam. Colonial critiques of drainage also emerged, based on drought cultivation and hypotheses about the climatological significance of papyrus – but not the importance of harvesting it.

At the turn of the twentieth century a range of polities existed in the region. There were states, such as Ndorwa and Ruzhumbura, and in the lands around them were communities structured by clan relations. The states depended on hierarchical relationships between planters and herders in which the latter controlled the courts and intermarriage was uncommon, reinforcing ethnic identities such as Bairu and Bahima, respectively.[22] The people in the surrounding communities became known to outsiders as Bakiga, which in regional languages was mutually understandable as "People of the Mountains." Historian Donald Denoon observes that their "social and political traditions made nonsense of the British and Baganda habit of classifying all Africans into tribes."[23] The communities in the Rukiga area were independent from states until British colonialism. Using mountainside slopes and the edges of the valleys

[21] Steven Feierman, "Healing as Social Criticism in the Time of Colonial Conquest," *African Studies* 51, no. 1 (1995): 73-88. Ngologoza, *Kigezi and its People*, 66-70.
[22] Donald Denoon, ed., *A History of Kigezi in South-West Uganda* (Kampala, Uganda: The National Trust, 1971).
[23] Idem., "The Allocation of Official Posts in Kigezi, 1908-1930," in *A History of Kigezi in South-West Uganda*, 213.

between them, farmers had long exported crop surpluses and there was a prominent cattle trade.[24] There is debate about land tenure systems across Kigezi: some scholars argue that clan membership determined access, others argue there was individualized ownership.[25] Regardless, archival records show that wetland usage was a communal right, although they do not indicate the social boundaries of communities of wetland users. Productivity in the region was high, although tensions within communities based on cattle owners' greater wealth generated diverse approaches to land usage, socioeconomic differences, and state power.

Women drove agricultural productivity, including by growing sweet potatoes in wetlands to augment food shortages during droughts. Kigezi historian F. Karwemera wrote, "i[t] is believed […] that the Bakiga originally ate peas, sorghum, yams, beans and other vegetables, and that potatoes were introduced later from Rwanda," and credited three sons of the Bataasya sub-clan with this introduction.[26] Yet, women did most farming, including of potatoes.[27] Sorghum and sweet potatoes soon comprised "the main component of the diet of southern and central Kigezi dwellers."[28] Potatoes became crucial during dry periods, although they were the only crop not bound to one season. Edel later observed, "[t]he provident housewife sees to it that enough of these are planted at odd times to assure adequate food for her family when the regular crops are scarce."[29] Potato farming made the stakes of reclamation high for Kigezi households but highest for women.

Beyond food production, women also did much of the grass harvesting and crafting of household items – although men alone were responsible for constructing houses and granaries, as

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[24] Carswell, *Cultivating Success in Uganda*, 26-27.
[25] Idem., "African Farmers in Colonial Kigezi, Uganda, 1930-1962," 146-151.
[26] F. Karwemera assisted by Kazaara and Leo Nyaishokye, "Some Incidents in Kigezi's History," in *A History of Kigezi in South-West Uganda*, 158.
[27] Carswell, *Cultivating Success in Uganda*, 33-34.
[28] Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," 76.
[29] Edel, *The Chiga of Uganda*, 197.

well as certain weaving. Women harvested grasses for cooking fuel and other daily household needs, which Edel noted "men do not consider […] their task, though they may help if convenient." Yet men periodically harvested large amounts of grasses: their "heaviest task [wa]s house-building" and was theirs only.[30] To illustrate a proverb translated as "[t]he need of marriage [or home] made the dove fly and fly until it lay exhausted" (i.e., "[t]he need to start a family makes you toil more than anything else"), a missionary publication included two drawings: a man emerging from a wetland with bundled papyrus, and a woman carrying pots through rain.[31] Women did most of the daily work with grasses although men did some weaving, and constructed houses. Use of grasses varied by socioeconomic status: according to Julius Arinaitwe, an ornithologist from the area, papyrus was "used for roofing […] only by the relatively well-off people and commercial buildings."[32] Kigezi women and men gathered wetland grasses for many purposes.

When the British arrived in Kigezi at the turn of the twentieth century they saw little potential for taxation, partly because residents used papyrus to obscure colonialists' view. Besides considering the terrain unsuitable for cotton farms, the British underestimated how many people lived there. In 1911, they guessed 100,000 – but failed to consider that when "outsiders, and particularly the military and administrative expeditions entered Kigezi, the people retreated."[33] They likely hid in wetlands, as in the late nineteenth century when they started retreating behind metres-tall papyrus thickets because Batwa people began raiding from forest

[30] Ibid., 83, 212, 231.
[31] "Obwenda-maka enkombe ekabyama egarami" (Marius Cisternino, *The Proverbs of Kigezi and Ankole* (Rome, Italy: Comboni Missionaries, 1987), 348-350).
[32] Julius Arinaitwe, email to author, 21 February 2021.
[33] B.W. Langlands, "The Population Geography of Kigezi District," Occasional Paper No. 26 (Department of Geography, Makerere University, 1971), 2.

strongholds.[34] For the British, "[i]t was probably not until 1921, when the chief's returns indicated a population of 206,000 that the highly populated character of Kigezi was appreciated."[35] Before the British went on to underestimate the usefulness of papyrus, Kigezi residents used it to make the colonialists underestimate the size of their population.

When the British began creating a colonial foothold in the local economy, they focused on men's work. An anonymous official asserted that, "[e]conomic development in Kigezi really began in 1927 with the construction by the P[ublic] W[orks] D[epartment] of a properly engineered road."[36] Ngologoza argues that the transitional year was 1929, when "government began a policy of employing Kigezi men."[37] Carswell shows that in the 1920s-1930s the state tried introducing cash crops through men, despite the predominance of women in farming.[38] Early British officials had little interest in the work of Kigezi women, even regarding agriculture.

Instead, early officials turned their attention to a famine in Belgian Ruanda from 1927-1929, when many people fled to Kigezi.[39] Colonial officials interpreted their arrival as a sign of the importance of managing valley wetlands. The District Commissioner characterized the refugees as "a plague of locusts" and asserted that they had "been driven out of their Garden of Eden, like our first parents, not so much for what they have done or suffered, but because the cattle of the ruling caste have been allowed to monopolise the valleys (which alone are cultivatable in drought)."[40] His comment about "the ruling caste" monopolizing valleys in Ruanda prefigured a concern that became common among colonial proponents and critics of

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[34] Ibid., 2. Edel, *The Chiga of Uganda*, 3-4. F. Geraud, "The Settlement of the Bakiga," in *A History of Kigezi in South-West Uganda*, 50. Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," 19.
[35] Langlands, "The Population Geography of Kigezi District," 2.
[36] Wright, "The Significance of Kigezi District as a Model for Development Plans," KDA, Administration 93/C-ADM 27/2/enclosure: 3.
[37] Ngologoza, *Kigezi and its People*, 77.
[38] Carswell, *Cultivating Success in Uganda*, 30-35.
[39] Ibid., 76-77.
[40] J.E. Philipps to Western Province Commissioner, 30 March 1929, KDA, Health 8/C-MED 7/21.

reclamation, because of its focus on agricultural productivity and inattention to other work in wetlands.

Almost from the start of its economic interventions in Kigezi, the colonial state encouraged reclamation – and encountered opposition based on grass harvesting. In 1929, the District Commissioner ordered drainage below Kabale Town for a eucalyptus plantation. Officials promoted eucalyptus not only for fuelwood but also to drain wetlands through its high water consumption.[41] (By 1957, the plantation was distributing surpluses of up to 80,000 seedlings.[42]) In 1931, when he requested permission to hunt Sitatunga (wetland antelope), he wrote that, "[t]heir presence militates against the existing policy of swamp-drainage, by the fact that they consume at night the food in cleared spaces, planted with a view to drying up the swamps and opening up fertile land."[43] It is unclear exactly when or how "the existing policy of swamp-drainage" in Kigezi began, but by 1931 officials were using it to bring wetlands under food and timber production. Numerous people "began writing to the District commissioner, explaining to him the value of the swamps: from the swamps they obtained grass for thatching; domestic utensils were also made from swamp reeds, which were made into basket-work; from the swamps also, they obtained their nails – in other words the twisted papyrus ropes used in building."[44] Early British officials heard about the importance of papyrus to Kigezi households.

However, when a critique of drainage emerged within the AO, it hinged on drought cultivation – and a prediction of climatological changes – rather than grass harvesting. In an undated essay archived alongside documents from the 1940s, the District Agricultural Officer wrote that "[s]wamp edges are invaluable in periods of drought for food crop production […]

[41] Ngologoza, *Kigezi and its People*, 112.
[42] J.M. Were, A.D. Muhwezi, and G. Rutaremwa, "Population Pressure, Landuse Changes and Consequences on the Environment in Kabale District, Uganda," July 1992, KDA, Lands 4/DEV 4-5vii/326: 36.
[43] Philipps to Western Province Commissioner, 23 October 1931, KDA, Wildlife and Forestry 1/40/79. J.J. Ellis to Hugh Fraser, 27 November 1957 KDA, Administration 63/Chiefs' Records – Rukiga/unnumbered folio: 5.
[44] Ngologoza, *Kigezi and its People*, 112.

Effective drainage will first dry up the edges which are the most fertile, the deeper parts of the swamps may or may not provide a soil capable of food production. In the Kabale area the swamps should be reserved for use in periods of drought, to effectively drain then to accommodate an increasing population is a policy leading to Agricultural bankruptcy." He also argued that "[t]he effective drainage of swamps is equivalent in climate effect to deforestation of an area larger than the area of swamp drained. I consider the transpiration of dense foliage with its roots in water or swamp [e.g., papyrus] would increase humidity more than an equal area of forest."[45] Colonial agricultural officials recognized the climatological significance of papyrus based on water transpiration, but not the uses that farmers were making of it.

Despite critiques from the District Agricultural Officer, as part of the push for large-scale developmentalism, the central government gave increasing support to reclamation supporters in the late 1940s. They hired some of Britain's foremost "development experts" including Edgar Barton Worthington (leader of the "Science in Africa" project that Tilley analyzes) to create Development Plans based on which the central government could assert a new degree of control across Uganda, and Paul Philip Howell (the most experienced living British planner of Nile basin waters) to promote drainage in the southwest to implement these plans.[46] Colonial officials promoted reclamation projects as part of the push for centralized developmentalism in the final years of British rule.

In 1947, the central government created what soon became its main channel of support for reclamation, the HSD. The original purpose of the HSD was "collecting, computing and recording hydrological data from the more important of the numerous water sources in the

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[45] "Kigezi District: Economic Policy By L.A. Mathias, Esq., Assistant District Commissioner. A Criticism by S. McCombe Esq., Agricultural Officer," n.d., KDA, Administration 66/11A-1/11: 1-2.
[46] Tilley, *Africa as a Living Laboratory*. J.W. Stacpoole to W.B.L. Monson, 1 September 1960, minute regarding folio 40, UKNA, Colonial Office 822/2202.

country."[47] In 1948, its mandate enlarged to include advising local administrations on reclamation.[48] These were the objectives of the HSD until 1955, when it expanded into the WDD to develop reclamation techniques as well as to oversee damming and irrigation in Uganda. The department became a link between the international management of Nile waters and local environmental issues in southwestern Uganda.

Leading the department were a Director and two-to-three Executive Engineers, who cycled annually through appointments such as Hydrology and Swamp Reclamation. The Director wrote the bulk of each Annual Report, and starting in 1950 appended an account from the Executive Engineer in-charge of Swamp Reclamation. During most of the existence of the department, the Director was C. L. Berg. He started as Assistant to the Director, a post that no longer existed after 1949 when he became Director, as the original Director began advising the Uganda government full-time on Nile issues. Berg remained Director until retiring in 1958.[49] HSD officials connected local and regional changes by liaising with district governments and representatives from other colonies.

Among Berg's first acts as Director was organizing a tour of reclamation projects in Belgian Ruanda. This followed a 1948 visit by the original Director and the District Commissioner, after which "[i]t [wa]s proposed that a party of Africans should visit Ruanda in the next dry season to see for themselves what has been achieved by the Belgian Authorities."[50] Shortly before the tour left, the Uganda Inter-Departmental Committee on Swamp Reclamation adopted an ambiguous position. Its members – drawn from multiple departments including the

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[47] C.L. Berg, *Annual Report of the Department of Hydrological Survey for the Year ended 31st December, 1949* (Entebbe, Uganda: Government Printer, 1950), 1.
[48] Idem., *Annual Report of the Department of Hydrological Survey for the Year ended 31st December, 1951* (Entebbe, Uganda: Government Printer, 1952), 7.
[49] Idem., *Annual Report 1949*, 2. M. Grehan, *Annual Report of the Water Development Department for the Year ended 31st December, 1958* (Entebbe, Uganda: Government Printer, 1958), 1.
[50] Kigezi District Commissioner, "Annual Report Kigezi District, 1948," n.d., KDA, Administration 100/ADM 14/11/enclosure: 7.

AO, HSD, and others – agreed that wetlands 'should be conserved with the utmost rigour and should not be reclaimed […] unless there is complete assurance that, when settled, they will be utilised to the best advantage', according to Berg.[51] HSD officials were starting to discuss reclamation in central government policy circles.

In 1949, Berg, the Kigezi District Commissioner, the District Agricultural Officer, and "about" fourteen chiefs toured several projects in Ruanda. One dominates Berg's report: Tshohohd Swamp, which the Belgian Irrigation Engineer told the British and Ugandan expedition was 'dead' because its soils no longer retained moisture. Berg wrote that Nyanza Swamp in Kigezi, one of two wetlands drained by the HSD, was showing similar signs.[52] The delegation reconvened in Uganda where "[i]t soon became apparent [to Berg] that the chiefs were collectively very hostile to any further swamp reclamation work [...] and seemed to discount my statement that it was not my concern to try to persuade them to cultivate more swamp [...] The discussion, in my opinion, served no useful purpose, except to bring out the hostility in which the chiefs regarded the whole question of Swamp Reclamation, although the reason for this hostility was not very clear to me." Despite the reasoning behind opposition being unclear to Berg, he also outlined changes needed to prevent the already-drained wetlands in Kigezi from having the same problem.[53] However, the mandate of the department at this time was not to promote reclamation but to provide technical advice to councils regarding local proposals for reclamation projects.

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[51] Quoted in Berg, *Annual Report 1949*, 6.

[52] Berg, "Notes on a visit to Ruanda to inspect Swamp Cultivations. 23rd to 27th August. 1949," Uganda National Archives (UNA), Jinja District Archives (JDA), Agriculture 14/15/14A: 5. Kagambirwe, 95.

[53] Berg, "Notes on a visit to Ruanda to inspect Swamp Cultivations. 23rd to 27th August. 1949," UNA-JDA, Agriculture 14/15/14A: 6. Berg seems to have forgotten this opposition by 1957, when he proposed "an organised visit by ourselves and some of the chiefs to Ruanda Urundi, in order to see some of their excellent swamp reclamation [...] Such a visit took place in 1949 by Moss, Purceglove [sic] and myself and some 20 or so chiefs, and I think all of us were very impressed [...] Since then perhaps the chiefs have forgotten" (Berg to Fraser, 9 January 1957, KDA, Lands 32/ C-DEV 4-4/10).

In addition to the chiefs' opposition, the inter-departmental committee clarified their position by prohibiting further reclamation.[54] The main opponents of drainage in the central government were AO officials. The Director of Agriculture in Uganda had received a letter from the Kigezi District Agricultural Officer critiquing Belgian practices, stating:

> It seemed to me that the Ruanda Government had launched out on an extensive programme of swamp drainage after the 1945/44 famines, without sufficient scientific information as to the nature and behaviour of their swamps, nor has much of this information been obtained subsequently. [...] I consider that this work is still in the experimental stage and I cannot say whether the swamps will retain their present productivity. [...] I do not think that any further large scale drainage should be contemplated in Kigezi until we know much more [...] The swamps at present provide a useful land reserve to be used as and when the urgency of the situation requires.[55]

When AO officials advanced arguments against drainage to other British officials, they focused on drought cultivation – and overlooked grass harvesting.

Adding to this concern, AO officials predicted that climatological changes would follow reclamation. In 1950 the District Agricultural Officer voiced his concerns to the Interdepartmental Committee on Swamp Reclamation,

> fear[ing] that as a result of interfering with swamps in Kigezi, the beneficial morning mists may possibly be effected [sic] with

[54] Berg, "Notes on a visit to Ruanda to inspect Swamp Cultivations. 23rd to 27th August. 1949," UNA-JDA, Agriculture 14/15/14A: 5.
[55] Kigezi Agricultural Officer to Uganda Director of Agriculture, 3 October 1949, KDA, Lands 32/C-DEV 4-4/1: 3.

> disastrous results to the crops which depend on the moisture from this source. I have consulted Mr. Henderson, the Meteorological Officer in the matter and he assures me that even if really wholesale swamp reclamation work were carried out and even if such work resulted in the complete drying up of the swamps, the effect on the phenomenon of the morning mists in Kigezi would be insignificant. He went on to say that in view of the amount of work we would ever contemplate doing and as our object was certainly not to dry out the swamps, there could be no effect on the morning mists at all.[56]

Hydrologists claimed that reclamation would not spread enough to cause much climatological change. Yet, reclamation eventually expanded beyond government control, and by the 1980s people were writing about climatological changes in Kigezi. This became an important premise in the government's turn to wetland conservation, alongside drought cultivation and grass harvesting.

Amidst continued debate, the HSD started an experiment regarding the question of whether wetlands becoming 'dead' was reversible – which papyrus answered. HSD officials acknowledged that the trip to Ruanda and the situation at Nyanza made it "apparent that Swamp Reclamation is not a simple matter and much further experimentation is required."[57] A literature review found no clear parallel for the level of soil acidification they saw (they supposed that highland reclamation in Scotland avoided this problem through regular freezing), which they

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[56] "Note for the Information of the Interdepartmental Committee on Swamp Reclamation," n.d., KDA, Lands 25/LND 035/1: 2.
[57] R.B. Bulman, "Swamp Reclamation," in *Annual Report of the Department of Hydrological Survey for the Year ended 31st December, 1950* (Entebbe, Uganda: Government Printer, 1951), 44.

began calling "black death." They flooded Nyanza Swamp as a long-term experiment.[58] After eighteen months it was "colonised by papyrus," which E.M. Chenery, Senior Chemist of the Uganda AO, identified as evidence of the reversibility of problems caused by reclamation. Furthermore, Chenery devised a regimen of lime application which if "complied with, no risk of dead swamps will occur," he claimed.[59] HSD officials heard from the AO Senior Chemist that "black death" was not only reversible, but preventable. It soon disappeared from reports. By the time debates about Nile waters incentivized the riparian governments to drain wetlands, reclamation proponents had interpreted the return of papyrus to mean that problems caused by drainage were surmountable.

Debating Papyrus in the Nile Basin, 1951 to 1962

In the 1950s, HSD/WDD officials created an imperative in the international governance of the Nile Basin – i.e., save water by draining wetlands – and used it to shape debates about environmental practices in Kigezi. Meanwhile, farmers' opposition to drainage continued but began waning. Receptions to proposals for drainage varied even within the office of District Commissioner. Its occupant in 1953, J.A. Burgess, circulated a public memorandum asking local councillors, '[w]ill your children be able to eat papyrus when the land is too crowded to grow their food?', according to Carswell.[60] In 1954 Hugh Fraser replaced Burgess. He sided with critics until 1957, when Howell toured advocating Nile drainage. As hydrologists argued that removing papyrus would bring greater yields and enable irrigation schemes, they began winning policy debates within government councils. However, officials needed farmers to implement

[58] Berg, *Annual Report of the Department of Hydrological Survey 1951*, 10-11.
[59] E.M. Chenery, "A Digest of the Chemistry of Dead Swamps in Kigezi District, S.W. Uganda," in *Annual Report of the Department of Hydrological Survey for the Year ending 31st December 1952* (Entebbe, Uganda: Government Printer, n.d.), 10, 13.
[60] Carswell, "Swamp Reclamation," 201.

most of the reclamation and soon began trying to convince them to conduct this work. In some places farmers worked for government schemes, although in most places they opposed reclamation. Despite widespread opposition to the policy, wealthier farmers began draining wetlands outside government schemes, often with technical advice from officials. As other farmers faced dwindling access to wetlands, many drained portions of the remaining areas.

Technical advisers elsewhere in the Nile basin had discussed papyrus in Uganda since at least 1928. H.E. Hurst, an adviser in Egypt, called for studies on Lakes Albert, Kyoga, and Victoria: "I consider that the study of the swamp vegetation is one of the most urgent questions in connection with any projects on the Upper Nile, and I am therefore making provision [...] for the employment of a plant ecologist who can work with the hydrological observers. In my opinion, the work of this man may save very large sums of money."[61] However, it was decades before researchers in Uganda began focusing on papyrus.

In 1951, Berg was advising on the feasibility of "constructing small lakes" for fish farming. He argued "that from a swamp reclamation point of view it is well worth a trial. Such a lake would tend to maintain the water table in the swamp and thus encourage cultivation in the other reclaimed areas. The evaporation or water losses due from the lake would, I am sure, be very much less than those resulting from an equivalent area overgrown with papyrus." Looking more broadly, he found that "many of the large rivers end in huge lakeside papyrus swamps, where a very large but unknown quantity of water is lost through evaporation and transpiration. In fact, it is probable that in some cases the total losses in these papyrus swamps exceed the quantity of water coming down in the rivers concerned, and the balance of water is being

[61] H.E. Hurst, "Note on the Hydrology of the Lake Plateau and the Organisation of Further Studies," 14 March 1928, UNA, Secretariat Minute Papers A46/1986/10/enclosure: 2-3.

absorbed from the Lake."[62] Colonial officials started to think that the hydrological significance of wetlands was not localized, but undermined East Africa as a whole because of water usage by papyrus.

The policy to integrate Nile water politics and reclamation in the Lake Victoria basin was in place by 1953 – before the 1956 water resource survey. This policy emerged as the governments in East Africa sought to leverage the under-construction Owen Falls Dam to revise the 1929 Nile Waters Agreement under which they could not use water for irrigation. Yet, starting irrigation projects was a key component of the central government's developmental plans. They hired Worthington to produce *A Development Plan for Uganda*, which provided a blueprint for the years 1947-56.[63] Implementing this vision required using Nile waters for multiple projects.[64] However, the 1929 agreement generally precluded such projects.

Hydrological officials found a way out of their dilemma as negotiations regarding the dam proceeded. In 1952, Berg noted that the plan to flood the Lake Victoria basin to store water for Egypt would increase the amount of available water because it would flood wetlands, "and instead of having papyrus growths one will have plain water surfaces, from which the evaporation is considerably less."[65] In 1953, representatives of the colonial governments in East Africa met in Entebbe where C.G. Hawes (whom Berg replaced as WDD Director) proposed that because "the water lost in a swamp by percolation, evaporation and transpiration was usually much greater than the volume of water required to irrigate it if reclaimed," they should develop

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[62] Berg, *Annual Report of the Department of Hydrological Survey 1951*, 5.
[63] E.B. Worthington, *A Development Plan for Uganda* (Entebbe, Uganda: Government Printer, 1947). For analyses of Worthington's career, see Tilley, *Africa as a Living Laboratory*, and Damiano Matasci, "Internationalising Colonial Knowledge: Edgar Barton Worthington and the Scientific Council for Africa, 1949-1956," *Journal of Imperial and Commonwealth History* 48, no. 5 (2020): 892-913.
[64] D.O. to C.G. Hawes, "Development Plan (Annual Programmes) Swamp Development," 5 August 1948, UNA, Secretariat Topical, Finance 8/W.123-14-03-H/4.
[65] Berg, *Annual Report of the Department of Hydrological Survey 1952*, 6.

Nile waters through reclamation.[66] This established their plan to obtain irrigation water under the 1929 agreement via reclamation, and the 1956 survey provided data with which to enact the plan.

Hydrologists continued experiments to quantify the water consumption of papyrus, but not its growth rate. In 1955, they "decided that an attempt should be made to determine the water consumption of papyrus by actual field observations."[67] In 1956, the HSD started an experiment in Rulindo Swamp "for the determination of a water-use factor for papyrus." That year also saw the establishment of an experiment at Kiruruma South Swamp, "to prove whether or not reclamation of the papyrus swamp and subsequent control of the sub-surface water table will show an overall economy in losses by evaporation and transpiration."[68] The former would quantify percolation and transpiration by the plant that predominated in wetlands across Uganda, and the latter would show the hydrological effects of the leading policy proposals.

Unrelated to this uncertainty, the push for reclamation got off to a shaky start. Numerous subcounty councils told the District Commissioner that wetlands should be kept as places for harvesting grasses.[69] According to former Bukimbiri Subcounty Chiefs, people had been reserving the Gitundwe/Murangara Swamp in Kiruruma North since 1946 "for grass and ropes to help people in future."[70] And even as reclamation projects proceeded in the following years, many farmers insisted on reserving some wetland sections for grasses.[71] Grass harvesting continued to be the main reason why farmers opposed reclamation.

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[66] "Record of Inter-Territorial Meeting Held on the 15th and 16th September, 1953, in Entebbe," UKNA, CO 822/879/25: 24.
[67] R.H. Holmes, "Report on Works," in *Annual Report of the Department of Hydrological Survey for the Year ended 31st December, 1955* (Entebbe, Uganda: Government Printer, n.d.), 14.
[68] W.G. Owen, "Swamp Reclamation," in *Annual Report of the Water Development Department for the Year ended 31st December, 1956* (Entebbe, Uganda: Government Printer, n.d.), 10.
[69] Ndorwa Saza Chief to J.A. Burgess, 10 January 1953, KDA, Lands 25/LND 035/55.
[70] P.R. Kabagambe to Kigezi District Commissioner, 9 March 1971, KDA, Lands 4/DEV 4-5vii/245.
[71] For example: S.N. Mabosi to Commissioner for Agriculture, 20 July 1966, KDA, Lands 32/C-DEV 4-4/40.

British officials soon noted the impacts of reclamation on papyrus. The largest project the HSD had overseen thus far was in a five-mile stretch of the Kashambya Swamp after Lazaro Kabumba, a farmer, began draining the edge of his plot in 1942. This "drew the attention of the water development authority and a hazardous undertaking of the draining started […] At first there was much ado in the operation as the wetland was 'like a lake'. The channels were scooped out by men in boats. Bee-hives whose bottoms had been removed were used as drainage pipes and as connecting bridges."[72] Initially, in 1947, the reclaimed fields gave "[v]ery good crops."[73] But, by 1948, papyrus and potable water disappeared "for a considerable distance" around the reclaimed area.[74] British officials debated whether "the main reason for opposition to Swamp drainage" was this loss or "a groundless fear that the drained land may be alienated or rented."[75] Officials noted that reclamation impacted papyrus, but were unsure what significance this had for farmers. They did not grasp the connection between farmers' concerns about papyrus and wetland access, and dismissed the latter as "groundless." However, reclamation enabled new claims to land ownership in the following years.

In 1950, there was popular support for the reclamation of just one wetland, i.e., Mwalo, where farmers' need for land outweighed that for papyrus.[76] Geographer E.R. Kagambirwe wrote that, "local opinion […] was unanimously enthusiastic because the people around the lake were desperately in need of cultivable land." It was "inaccessible to traffic," but the HSD had no alternative sites. They constructed a road "to facilitate the bringing in of the equipment for the

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[72] Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," 96.
[73] Kigezi District Commissioner, "Annual Report Kigezi District, 1948," n.d., KDA, Administration 100/ADM 14/11/enclosure: 7.
[74] G.B. Moss, "Minutes of the Kigezi District Team Meeting held on 5th November, 1948," n.d., KDA, Administration 12/ADM 4ii/55: 1-2. Kigezi District Commissioner to Berg, 21 April 1951, KDA, Lands 25/LND 035/37.
[75] Kigezi District Commissioner, "Annual Report Kigezi District, 1948," KDA, Administration 100/ADM 14/11/enclosure: 6.
[76] Bulman, "Swamp Reclamation," 45.

operation."[77] However, machinery could not do the whole project, which involved workers "binding bundles of papyrus and laying them to form a mat on which to walk. […] The advance party made the path and cut the papyrus in the channel […] Difficulty in extracting the papyrus roots growing in the channel was overcome by using a raft of a pontoon type and the second party were engaged in cutting the papyrus roots, working from the raft, and depositing them onto the track thereby strengthening it […] A few hippopotamus still inhabit the swamp and have added to the hazard of the work." When cultivation began in 1953, farmers there "maintain[ed] that the sweet potatoes attain a much larger size while the millet and sorghum produce twice as much as a similar area on the hillsides."[78] Repeating this experience became a key objective when the HSD expanded into the WDD in 1955.

Whereas HSD policy was to provide technical advice if solicited, the mandate of the WDD was to promote reclamation. WDD efforts to expand reclamation to other wetlands in 1955 and 1956 met with opposition – "for obscure reasons unconnected with the department," in Berg's opinion.[79] The engineer in charge in 1956 noted that, "[i]t has been represented to the several gombolola councils that they should exercise discretion in the estimation of their requirement of grass, and to balance this against the desirability of having additional areas of land."[80] Hydrologists had begun actively pushing for reclamation wherever possible.

Yet, many farmers continued to value wetlands as places for grass harvesting. By 1956 the WDD had received "a negative response from three of the eight councils involved" and apparently no positive responses. Berg's successor, M. Grehan, quickly noted that, "the most difficult hurdle to overcome is social rather than technical. This is the basic problem of making

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[77] Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," 103.
[78] Holmes, "Reclamation of Mumwalo Swamp, Bufumbira," in *Annual Report of the Department of Hydrological Survey for the Year ended 31st December, 1953* (Entebbe, Uganda: Government Printer, n.d.), 11-12.
[79] Berg, *Annual Report of the Water Development Department 1956*, 2.
[80] Owen, "Swamp Reclamation," 7-8.

the local population accept the idea of swamp drainage."[81] Yet, even when communities began accepting drainage proposals, they ensured that grass reserves be included in the zoning plans.[82] Furthermore, as reclamation spread, retaining certain wetlands for grasses became increasingly important. In 1957, the Secretary General of the Kigezi District Administration noted that the County and Subcounty Chiefs responsible for Kyanamira Swamp refused to drain it because "all other big swamps in that Gombolola were drained and that no where else to obtain ropes [sic]."[83] As reclamation proceeded and papyrus dwindled, in some cases opposition based on grass harvesting intensified.

Political dynamics in late colonial Uganda further limited the appeal of HSD officials' proposals. In 1957, when the District Commissioner tried to convince two subcounty councils to approve the reclamation of different areas of a wetland than they had done (to align with the Gibb recommendations) both councils "refuse[d] to consider <u>any</u> drainage of these swamps [emphasis in original]." Furthermore, the District Commissioner interpreted the presence of members of the Uganda National Congress, the first political party in the territory, at meetings in multiple subcounty councils regarding reclamation to mean that overriding local decisions "would be unwise."[84] In Kigezi, organizing for independence aligned with the popular critique of reclamation.

In view of these factors, the District Commissioner wrote to the HSD that,

> I have always subscribed to the view expressed by the D[istrict] A[gricultural] O[fficer] that swamp drainage could be done by the

[81] Grehan, *Annual Report of the Water Development Department for the Year ended 31st December, 1959* (Entebbe, Uganda: Government Printer, n.d.), 4.
[82] P. Kabagambe to Kigezi District Council Secretary General, 19 October 1957, Lands 25/AGRIC 1-2/17. R.M. Purcell to Kigezi District Commissioner, 20 February 1959, Administration 90/C-ADM 9-3/57: 4. H. Fraser, "Minutes of the Natural Resources Sub-Committee of the Kigezi District Team," 7 September 1959, Administration 66/Reports of District Team Meetings/unnumbered folio.
[83] Kigezi District Administration Secretary General to Fraser, 23 January 1957, KDA, Lands 32/C-DEV 4-4/12.
[84] Fraser to Western Province Commissioner, 3 January 1957, KDA, Lands 32/C-DEV 4-4/9: 2.

> people themselves when the demand develops [...] The snag is your department's insistence that the survey work be done at great expense will all be wasted if drainage does not take place at an early date. It is for this reason that the issue has had to be forced on the basis of 'now or never'. I would, therefore, like this point definitely confirmed as suggested by Mr. Howell.[85]

The Kigezi District Commissioner agreed with the Agricultural Officer's critique – and the foremost Nile expert in the British Colonial Office soon visited to address his concerns. Shortly after Howell met with Kigezi officials, the District Commissioner and Council began favouring reclamation.[86] Howell also toured the district "to talk with local authorities about the advantages of reclamation."[87] Multiple Kigezi officials soon made similar tours. The Commissioner of the Western Province lauded them for "waging battles with various levels of councils in the more overcrowded areas of Kigezi."[88] However, that year they attained barely 900 metres of additional drainage channeling, "effected in the teeth of strong local political objections."[89] Although WDD officials used the imperatives of Nile management to gain prominence at the district level over the AO officials critiquing reclamation, popular critique of the proposals continued.

However, from 1959-1960, some farmers and chiefs also began changing their approaches to wetlands. During these years, the approximate hectarage of reclaimed wetlands in Kigezi went from 400 to 1500.[90] Grehan reported "a very marked increase in the demand for

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[85] Fraser to Kigezi Water Development Officer, 11 April 1957, KDA, Lands 32/C-DEV 4-4/16.
[86] Fraser to Water Development Department Director, 20 September 1957, KDA, Lands 25/C-SR-8/4. G.E.D. Duntze to R.N. Posnett, 6 March 1958, KDA, Lands 32/C-DEV 4-4/26.
[87] Paul Philip Howell to Fraser, 20 February 1957, KDA, Lands 32/C-DEV 4-4/14.
[88] G.E.D. Duntze to R.N. Posnett, 6 March 1958, KDA, Lands 32/C-DEV 4-4/26.
[89] Fraser to Permanent Secretary of the Ministry of Natural Resources, 4 February 1958, KDA, Lands 32/C-DEV 4-4/23.
[90] "Notes on Kigezi April, 1959," n.d., KDA, Administration 93/C-ADM 27/2: 2. J.C.D. Lawrance, "Annual Report on the Western Province, 1960," n.d., KDA, Administration 12/ADM 13i/2: 9.

reclaimed swamp-land."[91] There was a new engineer in charge of reclamation that year: Kabega, the first Ugandan in the department to rank higher than Assistant Engineer. As part of "Africanization," he joined the WDD in 1959 at the rank of Executive Engineer. His first assignment was reclamation.[92] In consultation with subcounty councils, he made zoning plans for Rwakihigwa Swamp (also known as Kiruruma South), then Kiruruma North, then Kashambya.[93] That year the total reclaimed area doubled, and "[i]n the North and South Kiruruma Swamp reclamation by the people has been so fast that, the Water Development Department have not been able to keep pace with their channels."[94] (In at least one place, this inability led to draining a different area than had been agreed.[95]) Largely through Kabega's efforts, popular interest in reclamation increased in 1959-60.

Growing interest in reclamation generated controversy. Members of the District Council noted that people in Kamuganguzi Subcounty were becoming increasingly interested in reclamation, as "despite the opposition of the Council [...] a considerable area of the south Kiruruma swamp [...] ha[d] been opened up by individuals."[96] In 1961, one Kamuganguzi Subcounty Council meeting minute "requested disciplinary action against their chiefs for their failure to implement the Council's ban" on reclamation.[97] The District Commissioner wrote that, "[i]t is obvious that the Kamuganguzi Council is completely out of touch with reality, and that

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[91] Grehan, *Annual Report of the Water Development Department for the Year ended 31st December, 1960* (Entebbe, Uganda: Government Printer, n.d.), 3.
[92] Grehan, *Annual Report of the Water Development Department 1959*, 2.
[93] R.M. Purcell to Rubanda Saza Chief, 15 June 1959, KDA, Lands 25/218C/59. Purcell to Ndorwa Saza Chief, 30 June 1959, KDA, Lands 26/218C/63. Purcell to Rukiga Saza Chief, 18 August 1959, KDA, Works 16/WKS 014/85.
[94] R.G. Hampson to Kigezi District Agricultural Officer, 26 July 1960, KDA, Agriculture 21/6/8: 9.
[95] Kigezi District Council Assistant Secretary General, 6 May 1959, "Report Concerning Rubanda, Rwakihigwa, Kiruruma and Bubale Swamps," KDA, Works 16/WKS 014/64/enclosure.
[96] R.P. Towle to Western Province Commissioner, 28 October 1960, KDA, Administration 90/C-ADM 9-3/66.
[97] R.P. Towle to Kigezi District Commissioner, 2 May 1961, KDA, Administration 90/C-ADM 9-3/68.

swamp reclamation is now welcomed by many people."[98] In 1960-61, local councils contested the district council's pro-reclamation policy.

Yet, as issues during these years in wetlands around the district showed, local council approval did not necessarily enable officials to realize their policy objectives. In some places, farmers did not cultivate the new fields opened up in drained wetlands.[99] Conversely, in other places council members were unable to control the drained fields, with "chaotic" results as farmers moved in without being officially allotted plots.[100] Sometimes WDD officials prevented farmers from cultivating immediately, "to ensure that land was fairly distributed" – evoking earlier ideas about the 1927-1929 famine in Belgian Ruanda. Furthermore, some people did not want to use the fields for food as per "the original policy," but for planting eucalyptus trees. The WDD opposed this practice, but the District Commissioner said it evinced "a genuine wish by the local people" and forced Kabega to concede "that the effects of tree planting on the water table were not fully known and use of reclaimed land was to some extent experimental."[101] Even more contrary to district policy, in 1961 people in Kashambya Subcounty wanted a wetland "re-filled with water so that the [grass] materials might thrive."[102] Policy debates influenced Kigezi farmers' discussions about wetlands, but interest in papyrus underpinned considerable pushback against reclamation.

Amidst ongoing debate reclamation expanded into many of the major wetlands in Kigezi, increasing socioeconomic inequality. In 1955, the Assistant District Commissioner reported to

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[98] R.P. Towle to Kigezi District Council Secretary General, 8 May 1961, KDA, Administration 90/C-ADM 9-3/69.
[99] J.H. Woodruffe, "Monthly Report for the Saza Ndorwa & Rubanda for the Month of July 1960," 31 July 1960, KDA, Agriculture 26/38/18. Woodruffe, "Monthly Report for the Sazas Ndorwa and Rubanda for the Month of July 1961," 31 July 1961, KDA, Agriculture 26/38/31: 1, 5. "Extract from Minutes of a Meeting of the Natural Resources Sub-Committee held on 3rd July, 1961," n.d., KDA, Works 16/WKS 014/151. Rubanda Saza Chief to Ikumba Gombolola Chief, 26 July 1961, KDA, Works 16/WKS 014/154.
[100] Woodruffe, "Annual Report for Sazas Ndorwa and Rubanda," 4 January 1962, KDA, Agriculture 26/38/44: 2-3.
[101] Towle, "Minutes of a Meeting of the Natural Resources Sub-Committee of the Kigezi District Team held at Kabale on Tuesday, 2nd August, 1960," n.d., KDA, Works 16/WKS 014/120.
[102] Rukiga Saza Chief to Kigezi District Commissioner, 8 August 1961, KDA, Works 16/WKS 014/160.

the District Commissioner that, "[d]espite the shortage of land in Kigezi [the impetus for a series of resettlement projects over decades], it came as a great surprise to me that some people had cultivated very large acreages. One man (Rwamanyi) is in possession of more than 500 acres [202 hectares] [...] The next biggest land owner cultivated approximately 200 acres [81ha]."[103] At the time there were under 400 hectares of reclaimed wetland in Kigezi, but this number expanded through government and private projects. In 1959, a farmer put in his own drainage channels through 23 hectares of a wetland before officials planned it.[104] In 1960, as a subcounty council debate unfolded, one councillor purchased surveying equipment for himself.[105] Because of the benefits associated with private investments in reclamation, colonial officials had overseen a shift in control of the wetlands like the one they had perceived happening in Belgian Ruanda and wanted to avoid replicating.

In 1959, WDD officials began major reclamation outside Kigezi. This included the Orichinga Irrigation Project, the first large-scale integration of reclamation and Nile water politics. Following central government planning, it targeted the Koki Lakes system northeast of Kigezi, a "large expanse of lake and swamp acting as a great evaporating basin" vapourizing Lake Victoria waters.[106] That year, the WDD entered a partnership with the Agriculture Department to experiment with lowland reclamation at Kawanda Research Station in central Uganda. This was the first step taken towards large-scale drainage outside of southwestern

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[103] Kigezi Assistant District Commissioner to Fraser, 3 September 1955, KDA, Administration 90/C-ADM 9-3/21: 2.
[104] Fraser, "Minutes of the Natural Resources Sub-Committee of the Kigezi District Team held on 7th September 1959," n.d., KDA, Administration 66/Reports of District Team Meetings/unnumbered folio: 4.
[105] D.C. Collin to Ndorwa Saza Chief, 12 March 1960, KDA, Works 16/WKS 014/112.
[106] R.R. Bruce, "Irrigation," in *Annual Report of the Water Development Department 1959*, 7. The influence of the politics of the Nile were visible not just in the concrete details of the plan, but also in its conception "for the ultimate utilisation" of water. Officials knew that "ultimate" requirements were coming to define negotiations between Egypt and Sudan, and that their own claims to Nile waters must be framed in the same terms ("The Equatorial Nile Project and the Nile Waters Agreement of 1929: East Africa's Case," UKNA, CO 822/1413/100/enclosure: 16).

Uganda.[107] The colonial government developed an approach to lowland reclamation through experiments at Kawanda, which officials planned to extend to southeastern Uganda. Yet, Uganda gained independence sooner than the British had anticipated.

Contesting Reclamation in Postcolonial Kigezi, 1962 to 1986

Early postcolonial regimes continued reclamation despite continued resistance by rural communities, and the end of the Nile imperative for drainage. In 1959, the Nile Waters Agreement became nullified when British advisers across East Africa agreed to ignore it.[108] In 1962, the newly-independent Ugandan government also distanced itself from the agreement.[109] Between the waning importance of the Nile agreement and the immediacy of household accumulation in farmers' rationales for implementing drainage projects, by the postcolonial era the spread of reclamation in Uganda effectively became unlinked from Nile issues. Yet, reclamation continued even without this hydrological imperative – and despite ongoing resistance based on grass harvesting. The driving factor was the accelerating cycle of changing environmental practices and new land claims. Farmers reclaimed individual plots in wetlands for cultivation as other wetlands became unavailable for communal use, following the proliferation of ownership claims based on reclamation.

British officials had overseen widening inequality in part because they overlooked the role of papyrus in class dynamics. The connection between reclamation and inequality deepened in the postcolonial era, after individuals and eventually the government began operating dairy farms with exotic cattle. According to Edel, in the 1930s "the cattle of the Chiga [Kiga, i.e., the

[107] At first, the government only pursued drainage of the highlands in Kigezi because the mountainous terrain there afforded easier drainage than did the lowlands of central and eastern Uganda (Grehan, *Annual Report of the Water Development Department 1959*, 4).
[108] Jack K. Edwards to Howell, 17 May 1960, UKNA, CO 822/2202/27.
[109] John Ntambirweki, "Colonial Treaties and Legal Regime of the Nile Valley: Rethinking the Legal Framework into the Twenty First Century, with Special Emphasis on Uganda's Interests," *Uganda Journal* 44, no. 2 (1996): 20.

majority in Kigezi] [we]re 'pre-Hamitic'; for most of them are short-horned, as befits the cattle of peasants."[110] In 1959, central government officials began a crossbreeding program using exotic cattle.[111] Officials in Ankole District (north of Kigezi) reported exotic cattle by 1965, and in Kiruruma South by 1969.[112] By 1972, in Kigezi there were over twenty Friesian, Guernsey, and other European cattle, plus dozens of crossbreed cows.[113] The interest of wealthier farmers in exotic cattle added a new impetus for reclamation, which offered a way to approximate foreign pasturing conditions.

Trying to reduce socioeconomic inequalities, Ugandan agricultural and hydrological officials promoted reclamation over grass harvesting. In 1963, a WDD engineer urged the Rubanda County Chief to redistribute a reclaimed section of Kiruruma North Swamp at Bubale. He wrote that,

> [i]t appears to me that these people with such large pieces of reclaimed swamp undeveloped, do not at all need land in the reclaimed swamp, but only took over these plots purely for the sake of owning land in the swamp. I am of the opinion that these persons only intended to <u>bar</u> other needy ones in the Gombolola, who would have definitely used these plots for cultivation [emphasis in original]. [...] The Government is spending a lot of money monthly for the maintenance of channels [...] In the case at mile 10, the channels are assisting in papyrus growth. The

[110] Edel, *The Chiga of Uganda*, 2.
[111] Herbert S. Kanabi Nsubuga, "Policy Issues in Uganda's Animal Industry: A Historical Perspective," *Uganda Journal* 45 (1999): 39-50.
[112] E.R. Kaahwa, "Ankole Kingdom Agriculture Department Annual Report 1965," 19 January 1966, KDA, Administration 72/2 iii/14: 3. C.T. Malinga to F.K. Kalimuzo, 1 July 1969, KDA, Lands 32/C-DEV 4-4/35: 3.
[113] Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," 89-90.

> Department's aim [...] is to control the water table to effect crop growth and not papyrus growth.

Rather than seeing papyrus growth as beneficial for "needy ones in the Gombolola," the engineer asserted that the area should "be re-allocated to needy and landless persons in the same area [emphasis in original]."[114] The chief replied that there was too much rain for wetland cultivation.[115] The following year, the chief suggested renting this stretch of reclaimed land to one of the district's largest landowners, S.F. Batuma, because the farmers nearby "refused to cultivate" it.[116] The Kigezi Land Board approved this immediately.[117] The District Commissioner wrote to the board, "I very much doubt the merits of the decision, as far as the interests of the public at large is concerned."[118] Later, Batuma's activities prompted a conflict with ordinary farmers – and later still, the rental of Bubale land to John Batuma impacted a government farm. Farmers elsewhere were also refusing to cultivate reclaimed wetlands.[119] British officials "forwarded" a range of explanations, from farming difficulties to a claim alleging a "peculiar flavour of sweet potatoes grown in swamps."[120] However, they sent policy-makers little information regarding the importance of papyrus.

Tensions emerged based on the contrast between, on one hand, wetland reclamation and ownership by wealthier farmers and, on the other, the needs of most farmers for grasses. In 1965,

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[114] F.X. Rugunda to Rubanda Saza Chief, 16 July 1963, KDA, Lands 4/DEV 4-5vii/63.
[115] Rubanda Saza Chief to Rugunda, 20 July 1963, KDA, Lands 4/DEV 4-5vii/64.
[116] Rubanda Saza Chief to Kigezi Land Board, 2 April 1964, KDA, Lands 4/DEV 4-5vii/98.
[117] Kigezi District Commissioner to Kigezi Land Board, 8 April 1964, KDA, Lands 26/LND 040/273.
[118] District Commissioner to Kigezi Land Board, 8 April 1964, KDA, Lands 26/LND 040/273.
[119] "Extract of Minutes of the Meeting of the Kigezi District Natural Resources Sub-Committee held on 6th January 1964," n.d., KDA, Lands 4/DEV 4-5vii/88. "Extract of Minutes of the Meeting of the Kigezi District Natural Resources Sub-Committee held on 3rd February 1964," n.d., KDA, Lands 4/DEV 4-5vii/89. Rubanda Saza Chief to The Members of the Swamp Committee, 28 February 1964, KDA, Lands 4/DEV 4-5vii/91. "Extract of Minutes of the Meeting of the Kigezi District Natural Resources Sub-Committee held on 2nd March 1964," n.d., KDA, Lands 4/DEV 4-5vii/92. Y. Kaduyu to Kigezi District Administration Administrative Secretary, 26 March 1964, KDA, Lands 4/DEV 4-5vii/93.
[120] A.P. MacPhie to Western Regional Agricultural Officer, 22 September 1966, KDA, Agriculture 8/AGR 006/62: 2.

when a few farmers moved to reclaim Kabalisa wetland in Ndorwa, the County Chief warned the Kamuganguzi Subcounty Chief that "this swamp can cause murder."[121] In 1966, approximately 400 people unexpectedly attended a meeting of the Rubanda County Swamp Committee at Bubale "to protest strongly against the dividing of this particular swamp to some individuals, with a demand that they wanted it to remain unattached and that they wanted it only for purposes of grass and papyrus," as opposed to monopolization by Batuma.[122] In 1969, the Kigezi District Secretary General wrote to the Permanent Secretary of the Ministry of Mineral and Water Resources to emphasize that "the people you met in the [District Council] hall [...] do not oppose the motion of draining swamps for the purpose of cultivating them on communal basis, but they oppose the system which had cropped up, where many people have applied for large swamp lands, especially the rich people," and that they wanted "areas set aside for other purposes as requested by majority" because "[i]f the idea of following individuals to drain swamps is accepted poor people will be the victims."[123] By 1969, top district officials in Kigezi were once again critiquing reclamation – but based on papyrus rather than agriculture, unlike the colonial District Commissioner.

Nonetheless, in 1969 the Bubale wetland became the locus of a conflict involving four farmers including Batuma who were fencing part of it.[124] Batuma wrote that the subcounty chief had "instigate[d] the people to fight [...] He told them 'All of you who are in this meeting you are my soldiers you must be on the alert. If you see anyone in the swamp area doing anything that is likely to lead to its development, do not hesitate to attack this person, tie him and bring him to me' [...] Soon after this statement, about 150 people attacked my employees, threatened them

[121] Ndorwa Saza Chief to Kamuganguzi Gombolola Chief, 14 October 1965, KDA, Lands 4/DEV 4-5vii/149.
[122] K. Kangye, "Minutes of the Swamp Committee held on 17/6/66," n.d., KDA, Lands 4/DEV 4-5vii/179.
[123] John W. Bitunguramye to the Ministry of Mineral & Water Resources Permanent Secretary, 22 March 1969, KDA, Agriculture 21/218iii/62.
[124] C.A.T. Biguti to Bubale Gombolola Chief, 2 May 1959, KDA, Lands 32/C-DEV 4-4/46.

and pushed them back from their work."[125] Summarizing the situation for the Permanent Secretary of the Cabinet of the President's Office, the District Commissioner wrote that following drainage,

> swamp land which was usually regarded as belonging to the community as a whole, became the property of the people who cleared the swamp. The clearing was done by a number of farmers in this area. Several others joined. The method used was for people to turn up in hundreds at night; clear the swamp as well as plant crops like sweet potatoes immediately. In a matter of a few days, the Bubale swamp, which had hitherto been bush became clear and planted with crops. This state of affairs produced a reaction from the people in and around the area who did not want to see the swamp go to the hands of individuals [...] I must hasten to say that the trouble has remained only confined to Bubale area. In the rest of the District there is the usual talk of land shortage, but there is no case for concern.[126]

Contrary to his assessment, reclamation spread and conflicts over wetland usage soon followed. By 1972, "it [wa]s not uncommon for a farmer to wake up in the morning and find that his plot had been cultivated during the night or in the early hours of the morning […] under the heavy cloak of mists."[127] The morning mists associated with wetlands provided cover for farmers practicing reclamation – only to recede as drainage expanded.

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[125] S.F. Batuma to Kigezi District Commissioner, 10 May 1969, KDA, Lands 32/C-DEV 4-4/49.
[126] Malinga to Kalimuzo, 1 July 1969, KDA, Lands 32/C-DEV 4-4/35: 2.
[127] Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," 159.

As individualized reclamation limited more farmers' access to grasses, conflicts over new land claims and changing environmental practices continued emerging. In 1971, the Assistant Agricultural Officer in-charge of Rubanda wrote to the Rubanda County Chief and Chairman of the Rubanda Swamp Committee that people were "snatching large acreages including neighbours fragmented plots," and that without intervention "bloodshed is going to result."[128] That year, the chief presided over the first meeting of the Kiruruma North Swamp Committee at which members lamented that, "some people were grabbing that Land and how their occupation had arose discontentedness and alarm among people. E.g. Two people or more fighting for one piece of Land. Well to do men taking huge pieces of Swamps thus exploiting and oppressing the poor man." The chief "concluded by reminding people that they should have learnt much from the swamps problems at Bubare [sic]. He went on to say that people in the area had no where to get local materials to build with" and said people must therefore reserve areas for grass harvesting.[129] Whereas in the colonial era chiefs' control of land distribution enabled them to use reclamation to bolster their waning authority (as Carswell shows), by 1969 they could do little to prevent wealthy farmers from expanding drainage.

Furthermore, by this point opposition by AO officials and the District Commissioner had declined. In 1965, the District Agricultural Officer wrote to the Regional Agricultural Officer insisting that, "practically all cultivation during the dry season is concentrated in these reclaimed swamps and there might have been real starvation in the southern counties of Kigezi this year if it were not for these swamps. It is therefore my feeling that swamp reclamation in Kigezi should

[128] Rubanda Assistant Agricultural Officer to Rubanda Saza Chief, 11 July 1971, KDA, Agriculture 21/218iii/86.
[129] "The First Swamp Meeting of North Kiruruma Held at Karukara on the 23rd. of June 1971," KDA, Lands 4/DEV 4-5vii/258: 1, 4.

be further developed under all costs and if possible at the expense of other developments."[130] Yet, in 1967, the regional officer wrote to the district officer that, "[i]t is now our opportunity to control these swamps agriculturally and it is here that we may introduce our ideas on Land consolidation principles," which were an emerging issue because population growth was leading to land fragmentation.[131] In 1968, the Acting District Commissioner asserted that, "[t]here are a lot of swamp areas which might not be owned by any individuals as reclaimation [sic] is often a problem and those areas could be spared for the necessary building materials."[132] The agricultural and executive positions which had earlier opposed reclamation now supported it.

Reclamation continued and the availability of papyrus decreased, further empowering wealthier men and changing practices in wetlands, particularly by women. In 1972, a geographer found that "reclaimed land is given according to the age and/or number of wives one has. The more wives one possesses the more acreage one is likely to get."[133] The new land claims associated with drainage afforded wealthier men individual ownership of land on which poorer people, often women, had farmed potatoes and harvested grasses. Reclamationists started farms in wetlands across Kigezi – including many small plots of potatoes, cultivated mainly by women, and a few large dairy pastures, tended mainly by men.

The dairy industry grew in the following years, as did tensions among farmers. In 1974, "People from Kasheregyenyi" in Kamuganguzi Subcounty wrote to the District Commissioner that,

> We the Common people are really sad and luckly [sic] fell due to fact that our swamp has been taken by very few rich people leaving

[130] Kigezi District Agricultural Officer to Western Regional Agricultural Officer, 5 October 1965, KDA, Lands 4/DEV 4-5vii/145.
[131] P.M. Sali to Kigezi District Agricultural Officer, 26 September 1967, KDA, Agriculture 21/218iii/23.
[132] T.L. Lolem to Kigezi District Surveyor, 1 November 1968, KDA, Lands 4/DEV 4-5vii/219.
[133] Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," 84.

> completely nothing for your poor subjects. Just recently, it has been a common field for every one, and now it has been converted into a grazing area for very few rich men. [...] We the non cattle owners are not in any need of having or being in possession of the whole swamp, but what we want If possible, is to share this swamp with our fellow natives – the cattle-Keepers So that each group gets at least a part and makre [sic] use of it. [...] these cattle reares asuring [sic] you have done a lot for their homes. For example, they have already loofed their homes houses [sic] with iron sheets, are no longer using our local materials. In fact what you find in their houses are these english materials E.G. plates cups, etc.[134]

Conflicts emerged regarding reclamation not simply between people with different amounts of land, but also between, on one hand, farmers with large herds of cattle in reclaimed wetlands who had homes with "english materials" and roofed with iron, and on the other, farmers who had homes and utensils made of grasses from the wetlands which had not yet been drained. Reclamation pressured the latter group to source household materials differently because building houses became harder for men without enough money for iron, and women faced greater difficulties furnishing handicrafts and cooking fuel.

Even the government had difficulty accessing reclaimed wetlands because of dairy farming. In 1974 the out-going Horticultural Officer for South Kigezi provided a handing-over report to his replacement, noting that they had an eight-hectare demonstration farm in Bubale – five of which had been "given on loan to Mr. John Batuma a business man who is using it for

[134] People from Kasheregyenyi to South Kigezi District Commissioner, 25 May 1974, KDA, Agriculture 21/218iii/95.

grazing of his milking stock. In the past some effort has been made to secure the 13 acres [5ha] back for the Departmental use but all has been in vain."[135] Through reclamation wealthy farmers had gained enough power to act not only against local chiefs, but also the district government.

Localized conflicts underpinned concerns about reclamation, while high-ranking officials continued promoting productivity policies by lauding the benefits of drainage for household accumulation. This promotion peaked in President Idi Amin's "Double Production" campaign, begun in 1972, through which the area of drained wetlands expanded considerably. In 1974 – the same year that people of Kasheregyenyi wrote to their District Commissioner about inequalities in household accumulation – the Southern Provincial Governor addressed another group of people in Kiruruma South Swamp at the official opening of a three-bed-roomed house built by the people for their parish chief" through reclamation. The government newspaper made his address front-page news. It did not note the materials from which the house was constructed, nor those from which the utensils inside would likely be made.[136] Regardless, officials continued to value agricultural productivity over the production of buildings and handicrafts with grasses.

Furthermore, reclamation had become integral to many people's livelihoods outside the dairy industry. Facing worsening land shortages, farmers who had been unable to afford reclaiming large areas began draining small plots to grow vegetables – particularly potatoes. They grew potatoes as food crops during dry periods and as cash crops to pay school fees and taxes. Sometimes these practices overlapped. By 1972, "it [wa]s not uncommon to see a school child carrying [potatoes] to a teacher's house as he comes to school."[137] With declining access to land and growing needs for cash, farmers across Kigezi expanded reclamation.

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[135] M.M. Odedo to J.N. Banyendera, 6 September 1974, KDA, Agriculture 63/Mary M Odedo Personal File/unnumbered folio: 3.
[136] "Clear Swampy Areas – Bashir," *Voice of Uganda*, 6 May 1974: 1.
[137] Kagambirwe, "Causes and Consequences of Land Shortage in Kigezi," 87.

In the 1980s, people began noticing climatological changes including rising temperatures and declining mists. Whereas the mists had provided cover for people draining wetlands without permission, their decline indicated the extent of the changes associated with reclamation. In 1986, the Kabale District Executive Secretary wrote to all chiefs that, "[y]ou are all aware of the changes in weather/climate we are now experiencing as a result of having drained most of the existing swamps" and that, "in early 1984 the Uganda Land Commission put a ban on drainage of rural wetlands in Kabale District in order to restore the ecological balance."[138] And in 1986, shortly after forming government following their overthrow of Milton Obote's second administration, the National Resistance Movement banned large-scale drainage across Uganda.

Conclusion: Rethinking and Removing Papyrus

Despite the importance of grass harvesting to Kigezi farmers, some officials in early colonial Kigezi supported wetland drainage. Calls for drainage grew after hydrologists informed district officials that reclamation would increase the amount of irrigation water available. The supposed increase in available water was because the international negotiations following the Owen Falls Dam led to the establishment of a norm throughout the basin incentivizing the removal of papyrus. This new imperative redirected the work of the HSD which, for the first few years of its existence, had produced hydrological data about the "Upper Nile" and about wetlands in Kigezi for different purposes. By 1953, with the realization amongst colonial officials in East Africa that reclamation would yield claims to irrigation water, the distinction between the two aims faded. The early mandate of the HSD/WDD had limited their reclamation work to advising various councils on local proposals for projects, but the department became explicitly interventionist after Nile management incentivized reclamation. The Kigezi AO maintained a critique of

[138] S.K. Katehangwa to all County and Sub-county Chiefs, 26 August 1986, KDA, Lands 4/DEV 4-5vii/317.

reclamation from the 1940s-1960s, but HSD/WDD officials used the opportunities generated through the international governance of the Nile Basin to gain influence in the policy debate.

However, reclamation did not simply unfold according to policy. Initially, some farmers implemented it based on their ability to invest in reclaiming large areas of land for their own use – and at Mwalo wetland, because of a common need there for land. Others opposed reclamation based on the limitations it would impose on their access to wetlands for grass harvesting and other uses. As a result, public agreements were difficult to create while private investments were difficult to limit, and unofficial cultivation soon surpassed official schemes. For example, in 1959 officials installed 900 metres of drainage channeling "in the teeth" of objections while one farmer installed channels across 23 hectares. Reclamation began as a colonial effort to increase food production in southwestern Uganda and to allow the government to apportion water for irrigation projects from the Nile under the 1929 Anglo-Egyptian agreement. Despite the end of this agreement, early postcolonial governments continued the policy of extending drainage to increase food production. In the 1960s-70s, wealthier farmers' investments in dairying via reclamation and claims to ownership over wetlands generated conflicts with poorer farmers who had practiced drought cultivation and grass harvesting there.

Environmental and socioeconomic issues prompted policy changes in the 1980s, and the schism between officials regarding reclamation re-opened. It also reversed, with agricultural officials promoting drainage and the officials tasked with water resources opposing it. Hydrological researchers conducted experiments with papyrus – but as reclamation critics rather than advocates, highlighting the growth rate of the plant. This was partly because the identities and mandates of the officials who critiqued reclamation had changed from the colonial era: rather than being British men representing the AO and Ugandan men on local councils, they

were Ugandan men and women representing the Ministry of Environment Protection. However, contrary to the 1986 ban, many people continued drainage in Kigezi and across Uganda. In 1996, Carswell and other researchers found that all major wetlands in Kigezi were reclaimed.[139] Debates about papyrus proliferated yet transformed, as Ugandan wetland officials emphasized its values not only for handicrafts but also in bird reproduction and water purification. Changes in officials' ideas about papyrus became integral to the creation of the policy for wetland conservation.

[139] Kim A. Lindblade, Grace Carswell, and Joy K. Tumuhairwe, "Mitigating the Relationship between Population Growth and Land Degradation: Land-Use Change and Farm Management in Southwestern Uganda," *Ambio* 27, no. 7 (1998): 567.

Chapter 2 –

Making "Bungereza" in Former "Bukedi": Landscape, Languages, and Markets in Southeastern Uganda, 1880s to 2000s

As farmers in Bunyole County in southeastern Uganda expanded rice production in the 1980s, centered around the village of Doho, there emerged "a slogan calling the village 'Bungereza' meaning England" because of the "[b]icycles, clothes and other domestic utensiles [sic]" farmers were buying.[1] Farmers ate some rice but primarily grew it to sell, and because unlike most crops it is cultivable in wetlands, which cover much of the region. The village was the locus of Doho Rice Scheme (DRS), a demonstration farm manifesting an agreement between the governments of Uganda and the People's Republic of China (PRC) to popularize rice production. The new place-name reflected Bunyole's colonial history including rice projects that began in the 1910s – which followed decades of farmers experimenting with rice introduced by Ganda, Indian, Swahili, and other traders. The name did not denote the international relationships associated with the precolonial introduction of rice, nor the postcolonial demonstration farm. This discrepancy reflected farmers' interest in rice as a cash crop, and the role of colonialism in the histories of certain imports such as bicycles. Yet, it also hinted at tensions in farmers' experiences with traders and PRC officials. These interactions contrasted with the indirect roles that British officials had in rice farming. The creation of Bungereza in southeastern Uganda attested to farmers' historical negotiations of their relationships with traders and officials from various countries, as well as their work adapting rice production to wetlands there.

[1] "Annual Meeting Held Between Chinese Experts and Established Staff of Doho Rice Scheme on 22nd Dec. 1983," Doho Irrigation Farmers Cooperative Society Limited Archive (DIFACOS), DRS/9, folio 42: 4.

Demonstration farms incorporated centralizing and decentralizing changes in wetland usage. They manifested the central government's investment in wetland rice production to limit expenditures on one of Uganda's main imports, yet also represented officials' dependence upon small-scale farmers to expand production throughout the region. Farmers were key informants when Chinese and Ugandan officials surveyed the country to find a place for a demonstration farm – and asked officials to sponsor a second. The creation and operation of these farms depended on farmers, who for decades had experimented with rice varietals (considering multiple factors such as yield per acre, price, taste, milling qualities, susceptibility to diseases and pests, and second-season cropping potential) in different environments, from hilltops to wetlands. Furthermore, the expansion of rice production into wetland interiors required constructing irrigation canals using manual labour whereas the government projects used mechanized labour. This chapter examines changes in the landscape, languages, and markets of southeastern Uganda to analyze the history of knowledge about rice farming there. It argues that farmers expanded rice production across southeastern Uganda through adaptation and experimentation, which became crucial to the creation and operation of demonstration farms in the region. Except for additional pressures during World War II (WWII) and President Idi Amin's Double Production campaign in the early 1970s, wetland rice spread outside demonstration farms based more on farmers' agricultural experimentation and economic decision-making than on actions by the central government.

This chapter contributes to the historiography of international exchanges of environmental knowledge, particularly through demonstration farms. Much of this literature analyzes demonstration farms as unidirectional disseminators of agricultural knowledge and

cultural norms, particularly among Anglophone settlers.[2] Scholarship about Chinese projects abroad focuses on labour and changing political thinking, but not environmental thinking.[3] While James Lin shows how Republic of China (ROC) officials in Vietnam experimented with local rice varietals, it is unclear how farmers engaged with these varietals.[4] Jennifer Bess reveals that demonstration farming in the United States depended upon indigenous farmers as "a knowledgeable and flexible labor force" – and that cotton production led to farmers' socioeconomic exploitation as well as a decline in their other forms of agricultural knowledge.[5] This chapter builds on their findings by analyzing environmental adaptation and experimentation, showing that officials depended on farmers for knowledge and seeds to create and operate demonstration farms while farmers adapted techniques from demonstration farms to rethink wetland usage.

Much scholarship about international exchanges of knowledge uses a binary framework that identifies claims to locally valid knowledge expressed in local languages, often labeled "tradition," and claims to globally valid knowledge expressed in outside languages, often labeled "science." Analyses that blur this binary do so by identifying "negotiated" development, indigenous and "vernacular" sciences, national sciences, or intermediaries (including individuals,

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[2] Fiona Helen Cruickshank, "Demonstration Farms" (diploma diss., University of Canterbury, 1985). Harold T. Pinkett, "The Soil Conservation Service and Farm Woodland Management, 1938-1945," *Agricultural History* 59, no. 2 (1985): 280-289. Jack Stoltz, "The Porter Demonstration Farm," *East Texas Historical Journal* 30, no. 1 (1992): 16-21. Terry S. Reynolds, "'Quite an Experiment': A Mining Company's Attempt to Promote Agriculture on Michigan's Upper Peninsula, 1895-1915," *Agricultural History* 80, no. 1 (2006): 64-98. L. James Dempsey, "The CPR Demonstration and Supply Farm: 1908-1944," *Alberta History* 59, no. 4 (2011): 19-26.
[3] Deborah Brautigam, *Chinese Aid and African Development: Exporting Green Revolution* (New York, NY: St. Martin's Press, 1998). Philip Liu Hsiao-pong, "Planting Rice on the Roof of the UN Building: Analysing Taiwan's 'Chinese' Techniques in Africa, 1961-Present," *China Quarterly* 198, no. 2 (2009): 381-400.
[4] James Lin, "Martyrs of Development: Taiwanese Agrarian Development and the Republic of Vietnam, 1959-1975," *Cross-Currents: East Asian History and Culture Review* 33, no. 1 (2019): 61-66.
[5] Jennifer Bess, "The New Egypt, Pima Cotton, and the Role of Native Wage Labour on the Cooperative Testing and Demonstration Farm, Sacaton, Arizona, 1907-1917," *Agricultural History* 88, no. 4 (2014): 498-500, 509. Idem., "The Price of Pima Cotton: The Cooperative Testing and Demonstration Farm at Sacaton, Arizona, and the Decline of the Pima Agricultural Economy, 1907-1920," *Western Historical Quarterly* 46, no. 2 (2015): 171-189.

as well as countries acting as conduits between other countries).[6] In contrast, finding that demonstration farms in southeastern Uganda depended on farmers there having already experimented with wetland rice reveals that the science demonstrated at these sites incorporated knowledge from farmers in the region through a series of translations.

Focusing on environmental knowledge builds on research by anthropologists analyzing the gendered and socioeconomic tensions of rice farming in Bunyole. These include Michael and Susan Whyte (fieldwork in 1969-71, 1978, and intermittently in 1987-1993), and their student David Kyaddondo (fieldwork 2001-2002). They find that rice farming became a point of conflict as: food production (women's work) and cash acquisition (men's work) overlapped; rice displaced other foods, although claims by officials in nearby districts about rates of starvation being higher in Bunyole were unfounded; women gained land; children gained money; and socioeconomic inequalities widened because of the costs of controlling labour and a rice plot.[7] Yet, these scholars give little attention to environmental knowledge, attributing intellectual

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[6] Monica M. van Beusekom, *Negotiating Development: African Farmers and Colonial Experts at the Office du Niger, 1920-1960* (Portsmouth, NH: Heinemann, 2002). Helen Tilley, "Global Histories, Vernacular Science, and African Genealogies: Or, Is the History of Science Ready for the World?," *Isis* 101, no. 1 (2010): 110-119. Abena Dove Osseo-Asare, *Bitter Roots: The Search for Healing Plants in Africa* (Chicago, IL: University of Chicago Press, 2014). Marisol de la Cadena, *Earth Beings: Ecologies of Practice Across Andean Worlds* (Durham, NC: Duke University Press, 2015). Anna Lowenhaupt Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton, NJ: Princeton University Press, 2015), 217-225. Nancy Jacobs, *Birders of Africa: History of a Network* (New Haven, CT: Yale University Press, 2016). Mavhunga, ed., *What Do Science, Technology, and Innovation Mean from Africa?* (Cambridge, MA: MIT Press, 2017). Yulia Frumer, "Translating Words, Building Worlds: Meteorology in Japanese, Dutch, and Chinese," *Isis* 109, no. 2 (2018): 326-332.

[7] M. Whyte, "The Process of Survival in South-Eastern Uganda," in *Adaptive Strategies in African Arid Lands*, edited by M. Bovin and L. Manger, 121-145 (Uppsala, Sweden: The Scandinavian Institute of African Studies, 1990). M. Whyte, "We have no cash crops any more: Agriculture as a Cultural System, 1969-1987," in *The Creative Communion – African Folk Models of Fertility and Regeneration of Life*, edited by A. Jacobson-Widding and W. van Beek, 307-322 (Uppsala, Sweden: Uppsala Studies in Critical Anthropology, 1990). Susan Reynolds Whyte and Michael A. Whyte, "The Values of Development: Conceiving Growth and Progress in Bunyole," in *Developing Uganda*, edited by Holger Bernt Hansen and Michael Twaddle, 227-244 (Oxford, UK: James Currey, 1998). David Kyaddondo, "'Rice is a Jealous Crop': Subsistence, Markets and Morality in a Changing Economy in Eastern Uganda" (PhD diss., University of Copenhagen, 2004). M.A. Whyte and D. Kyaddondo, "'We are not Eating Our Own Food Here': Food Security and the Cash Economy in Eastern Uganda," *Land Degradation and Development* 17, no. 2 (2006): 173-182. David Kyaddondo, "Respect and Autonomy: Children's Money in Eastern Uganda," in *Generations in Africa: Connections and Conflicts*, eds. Erdmute Albert, Sjaak van der Geest, and Susan Reynolds Whyte, 27-46 (Berlin, Germany: Lit Verlag, 2008).

changes at DRS to PRC officials.[8] Whyte argues that because farming is "more than […] environmental adaptation," scholars should not "concentrate too much on […] the local knowledge of local agriculturalists." He asserts that in 1990, "Banyole [were] not better farmers than they were fifteen or twenty years [prior] – nor ha[d] they acquired more local knowledge."[9] Taking a longer perspective shows that farmers expanded rice production not by gaining local knowledge, but by using it to test varietals in different places and to develop drainage techniques. Changes in knowledge about wetlands came at least as much from farmers as officials.

In addition to adaptation and experimentation, farmers learned to grow rice through exchanges of knowledge with waves of outsiders. These included Arab, Ganda, Indian, and Swahili traders and agricultural instructors, African and British Agricultural Officers, and Chinese technical officials. Their relationships linked local and global changes through translations between a range of languages including: Lunyole, used in Bunyole/Bunyuli; Lusoga, the language of Busoga; Luganda, understood by Bantu-language speakers throughout Uganda; Kiswahili, used across East Africa; and Chinese and English, prevalent globally (see Figure 2.1). Additionally, the workers who made Kibimba Rice Scheme (KRS) – the first Ugandan-Chinese project – created "Kibimba Language" by combining aspects of the above to speak without interpreters. Historicizing place-names, rice farming terminology, and translations of knowledge in relation to environmental change reveals the power dynamics that marked rice farming in colonial and independent Uganda.

This first section of the chapter examines colonialism and cash cropping. It considers the institutionalization of the derisive place-name "Bukedi," the creation of terminologies for rice, as

[8] Whyte, "The Process of Survival in South-Eastern Uganda," 125.
[9] Ibid., 122, 139-140.

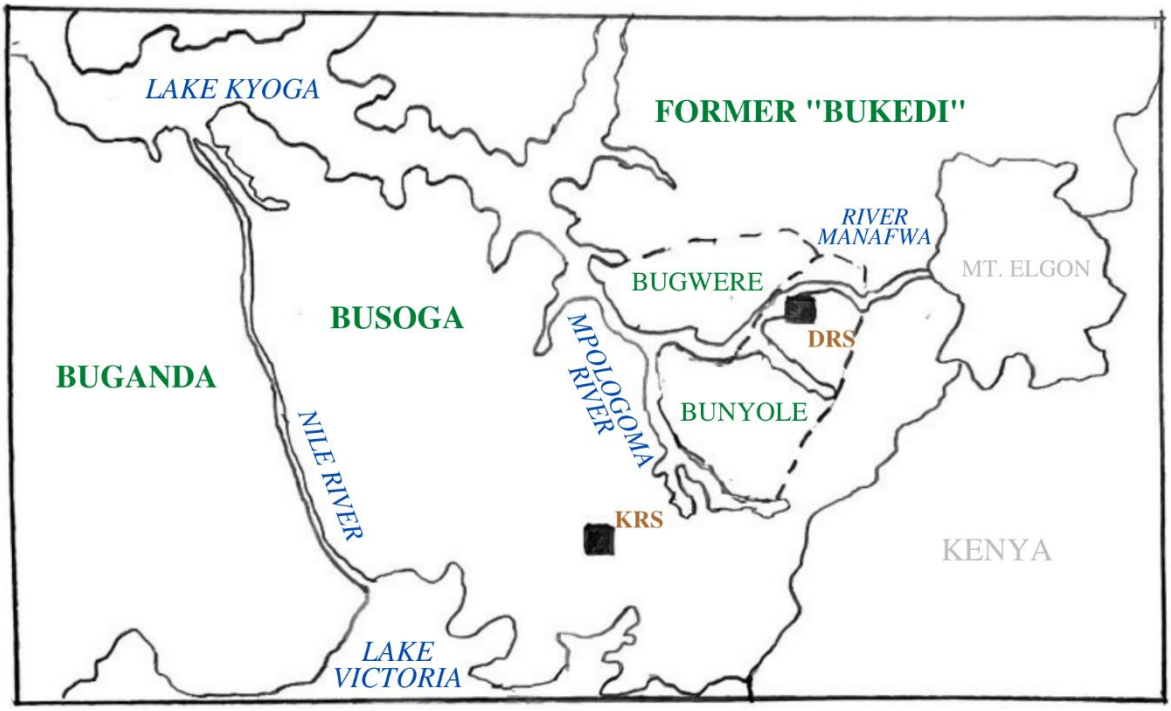

Figure 2.1: Map of southeastern Uganda *(by author)*.

well as changes in farmers' approaches to hills and wetlands through experimentation with rice varietals and adaptation of techniques shown at demonstration farms. Farmers modulated rice production based on ecological and economic changes (see Figure 2.2), totaling about 1,300 tons of rice in 1924, 4,000-5,000 in 1943, and over 4,000 again in 1971. Nonetheless, in 1973, the government identified rice and wheat as the main targets for import substitution policies.[10] In 1986, they remained so, despite the start of the two Ugandan-Chinese farms, KRS and DRS – the topics of the second and third sections of the chapter.[11] Unlike the British, who facilitated cultivation along wetland edges, PRC officials brought knowledge regarding "swamp reclamation": using channels to drain wetland interiors. In 1967, work began on the 728-hectare KRS, based on officials' translations of farmers' knowledge and their use of the varietals that

[10] "Oral Evidence by the Produce Marketing Board," 22 November 1973, Uganda National Archives (UNA), President's Office – Confidential Collection, 82/004/1: 8.
[11] Minister of Agriculture and Forestry, "Policies and Strategies for Agricultural and Forestry Development," 25 March 1986, Kabale District Archives, Agriculture 63/231/18.

farmers had developed. Meanwhile, farmers and officials started construction on the 1,012-hectare DRS in 1975, leading to tensions regarding channels and instances of translation. Subsequently, farmers expanded rice into the interiors of nearby wetlands, covering almost 75% of the wetland area in the region by 2000.[12] Yet, rice remained Uganda's third-leading import.[13] Colonialists institutionalized cash cropping in "Bukedi" – and when farmers in postcolonial Bunyole called the Doho area "Bungereza," they recast its position in global markets based on the knowledge they had developed through adaptation and experimentation in rice production.

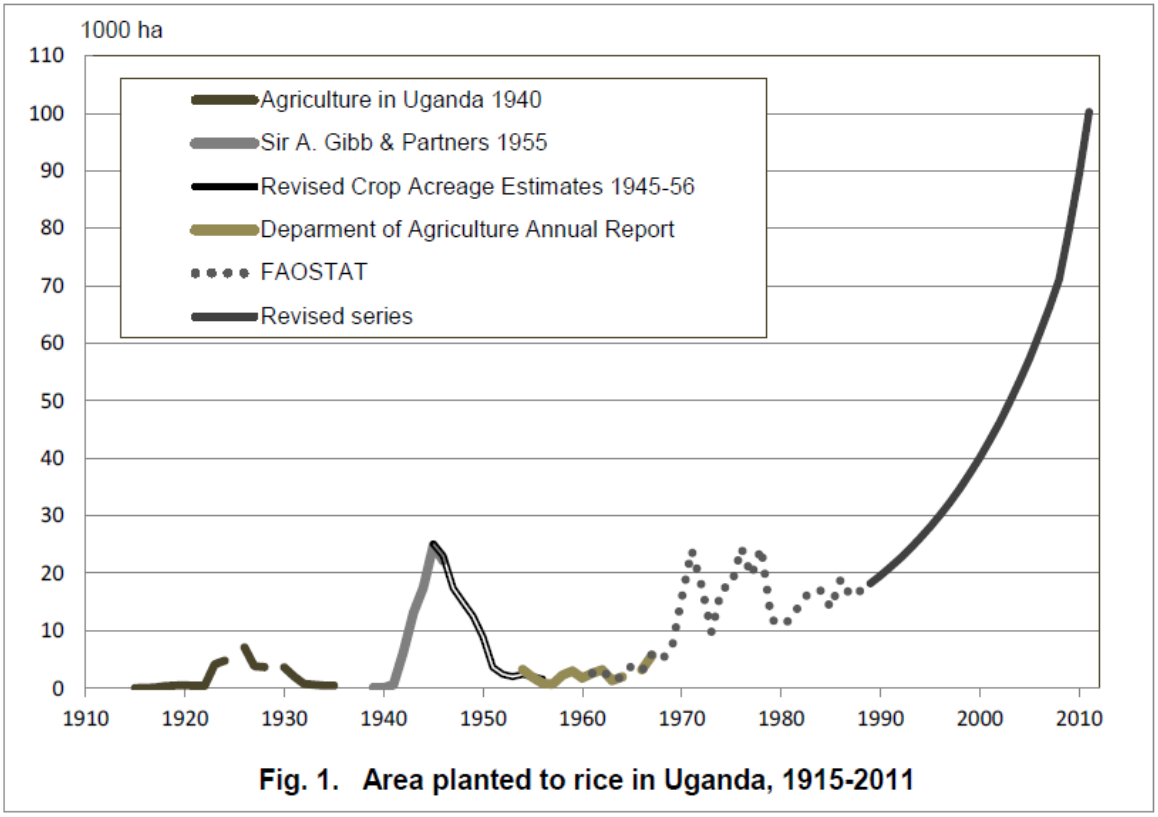

Figure 2.2: Rice hectarage *(Kikuchi et al, "Seven Questions on the History of Rice Cultivation in Uganda," 21).*[14]

[12] Harriet Arinaitwe, Derek Pomeroy, and Herbert Tushabe, eds., *The State of Uganda's Biodiversity 2000* (Kampala, Uganda: Makerere University Institute of Environment and Natural Resources, 2000), 20-21, 42. Masao Kikuchi et al, "Seven Questions on the History of Rice Cultivation in Uganda: A Brief Note" (unpublished, NaCRRI-JICA PRiDe Project, 2013), 21.
[13] Joshua Kato, "Upland Rice Farmers' Prize," *New Vision*, 10 November 2004: 28.
[14] Rice farming was almost entirely in the southeast from 1917 until the nation-wide promotion of upland rice on hilltops starting in the early 1990s. Most of the increase since the 1990s has been on hills, although rice continued

Cash Cropping and Colonialism, 1880s to 1962

Rice farming for currency preceded colonial rule in the region, although the colonialists quickly came to depend on rice cash cropping to institute their rule. Shortly after the introduction of rice via trade between the East African coast and interior, colonial officials promoted cash cropping based on farmers' adaptation of upland rice varietals to hills and wetland edges in southeastern Uganda. In 1894, the British formally established the Uganda Protectorate, centered on Buganda, and began annexing the surrounding lands through Ganda proxies. Through this system, colonial officials extended precolonial stereotyping against people in southeastern Uganda. Both rice farming and early colonialism expanded in connection with Kiswahili – and although later the language of "subordinate administration" under the British became Luganda, farmers continued using Kiswahili-loaned terminology for rice. Production boomed during the 1920s and WWII, but even by the late colonial era officials were still learning basic knowledge about rice farming. Instead, the spread of rice across southeastern Uganda depended on farmers experimenting with production in different environments using varietals such as Bungalla, Senna, and Sindano.

Southeastern Uganda in the Colonial Hierarchy

Colonial rule in southeastern Uganda started at the turn of the twentieth century under military administrators from the Kingdom of Buganda, which in the late nineteenth century had become central Uganda. Prior to colonialism, Buganda established regional influence through raids including in the area that is now southeastern Uganda. This area includes Busoga, comprised of

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expanding in wetlands in the southeast. In 2009, the region had over 40% of Ugandan rice hectarage – more than any other region (Masao Kikuchi et al, "A Brief Appraisal of Rice Production Statistics in Uganda," *Tropical Agricultural Development* 58, no. 2 (2009): 82).

Also, note that the representation by this graph of the years before 1935 does not always align with archival records. For example, the 1925 *Annual Report of the Department of Agriculture* counted over 16,100 hectares of rice in Uganda, including over 15,700 in the southeast (Entebbe, Uganda: Government Printer, 1926), 36. Regardless, the trend aligns with the global crash in commodity prices in 1929 and the local resurgence of locusts from 1930-33.

small states populated mainly by Soga people speaking dialects of Lusoga (the Soga language), as well as the ethnic borderlands further east. The borderlands included small-scale communities as well as small states such as Bunyole (or Bunyuli). By the nineteenth century, Ganda people derively referred to the borderlands as *Bukedi*, meaning "Place of Naked People."[15] Under British rule through "Ganda agents," these areas became Busoga District and Bukedi District, including Bunyole County in the latter.[16] British officials depended on Ganda proxies to expand colonial rule over Busoga and the lands further east.

The British dependency on Ganda agents facilitated the entrenchment of precolonial stereotyping about people from these areas. Before colonialism, relationships between Ganda and Soga people were often defined by raiding, as people enslaved by the Ganda "appear to have come mostly from Bunyoro and Busoga […] although it is possible that the Ganda indiscriminately described their slaves as Nyoro or Soga." Ganda armies also raided in the ethnic borderlands east of Busoga, which they called "Bukedi."[17] Because the British knew little about the landscape and even less about the languages spoken there, they instituted a hierarchy empowering the Ganda proxies who facilitated colonialism at the expense of the peoples of the region.

To justify colonial rule in Busoga, British stereotyping focused on farming and intelligence. In 1908, shortly after a famine, one official claimed that previously Busoga "was the garden of the Protectorate, and the people were industrious, if stupid." He identified the cause of the famine not as agricultural changes under colonialism, but farmers having become "improvident" – and asserted that "the manner of refunding the cost of the famine to the

[15] Richard Reid, *Political Power in Pre-Colonial Buganda: Economy, Society & Warfare in the Nineteenth Century* (Oxford, UK: James Currey, 2002), 194.
[16] Michael Twaddle, *Kakungulu & the Creation of Uganda 1868-1928* (London, UK: James Currey, 1993).
[17] Reid, *Political Power in Pre-Colonial Buganda*, 117, 194, 201, 244.

Government is of the most vital importance. […] a Famine Tax should be imposed upon them within the next few months."[18] In the late colonial era, as officials failed to meet government objectives for large-scale developmentalism, they reproduced this stereotyping.[19] A central agricultural official wrote that they are "slow[er] than many agriculturalists," making farm planning a "dead duck" in Busoga.[20] An Eastern Province Agricultural Officer called farmers there "a lazy lot."[21] Yet, he had recently recorded farmers in Busoga expanding rice cultivation by thousands of hectares within one year.[22] (Afterwards, as rice prices fell, farmers ceased most of this production and shifted their labour.) Because of officials' interests in justifying the limitations of their interventions, as well as the creation of taxes, they were slower to read the landscape than farmers were to expand rice production.

East of Busoga, precolonial stereotyping manifested in the demonyms "Mukedi" and "Bakedi," and the toponym "Bukedi." The British reproduced these categories even though people there "do not like to be called Bakedi [… e.g.,] the people in Bunyuli County call themselves *Banyuli*," today spelled Bunyole and Banyole, respectively. As a result of their opposition, "[t]he name Mukedi [wa]s dying out in the Eastern Province" by 1955.[23] Nonetheless, colonial and postcolonial officials kept Bukedi District as an administrative unit for most of the time between the start of British rule until 1991, with its decentralization into multiple smaller districts. Explaining the British employ of Ganda proxies there, one official

[18] G. Wilson to H.H. Bell, 16 September 1908, UNA, President's Office – Confidential Collection, 41/003/7/enclosure 1: 11.
[19] South Busoga District Officer in-charge of Resettlement, "A Summary of Development to Date," August 1958, UNA, Jinja District Archives (JDA), Agriculture 59/1/11/enclosure: 7.
[20] Agricultural Officer to the Senior Agronomist of Kawanda Research Station, 9 January 1958, UNA-JDA, Agriculture 28/9/141.
[21] T.R. Hayes to Bukedi, Busoga, and Teso District Agricultural Officers, 4 March 1946, UNA-JDA, Agriculture 27/22/160A.
[22] Hayes to all Busoga County Chiefs, 22 October 1943, UNA-JDA, Agriculture 20/16/59.
[23] B.M. Kagolo, "Tribal Names and Customs in Teso District," *Uganda Journal* 19, no. 1 (1955): 41.

wrote that, "just as Baganda prosperity is the best object lesson we can give to the Bakedi at large, so I believe is the employment of some of the better Baganda as agents the best means we can at present adopt to excite among Bakedi chiefs a desire for better things […] by co-operation with the Government," reported an early tax official.[24] The colonial government expanded east of Busoga by associating itself with the wealth of Buganda and entrenching the precolonial stereotyping that marked regional relationships.

However, farmers in Bunyole eventually rejected the prosperity that chiefs were obtaining through their role in colonialism amidst ongoing poverty. In 1960, decades after the appointment of Banyole chiefs and ultimately two years before independence, people gathered across Bunyole to protest taxation. They damaged or destroyed fifteen local government headquarters and 1,121 homesteads, primarily chiefs' – plus two cars owned by chiefs (at least one chief had a Mercedes-Benz in 1964).[25] Car ownership generated anger in a place where, for many residents, bicycle ownership was aspirational.[26] Farmers east of Busoga opposed outsiders' stereotyping and chiefs' exceptional levels of accumulation, but pursued cash cropping to gain access to the global markets that traders and officials afforded. British rule in southeastern Uganda depended ideologically and practically on the prosperity of Ganda agents – and ended after farmers attacked manifestations of the inequalities that colonialism continued perpetuating even after the appointment of chiefs from the region.

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[24] A.H. Watson to Central Province Acting Subcollector, 14 November 1904, UNA, Secretariat Minute Papers, A10/4/34: 4.

[25] *Report of Commission of Inquiry into Disturbances in the Eastern Province* (Entebbe, Uganda: Government Printer, 1960), 4, 72-73, Appendix 2:2. Michael Twaddle, "Politics in Bukedi, 1900-1939: An Historical Study of Administrative Change among the Segmentary Peoples of Eastern Uganda under the Impact of British Colonial Rule" (PhD diss., University of London, 1967), 276.

[26] In 1970, anthropologists counted 0.6 bicycles per homestead (Whyte and Whyte, "The Values of Development," 236).

The establishment of colonialism had also depended on Ganda agents because of the language barriers that the British faced in southeastern Uganda before instituting Luganda as a medium of rule. Before colonialism, people in the region speaking with Baganda did not necessarily use Luganda. Despite Ganda raiding, there was trade between them. According to a 1901 missionary publication, east of Busoga this trade was often conducted in Lumogera (the language of people from Ogera, at the eastern end of Lake Kyoga) 'which many of the Baganda learnt in the old days'. As Ganda agents brought the region under colonial rule, they enlisted some local youths to 'live with them and learn [Luganda] […] But all the rest of the people are left untaught'.[27] Nonetheless, by 1907/08 the ability to speak Luganda was widespread in Bukedi District: a regional officer wrote that "the natives of all tribes are taking to it rapidly, so much so in fact, that at present one has no difficulty in obtaining reliable interpreters."[28] In Busoga, Luganda had "already become effectively the language of subordinate administration" by 1906.[29] In some parts of Uganda, the use of Kiswahili was equal to or greater than the use of Luganda in communications between African and British people – but in 1912, "Luganda was made the obligatory language for all officials" throughout the territory. This was due not only to its administrative utility, but to also the association of Kiswahili with Islam.[30] Yet, by that point, farmers had already loaned Kiswahili terminology for rice in Luganda, Lunyole, and Lusoga.

The Introductions of Rice

Rice farming in the region began as part of the nineteenth-century large-scale expansion of trade between the East African coast and interior. According to historian Erik Gilbert, rice farming in

[27] John M. Gray, "Kakunguru in Bukedi," *Uganda Journal* 27 (1963): 41.
[28] Hornsby, "Annual Report Bukedi District 1907-08," UNA-SMP, A44/197/1: 2.
[29] Twaddle, *Kakungulu and the Creation of Uganda 1868-1928* (London, UK: James Currey, 1993), 226.
[30] Pawliková-Vilhanová, "White Fathers, Islam and Kiswahili in Nineteenth-Century Uganda," 166.

this context was limited to traders who discussed it mainly in Kiswahili.[31] In 1862, the first European explorer in the region that is now southeastern Uganda did not note its existence there.[32] In Buganda, British explorers and missionaries reported that Arab traders had brought rice to the kingdom since their arrival circa 1844. By 1875 it was 'common enough' there, in the words of an explorer – although "production […] was still in the hands of the traders and the Ganda remained untutored in [its] cultivation."[33] For traders in East Africa, "rice, like Islam […] evoked worldliness."[34] (By this time, traders on the East African coast were importing millions of pounds annually from India, Madagascar, and numerous island ports.[35]) These accounts must be considered in view of the fact that distinctions between Arab, Indian, and Swahili people in the nineteenth-century East African interior were "fuzzy."[36] Furthermore, British observers in this context, including in southeastern Uganda, were sometimes unable to distinguish between Arab, Indian, and Swahili people.[37] Regardless of outsiders' identities, in 1870s Buganda communications with them were in Kiswahili 'and sometimes Arabic'.[38] As they moved inland, they relied on their knowledge of farming and Kiswahili to meet their demand for it.

Kiswahili became instrumental in the introduction of rice and the expansion of colonialism. Kiswahili terminology for rice at successive stages of production (*mpunga*, then *mchele*, then *wali*) became the basis of terminology in Bantu languages across Eastern and

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[31] Erik Gilbert, "Rice, Civilisation and the Swahili Towns: Anti-Commodity and Anti-State?," in *Local Subversions of Colonial Cultures: Commodities and Anti-Commodities in Global History*, eds. Sandip Hazareesingh and Harro Maat (New York, NY: Palgrave Macmillan, 2016), 180-183.
[32] John Hanning Speke, *Journal of the Discovery of the Source of the Nile* (London, UK: Blackwood and Sons, 1863).
[33] Reid, *Political Power in Pre-Colonial Buganda*, 28.
[34] Gilbert, "Rice, Civilisation and the Swahili Towns," 180.
[35] Edward Alpers, *East Africa and the Indian Ocean* (Princeton, NJ: Markus Wiener, 2009), 31.
[36] Gilbert, "Rice, Civilisation and the Swahili Towns," 180.
[37] Michael Twaddle, "East African Asians through a Hundred Years," in *South Asians Overseas: Migration and Ethnicity*, edited by Colin Clarke, Ceri Peach, and Steven Vertovec, 149-163 (Cambridge, UK: Cambridge University Press, 1990): 153.
[38] Abdu B.K. Kasozi, *The Spread of Islam in Uganda, 1844-1945* (Nairobi, Kenya: Oxford University Press, 1985), cited in Michael Twaddle, "Some Implications of Literacy in Uganda," *History in Africa* 38 (2011): 229.

Southern Africa such as Luganda, Lunyole, and Lusoga (including *omupunga*, *omucele/omutyere/omutyele*, and *obwali*). These terms correspond to what English-language sources call unprocessed rice, dried rice, and rice generally (although in Kiswahili, *wali* specifically means rice cooked with coconut milk). Of these three languages, only Lunyole uses -*wali*.[39] Terminologies for rice in southeastern Uganda reflect its introductions via Kiswahili, and differences in consumption between different parts of the region.

Lusoga likely loaned its rice terminology from Luganda. Coastal traders entered Buganda from the south and did not travel to Busoga until the 1880s, instead employing Ganda proxies.[40] The 1880s-90s also saw many Ganda Muslims move east, following their defeat in the religious wars in Buganda as the British gained control of the kingdom. Some found employment as interpreters for the new government as it expanded, because most British officials only knew English and Kiswahili.[41] Until 1902 only one British official in Uganda, who married a Soga woman, could speak another African language.[42] Interpreters included Ali Lwanga, who "was to be remembered […] for his popularizing of Swahili foods" in northern Busoga.[43] Lwanga translated at the district headquarters from 1904-07, after which he held the coveted chieftaincy of Luuka County.[44] In Busoga, interpreters and traders used Kiswahili and promoted rice farming to make places for themselves under the expanding colonial regime.

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[39] Andras Rajki, compiler, "Swahili Dictionary (with etymologies)" (2005), 20, 22, 39, https://www.academia.edu/12788108/Swahili_Etymological_Dictionary, accessed 17 June 2021. Sylvester N.M. Musimami and Martin Diprose, *Ehyagi hy'ebibono by'Olunyole Lunyole Dictionary: Lunyole-English with English Index* (Entebbe, Uganda: Lunyole Language Association and SIL International, 2012), 144, 246, 372. Richard Kayaga Gonza, *Lusoga-English and English-Lusoga Dictionary* (Kampala, Uganda: MK Publishers, 2007), 404. Nicholas Awde, *Swahili-English English-Swahili Dictionary* (New York, NY: Hippocrene Books, 2010), 265.
[40] Y.K. Lubogo, *A History of Busoga* (Kampala, Uganda: East African Literature Bureau, 1960), 61.
[41] Viera Pawliková-Vilhanová, "White Fathers, Islam and Kiswahili in Nineteenth-Century Uganda," *Asian and African Studies* 13, no. 2 (2004): 211. Twaddle, *Kakungulu and the Creation of Uganda 1868-1928*, 107.
[42] Idem., "Politics in Bukedi, 1900-1939," 35-36.
[43] Idem., *Kakungulu and the Creation of Uganda*, 222.
[44] A.D. Tom Tuma, "The Introduction and Growth of Christianity in Busoga 1890-1940, with Particular Reference to the Roles of the Basoga Clergy, Catechists and Chiefs" (PhD diss., University of London, 1973), 209, 232.

Kiswahili-loaned terminology reflected exchanges in the interior – including differences between areas. In Bunyole, Kyaddondo noted that "[f]armers in Doho recall that rice was introduced to the area by the Indians."[45] Lunyole uses *-punga*/*-tyere*/*-wali*, indicating either that: Indian traders hired Ganda or Swahili workers to teach farmers; Indians taught farmers in Kiswahili; or Ganda agents introduced rice, yet farmers later attributed this to the traders who purchased it. In each scenario, as in Buganda and Busoga, farmers in Bunyole loaned terminology for rice at successive stages of production. However, unlike in the lands to the west, they also used the word *obwali*, indicating the influence of Swahili cuisine and/or traders on consumption. As shown below, farmers in Bunyole grew and ate more rice than those in Busoga. Farmers in Busoga may have been less interested in rice after the 1908-09 famine, possibly "the worst ever experienced" there.[46] The government distributed rice as famine relief before promoting its large-scale production there.[47] Meanwhile, the famine did not affect Bukedi District with "anything like the same severity," according to the Acting District Commissioner.[48] East of Busoga, farmers expanded rice production before its use as famine relief.[49] However, most farmers did not grow rice to eat, but to sell. They modulated their consumption based on markets: "when prices are low many prefer to eat their rice."[50] Despite local differences, farmers in Bunyole and Busoga began growing large amounts of rice – generally to sell, although they also incorporated it into their diets based on changing cuisines and prices.

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[45] David Kyaddondo, "'Rice is a Jealous Crop'," 26.
[46] T. Grant to the Deputy Commissioner, 12 May 1098, UNA-SMP, A44/214/1.
[47] L.T.M. Rupell to Busoga Provincial Commissioner, 15 November 1908, UNA-SMP, A44/54/11/enclosure.
[48] J. Coote, "Annual Report, Bukedi District 1908-09," UNA-SMP, A45/184/unnumbered folio: 8.
[49] H.M. Tarrant to H.H. Johnston, 13 November 1900, UNA-SMP A10/1/87. Bukedi District Acting Commissioner to Famine Relief Committee Chairman, 13 October 1919, UNA, Provincial Papers – Eastern Province 12/Z. 0419/unnumbered folio.
[50] *Annual Report of the Department of Agriculture for the Year ended 31st December, 1926* (Entebbe, Uganda: Government Printer, 1927), 10.

Hills and Wetlands in the Cash Economy

Farmers in southeastern Uganda started growing rice to sell foreign traders in the late nineteenth century, including multiple varietals on hills and wetlands. Although they have eaten increasing amounts of rice since the early twentieth century, it remains primarily a cash crop there. By 1899, rice production in Uganda had expanded to the point that colonial officials counted it among the "Indian rations [that] can be supplied locally in sufficient quantities."[51] Officials purchased rice using currency, another recent introduction. Arab, Ganda, Indian, and Swahili traders had introduced cowrie shells east of Buganda in the nineteenth century. However, historian Frederick Batala-Nayenga "doubt[s] whether they really were in wide-spread use in many parts of Busoga […] even during the later half of the nineteenth century a situation developed in which trade by barter was carried on alongside trade by cowrie shells."[52] Rice sales indicated the interest of farmers in obtaining currency to exchange with traders.

Colonial officials expanded the agrarian relationships between farmers and traders to establish control over local economies through monetization and, starting in 1901, taxation. The British disliked cowries: one official wrote 'we wish to burn them'. At the introduction of taxation in 1901, officials insisted that farmers sell cowries to traders for Indian rupees in order to pay taxes.[53] (In 1906 the British made rupees the official currency, then in 1920 changed it to shillings.[54]) Therefore, in addition to meeting officials' interest in obtaining rations for Indian troops, buying rice from farmers facilitated officials' aim of circulating cash to levy taxes.

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[51] George Wilson, "Memorandum to H.M Acting Commissioner," 17 June 1899, UNA-SMP, A5/9/113.
[52] Frederick Peter Batala-Nayenga, "An Economic History of the Lacustrine States of Busoga, Uganda" (PhD diss., University of Michigan, 1976), 126-127.
[53] Twaddle, *Kakungulu & the Creation of Uganda 1868-1928*, 167.
[54] Batala-Nayenga, "An Economic History of the Lacustrine States of Busoga, Uganda," 238.

Regional demand for rice soon increased, following a drought and an expansion in the imperial economy – which farmers accessed primarily through traders, who ate rice as their staple. In 1899, following a drought in southeastern Uganda, British officials "suddenly f[ou]nd [them]selves out of Indian rations." In 1900, they initiated a standing order of rice from India to ensure stability in the supply of rice.[55] By 1904, imports to Uganda also included rice from Britain, Congo Free State, and German East Africa.[56] Southeastern Uganda imported tons monthly, where the number of traders was growing in conjunction with the construction of the Uganda Railway in the 1890s-1900s.[57] After the completion of construction in western Kenya in 1904, thousands of labourers from British India arrived in Uganda. Many expanded trading centres in Busoga, which later an anthropologist called "the places of foreigners where the medium of communication is often Kiswahili."[58] From these centres, they spread throughout Busoga "creating 'a want among the natives for clothing other than bark-cloth'."[59] These years also saw the first recorded bicycle ride in Uganda, by a missionary who in 1897 arrived in Uganda from the coast.[60] In 1902 an official wrote that people in Iganga Town, perhaps the largest in Busoga at the time, had never seen a bicycle.[61] Nonetheless, by 1912, a market had emerged in Bukedi District for a class of bicycles that traders sold to farmers but did not ride themselves.[62] Capitalizing on the growing demand for rice, farmers were expanding its production to buy imports such as bicycles.

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[55] Johnston to D.J. Wilson, 15 February 1900, UNA-SMP, A5/9/88. Johnston to Wilson, 26 February 1900, UNA-SMP, A5/9/108.
[56] "Toro District," n.d., UNA-SMP, A6/18/31/enclosure: 3. D.L. Baines, "Statement of Imports for the month of December 1904," UNA-SMP, A10/4/11/enclosure.
[57] "Statement of Imports for the Month of October 1904," UNA-SMP, A10/4/179/enclosure. S. Hornsby, "Imports for Bukedi District for January 1906," UNA-SMP, A10/5/27/enclosure.
[58] L.A. Fallers, *Bantu Bureaucracy: A Study of Integration and Conflict in the Political Institutions of an East African People* (Cambridge, UK: W. Heffer & Sons, 1956), 56.
[59] Twaddle, *Kakungulu & the Creation of Uganda 1868-1928*, 223.
[60] Whyte, "The Process of Survival in South-Eastern Uganda," 130.
[61] A.G. Fraser, "Cycle Trip in Usoga and Kavirondo," *Uganda Notes* 3, no. 11 (1902): 73.
[62] Twaddle, "East African Asians through a Hundred Years," 151.

Beyond purchasing rice, traders also had a role in demonstrating its production, and government officials soon extended this by employing Indian and Swahili instructors. Some traders acquired lands on which they grew or employed workers to grow crops including rice. Touring Busoga in 1906, a regional subcommissioner identified traders as crucial sources of knowledge for African farmers seeking to grow rice.[63] At this point, British officials had little experience with rice: in 1906 they ran two test plots in western Uganda, and in 1908 they bought seeds from Ceylon for further study.[64] During the next decade, they continued experimenting with seeds from German East Africa, India, Madagascar, and Nigeria at three plantations across the country.[65] By 1909, officials in the Eastern Province were "never [to] miss an opportunity of impressing upon the people the importance of Rice and Manioc cultivation. There is a considerable local market for the former."[66] Therefore, starting "[a]bout 1909 the Government employed Swahili and Indian staff to teach the people how to grow" rice.[67] British officials were learning about rice, but sponsored Ganda, Indian, and Swahili people to augment its popularization as traders or instructors.

To capitalize on the increased demand following the completion of the Uganda Railway, farmers in Busoga and Bunyole continued expanding rice production on hills and in wetlands. By 1910, farmers in every county in Busoga except one were growing rice.[68] In 1917, an agricultural officer found "that this crop is cultivated in fresh parts almost every time he [went]

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[63] Central Province Subcommissioner to Acting Commissioner of Uganda, 3 March 1906, UNA-SMP, A10/5/30: 3.
[64] J. Haldane, "Toro District Return of Crops for the Month of November 1906," 8 December 1906, UNA-SMP, A42/101/33/enclosure.
[65] *Annual Report of the Department of Agriculture, Uganda Protectorate, for the Year ended 31st March, 1918* (Entebbe, Uganda: Government Press, 1918), 13. S. Simpson to Chief Secretary, 18 November 1918, UNA-SMP, A46/690/27. *Annual Report of the Colonies, Uganda 1909-10* (London, UK: His Majesty's Stationery Office, 1911), 38.
[66] J.S., 27 October 1909, UNA, Provincial Papers – Eastern Province, 20/Z. 1189/minute 5.
[67] C.E.J. Biggs, "Rice," in *Agriculture in Uganda*, ed. J.D. Tothill (London, UK: Oxford University Press, 1940), 158.
[68] G.M.I., 7 May 1910, UNA, Provincial Papers – Eastern Province, 20/Z. 1189/minute 9.

on tour" in southeastern Uganda.[69] That year, officials in Bunyole noted that, "[a] considerable quantity of rice [wa]s being grown […] It finds a ready sale among the Indian community."[70] The government began focusing on the area around Doho, and "[t]he rice instructor's time [wa]s confined to" Bunyole and its northern neighbour, Bugwere County.[71] He was an African who had trained at one of the five government plantations on which British officials oversaw experiments.[72] In 1918, there were roughly 4000 plots in Bunyole including 900 in Mazimasa Subcounty (the future site of DRS); Bukedi District had the most Uganda-wide.[73] By 1922, Bunyole was the main rice-producing area in Uganda.[74] Production there was mainly in wetlands, of two varietals developed in East Africa: Bungalla and Sindano.[75] Agricultural reports from the 1920s tallied rice as being grown almost exclusively on African- rather than European- or Indian-held lands.[76] This suggested that, by the 1920s, more farmers were learning to grow rice from other farmers or from government instructors than from traders. Farmers in Bunyole, the core of this expansion, were focusing on varietals that perform best in wetlands.

Small-scale farmers were crucial contributors to rice production because traders prioritized coffee, cotton, and tea on their estates, which they acquired on hilltops – particularly in Busoga, which has more such areas than does Bunyole. Traders' economies of scale for exporting the latter crops were more profitable than import substitution to meet their own

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[69] Untitled, 16 August 1917, UNA-SMP, A46/689/18: 2.
[70] Lynell Bruce, 24 October 1914, UNA-SMP, A46 Ref. 453, 26: 2. Untitled, 15 November 1917, UNA-SMP, A46/689/25: 2.
[71] L. Hewett, 17 July 1917, UNA-SMP, A4/689/15: 2.
[72] *Annual Report of the Colonies, Uganda, 1916-17* (London, UK: His Majesty's Stationery Office, 1918), 4.
[73] Untitled, 23 February 1918, UNA-SMP, A46/690/1: 2.
[74] *Annual Report of the Department of Agriculture, Uganda Protectorate, for the year ended 31st December, 1922* (Entebbe, Uganda: Government Printer, 1924), 7.
[75] Ibid., 7, 20-21. *Annual Report of the Department of Agriculture, Uganda Protectorate, for the Year ended 31st December, 1924* (Entebbe, Uganda: Government Printer, 1924), 8.
[76] The highest annual total recorded by the farms of European and Indian landowners was 22 hectares, compared with 354 by "Native Agriculture" (R.G. Harper, "Annual Report on the Government Seed Farms in Teso District for the Year ended 31st December, 1920," UNA-SMP, A46/721X/9/enclosure: 52-55).

demands for rice.[77] These crops grow well on hills, which are numerous in Busoga, as are the wetlands in the valleys between them. The foundational units of Soga society are on areas of high ground: *mitalla*, meaning "[r]ise[s] of land between swamps," or simply "villages."[78] Anthropologist Lloyd Fallers observed that, "one lives 'on' (*ku*) a *mutalla*, not 'in' (*mu*) it." Fallers noted that farmers had long seen hilltops as the prime lands – but also used wetlands, esteeming "[a] holding running down from the high part of the village land, combining areas of all these types of soil […] as ideal."[79] A common Lusoga word for wetlands is *bíbalí*, derived from the root for "side" or "margin."[80] This could be a reference to their position between *mitalla*, and/or to the widespread practice of using the edges of wetlands as places to plant sweet potatoes, particularly in times of drought – although Soga society predates the introduction of sweet potatoes in the area.[81] As traders gained estates on hilltops, wetlands became increasingly important for farmers. Nonetheless, even years later, officials in Busoga found that farmers grew rice primarily on hills rather than along wetland edges. The most prominent upland varietal was Buyu (or Kibuyu).[82] Throughout the colonial era, Soga farmers' main agricultural use of wetlands was for potato production to ensure consistent food supplies during shortages.

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[77] For example, in the 1900s Allidina Visram bought "large quantities" of rice from German East Africa while growing none despite "having plenty of land to do so upon" in Buganda and Busoga (G. Wilson to E. Brown, 30 November 1907, UNA-SMP, A43/88/minute 10).
[78] Batala-Nayenga, "An Economic History of the Lacustrine States of Busoga, Uganda," *xiii*. Lloyd A. Fallers, "The Politics of Landholding in Busoga," *Economic Development and Cultural Change* 3, no. 3 (1955): 262.
[79] Idem., *Law Without Precedent: Legal Ideas in Action in the Courts of Colonial Busoga* (Chicago, IL: University of Chicago Press, 1963), 43, 206.
[80] Gonza, *Lusoga-English and English-Lusoga Dictionary*, 88.
[81] Patricia J. O'Brien, "The Sweet Potato: Its Origin and Dispersal," *American Anthropologist* 74, no. 3 (1972): 347. David William Cohen, "The Cultural Topography of a 'Bantu Borderland': Busoga, 1500-1850," *Journal of African History* 29, no. 1 (1988): 57-79.
[82] Hayes to Bukedi, Busoga, and Teso District Agricultural Officers, 10 August 1944, UNA-JDA, Agriculture 27/22/45: 1.

Booms and Busts

Following the emergence of wetland edges in Bunyole as the core of the rice industry, farmers altered production based on ecological and economic changes. With the extension of the railway to Uganda in the 1910s-20s, the number of traders and their connections to Indian Ocean trade increased.[83] Kyaddondo asserts that at Doho, farmers grew rice mainly for their own consumption, "although some would sell it to the Indians." He identifies 1942 as the start of extensive cash cropping.[84] However, by 1919, markets had several varietals with different geographic origins and price levels. In Busoga, Asian varietals were the most expensive.[85] However, in Bunyole, a varietal with an Bantu name that officials called "local" – Bungalla – had the highest price.[86] In 1925, officials reported that in Budama District (the jurisdiction that oversaw Bunyole from 1924-37) "[t]he quantity consumed by the natives themselves increases each year, and rice is rapidly taking its place as one of the staple foods."[87] At this point, officials estimated that farmers in the district ate one-third to half of the rice they grew.[88] They reported that rice production there totalled 900-1,300 tons per season, but also that, "[i]t is practically impossible to give anything like an accurate estimate."[89] Farmers in Bunyole planted over 15,000 of the 16,000 hectares of rice in Uganda.[90] In the expansion of rice, traders remained major purchasers – yet farmers ate increasing amounts.

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[83] M.F. Hill, *Permanent Way: The Story of the Kenya and Uganda Railway* (Nairobi, Kenya: East African Literature Bureau, 1961), 443-475.
[84] Kyaddondo, "'Rice is a Jealous Crop'," 26-27.
[85] Eastern Province Acting Commissioner to Chief Secretary, 11 October 1919, UNA, Provincial Papers – Eastern Province, 16/N.0076/unnumbered folio.
[86] "Annual Report of the Provincial Commissioner on the Eastern Province for The Year Ended 31st December 1923," UNA-SMP, A46/263/1/enclosure: 15. *Annual Report of the Department of Agriculture 1922*, 20-21.
[87] *Annual Report of the Department of Agriculture for the Year ended December 31st, 1925* (Entebbe, Uganda: Government Printer, 1926), 7.
[88] W.B.S. Estcourt to Eastern Province Commissioner, 21 May 1924, UNA-SMP, A46/2679/125. A.R. Morgan to Director of Agriculture, 11 October 1924, UNA-SMP, A46/2679/128/enclosure.
[89] Morgan to Director of Agriculture, 11 October 1924, UNA-SMP, A46/2679/128/enclosure. *Annual Report of the Department of Agriculture 1924*, 8.
[90] *Annual Report of the Department of Agriculture 1925*, 36.

Despite the expansion of rice production into the 1920s, ecological and economic changes soon prompted farmers to shift their labour to other crops. In 1929, commodity prices collapsed globally. Farmers became less able to compete with imports, and officials became less compelled to reduce import costs. In 1930, locusts resurged for the first time in a decade.[91] For the next three years, they caused "serious damage" to rice and other grain crops. Farmers grew little rice during this time. In 1940, an official wrote that rice "is not a popular crop with the natives, for it cannot be grown near their houses."[92] However, even for those farmers living particularly close to wetlands suitable for rice production, such as Doho, the labour-intensive nature of rice farming has often conflicted with other obligations.[93] As returns from rice farming declined, farmers focused their labour on other crops.

Yet, in 1942, rice prices rose as the entry of Japan into WWII disrupted Asia's intercontinental trade. The start of a famine in Bengal that year further limited British supplies of rice.[94] Officials in Commonwealth states from West Africa to Australia began pushes for rice farming in wetlands.[95] In 1942, the Ugandan Legislative Council noted that "growers from every district are keen to take up this crop."[96] Agricultural officials visited western Kenya to learn about wetland varietals. They found that farmers there concentrated on varietals which farmers in Uganda already grew – including Bungalla, Sindano, and Buyu – although they wrote that, "the

[91] District Commissioner, Busoga, "Native Agriculture for the Year ended 31st December, 1931," UNA-JDA, Agriculture 36/24/136: 2.
[92] Biggs, "Rice," 159-160.
[93] Kyaddondo, "'Rice is a Jealous Crop'."
[94] Lizzie Collingham, *The Taste of War: World War Two and the Battle for Food* (London, UK: Penguin, 2011), 146-154.
[95] Andrew Millington, "Environmental Degradation, Soil Conservation and Agricultural Policies in Sierra Leone, 1895-1984" in *Conservation in Africa: People, Policies and Practice*, eds. David Anderson and Richard Grove, 229-248 (Cambridge, UK: Cambridge University Press, 1987), 239. Emily O'Gorman, *Wetlands in a Dry Land: More-Than-Human Histories of Australia's Murray-Darling Basin* (Seattle, WA: University of Washington Press, 2021), 113.
[96] "Excerpt from the Proceedings of the Meetings of the Legislative Council held on the 9th and 14th December, 1942," UNA, Secretariat Topical – Agriculture, Forestry, Game and Veterinary, 4/H.336/90: 2.

two most satisfactory were Senna and Faya."[97] Officials in southeastern Uganda then promoted Afaa (of which Faya was possibly a misspelling), Bungalla, and Senna, particularly by offering higher prices for the latter two.[98] They encouraged farmers to plant as much rice as possible in wetlands rather than on hills.[99] Officials also sold these seeds, but sales were low because "the growers object[ed] to having their names written down" as part of the wartime system for tracking production.[100] Nonetheless, farmers in Busoga expanded rice production from about 700 tons in 1942 to 4,000-5,000 in 1943.[101] Much of this planting was on hills – including of Senna – although farmers began growing substantial amounts of rice along wetland edges.[102] Bungalla and especially Senna were the most popular varietals grown.[103] Farmers responded to the price increase during WWII by expanding production, particularly at wetlands, through continued experimentation with multiple varietals.

Officials also sought to augment rice production by operating farms for demonstration and experimentation. They concentrated this activity at the newly-created Nakamimi Rice Scheme, in Bugiri County (the future jurisdiction of KRS).[104] Officials experimented there using bulletins from Sierra Leone and Zanzibar, as well as a book about Burma and India, *The Rice*

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[97] "Notes on a Visit to Kisumu Rice Areas," n.d., UNA-JDA, Agriculture 34/4/195A.
[98] Hayes to Bukedi, Busoga, and Teso District Agricultural Officers, 22 December 1945, UNA-JDA, Agriculture 27/22/155.
[99] Busoga District Agricultural Officer to all Busoga County Chiefs, 14 August 1944, UNA-JDA, Agriculture 20/16/102. Iganga County Assistant Agricultural Officer to Busoga District Agricultural Officer, 7 November 1944, UNA-JDA, Agriculture 27/22/105. G. Williams to E.D. Biruma, Y.K. Musitwa, Y.B. Walukamba, and J.N. Sekimpi, 22 September 1943, UNA-JDA, Agriculture 34/4/129. Williams to Walukamba, 1 May 1945, UNA-JDA, Agriculture 35/6/66: 7.
[100] Williams to all County Chiefs, 7 March 1945, UNA-JDA, Agriculture 20/16/124.
[101] Acting Director of Agriculture, "Note on the Present Position regarding the Production and Marketing of Various Crops August, 1942," UNA, Secretariat Topical – Agriculture, Forestry, Game and Veterinary 4/H. 336/35. Busoga District Commissioner to the Kyabazinga, 23 July 1943, UNA-JDA, Agriculture 20/16/15.
[102] Hayes to Bukedi, Busoga, and Teso District Agricultural Officers, 10 August 1944, UNA-JDA, Agriculture 27/22/45: 1. Busoga District Agricultural Officer to County Chiefs, Butembe-Bunya and Luuka, 9 November 1945, UNA-JDA, Agriculture 20/16/137.
[103] Williams to Biruma et al, 22 September 1943, UNA-JDA, Agriculture 34/4/129. Iganga County Assistant Agricultural Officer to Busoga District Agricultural Officer, 7 November 1944, UNA-JDA, Agriculture 27/22/105.
[104] Hayes to Y.B. Walukamba and Y.K. Musitwa, 14 December 1943, UNA-JDA, Agriculture 20/16/69. Williams to Soroti Assistant Agricultural Officer, 28 November 1944, UNA-JDA, Agriculture 27/22/123.

Economy of Monsoon Asia.[105] The simplicity of the experiments inspired by their reading of these publications – e.g., soaking seeds before planting – suggests that even by 1944 British officials in Uganda still had much to learn about rice farming.[106] Despite British officials' limited knowledge of rice, farmers in Busoga increased rice production severalfold. Growth in rice production during WWII depended on farmers in southeastern Uganda using their knowledge of local environments, particularly wetlands, to experiment with the basic rice farming techniques that officials were demonstrating.

For officials, the challenge proved not to be getting farmers to grow more rice, but to sell it at low prices to state agents rather than to traders on the "black market." The government wanted rice for "the civil population whose normal diet includes rice," i.e., Indians who were in their employ, rather than traders.[107] However, in 1943, officials purchased only 143 of the 4,000-5,000 tons they estimated having seen growing in Busoga.[108] To limit the illicit marketing of rice, the Busoga District Commissioner declared that, "[i]f any person is found trying to buy rice action should be taken against him (a) by a substantial fine in the native court of the person is an African, (b) by report of the circumstances to the Protectorate Police if the person is a non native."[109] Nonetheless, during some years, farmers in some Busoga subcounties did not sell "a single pound" to officials.[110] To oversee some wartime production, the government started a farm at Doho in Bunyole. Retrospective sources variously claim this began in 1942, '43, and

[105] Busoga District Agricultural Officer to Eastern Province Agricultural Officer, 24 November 1944, UNA-JDA, Agriculture 27/22/113.
[106] Agricultural Officer to African Assistant Agricultural Officers, 27 November 1944, UNA-JDA, Agriculture 27/22/121.
[107] Busoga District Commissioner to the Kyabazinga, 23 July 1943, UNA-JDA, Agriculture 20/16/15.
[108] (Signature illegible) to Agricultural Officer, 18 September 1943, UNA-JDA, Agriculture 20/16/43.
[109] Busoga District Commissioner, "Rice," 17 September 1945, UNA-JDA, Agriculture 20/16/135.
[110] Busoga District Agricultural Officer to Subcounty Chiefs, 29 August 1944, UNA-JDA, Agriculture 20/16/108. Busoga District Agricultural Officer to County Chiefs, Butembe-Bunya and Luuka, 9 November 1945, UNA-JDA, Agriculture 20/16/137.

‘44.[111] Government efforts to control production reveal that most farmers were growing rice based on autonomous decisions considering changing prices, with minimal involvement by officials in the expansion of rice across the wetlands of the region.

After WWII, the British continued wetland rice demonstration farming in southeastern Uganda.[112] They did so based partly on the belief that rice constituted a more “advance[d]” diet than sorghum, millet, or maize.[113] Furthermore, increasing domestic rice production would lessen a major recurring expense. Officials continued reading about wetland rice production, for example in Malaya.[114] Regardless, exporters in Asia regained their positions in the global rice market and farmers in southeastern Uganda began shifting their labour to other crops, although illicit marketing continued through the late 1940s.[115] In the 1950s, following the expansion of reclamation in the highland wetlands of southwestern Uganda, colonial officials at the Kawanda Research Station in Buganda were conducting experiments to develop techniques for reclamation they planned to use in the lowland wetlands of central and southeastern Uganda.[116] Yet, in 1962, Uganda attained independence.

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[111] “Data Analysis Shared the Visiting Team from Oyam District (Toch Irrigation Scheme),” 6 August 2019, shared with the author by DIFACOS Production Manager Wilberforce Segula: 1. Gariyo Zie, *Appropriate Technology, Productivity, and Employment in Agriculture in Uganda: The Case Study of the Kibimba and Doho Rice Schemes* (Kampala, Uganda: Centre for Basic Research, 1991), 5. Charles Rusoke to District Team/Planning Committee, 2 April 1976, DIFACOS, DRS/2, folio 6.

[112] Busoga District Agricultural Officers to County Agricultural Assistant Officers, 16 March 1946, UNA-JDA, Agriculture 27/22/165. Eastern Province Agricultural Officer to Director of Agriculture and Director of Supplies, 25 October 1946, UNA-JDA, Agriculture 27/22/100. Uganda Protectorate, “Soil Conservation Report for 1946,” UNA-JDA, Agriculture 34/11/3: 3.

[113] A.S. Richardson to Provincial Agricultural Officers, 28 February 1946, UNA-JDA, Agriculture 27/22/160.

[114] W.T.O. Maidment to Bukedi, Busoga, and Teso District Agricultural Officers and Agricultural Officer in-charge of Serere Research Station, 25 March 1947, UNA-JDA, Agriculture 27/22/154.

[115] Teso District Agricultural Officer to Eastern Province Agricultural Officer, 20 July 1948, UNA-JDA, Agriculture 27/22/191.

[116] M. Grehan, *Annual Report of the Water Development Department for the Year ended 31st December, 1959* (Entebbe, Uganda: Government Printer, n.d.), 4.

Interpreters and Sindano Seeds, 1965 to 1980s

During the creation of the first major rice scheme in postcolonial Uganda, officials faced different language barriers than did their colonial predecessors – and after its completion, farmers began adapting a new kind of knowledge, i.e., reclamation. When Uganda gained independence in 1962, there were roughly 2,000 hectares of rice in the country. In 1965, the government signed an agreement with the PRC to drain wetlands and popularize rice farming in Uganda.[117] When PRC officials surveyed Kibimba wetland, farmers contributed knowledge of the environment through an interpreter. However, the workers who constructed the scheme developed a way to speak across language barriers without interpreters: in a speech at the opening ceremony, the General Manager noted that, despite conflicts, the workers and other officials involved in its construction had cooperated extensively by creating "Kibimba Language." This finding adds to Jamie Monson's observation that Chinese and Tanzanian workers combined sign language, Chinese, and Kiswahili to meet "the fundamental needs of [railway] construction work."[118] Kibimba Language was vital in overcoming the challenges associated with having one interpreter at a time on a 728-hectare Ugandan-Chinese project. The operation of the farm also depended on farmers, based on their development of wetland rice varietals, particularly Sindano. In the following decades, farmers in Busoga adapted the knowledge demonstrated at KRS by using manual labour to drain wetlands outside the scheme.

The main catalyst of the postcolonial expansion in rice farming was the partnership between the Ugandan and PRC governments. The PRC offered technical expertise and mechanized labour, for which the Ugandan government paid in "agricultural and other primary

[117] Sam Sewanga, "Rice. Another of Uganda's Export Crop," Uganda Times, 9 October 1981: 6.
[118] Jamie Monson, *Africa's Freedom Railway: How a Chinese Development Project Changed Lives and Livelihoods in Tanzania* (Indianapolis, IN: Indiana University Press, 2009), 61.

products."[119] The archival record does not specify who initiated the agreement. However, the ROC offered many African countries an alternative partner in wetland rice farming as they vied with the PRC for influence in Cold War diplomacy. The PRC had developed its approach to reclamation based on demonstrations in northern China by officials from the Soviet Union, before sending its own technicians abroad.[120] President Milton Obote's politics aligned more with the anti-imperial solidarity advocated by the PRC than with the ROC approach, which included representatives of the United States.[121] The Ugandan government, like the PRC, used KRS to bolster its image as a force against Western hegemony. Prince Sihanouk of Cambodia visited KRS and thanked Uganda for their support against aggression by the United States.[122] Uganda also pursued negotiations with North Korea for rice schemes.[123] Domestically, the Ugandan government used the anti-imperialist character of the agreement to promote rice farming: the state newspaper claimed that "the colonialists barred the development of paddy fields there."[124] Whereas the position of colonial Uganda in the global circulation of rice and knowledge about rice farming had been structured by the British Empire, the independent Ugandan government pursued a position in these exchanges based on anti-imperial politicking at domestic and international levels.

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[119] J.B. Mukasa, "An Attempt at Swamp Reclamation in an Area: Kibimba Rice Scheme" (bachelor's thesis, Makerere University, 1976), 4
[120] Deborah Brautigam, *Will Africa Feed China?* (Oxford, UK: Oxford University Press), 40-41.
[121] "Ambassadors of the Farm," *Taiwan Today*, 1 November 1961 (https://taiwantoday.tw/news.php?unit=8,8,29,32,32,45&post=14035) accessed 2020.8.12.
[122] "Kibimba Scheme: A Pride," *Voice of Uganda*, 8 December 1975: 1, 3.
[123] Eva Lubwama and Perez Owori, "Envoy hands over Rice Scheme," *Uganda Times*, 23 January 1982: 8.
[124] "Rice Scheme Prospers," *Voice of Uganda*, 6 January 1977: 3.

Figure 2.3: Chinese and Ugandan officials exchanging documents in front of a portrait of President Milton Obote *(Uganda Broadcasting Corporation Film Negative Archive (UBCFNA), File 2802 Image 003, used with permission).*

After signing the international agreement, increasing rice production depended on local-level exchanges. It became "Government Policy to actively encourage farmers all over Uganda, where rice can grow, to plant as much rice as possible. [...] At least to double the present acreage" within a year.[125] Chinese technicians visited several swamps in Uganda and selected Kibimba, starting work on KRS in 1967. Chinese and Ugandan workers created the first large-scale reclamation project for rice in the country along the busiest highway in eastern Uganda, selected for public accessibility. Before the creation of the scheme, environmental conditions at

[125] A.M. Kirya to all Busoga Chiefs, 17 August 1966, UNA-JDA, Agriculture 33/16/42.

Kibimba wetland were "virtually unknown" to the state.[126] A 1964 report on the feasibility of irrigation in Uganda noted a near-total a lack of hydrological data from the area.[127] Therefore, officials surveyed the area, including by interviewing Soga farmers about its environmental conditions. The Commissioner for Agriculture instructed the Regional Agricultural Officer to send a Soga official to translate.[128] Farmers shared their knowledge in Lusoga with surveyors, who "interview[ed] the local people, from whom they would get information as regards to rainfall intensity and duration and temperature variations."[129] The Agricultural Officer-in-Charge at KRS noted that these interviews were particularly valuable for "information of hydrology."[130] To start work on KRS, which was of major importance to the international image and trade balance of the Ugandan government, officials depended on Soga farmers for knowledge about water in the area.

Nonetheless, considerable language barriers began impacting the construction of KRS. Douglas Ngobi, a Makerere student who interviewed workers involved, wrote,

> [l]ack of a common language [...] was a very critical problem. [...] the Chinese Experts did not know English. The Ugandan officials [...] did not know Chinese or the local language of the area (Lusoga). The local people knew neither Chinese nor English and few of them knew any Kiswahili. However, there was one Chinese interpreter who knew English. This one man had to co-ordinate all

[126] Douglas Ngobi, "A Study of the Kibimba Rice Scheme in General" (bachelor's thesis, Makerere University, 1978), 22.
[127] Sir William Halcrow & Partners, *Report on the Feasibility of Irrigation in Uganda* (Entebbe, Uganda: Ministry of Agriculture, 1964), 112.
[128] F.X. Lubega to Regional Agricultural Officer, 16 January 1968, UNA-JDA, Agriculture 47/5/20.
[129] F.J. Buyondo, "An Evaluation of Kibimba Surface Irrigated Rice Scheme" (bachelor's thesis: Makerere University, 1977), 11.
[130] George Omwatum to the Commissioner for Agriculture, 15 December 1970, UNA-JDA, Agriculture 59/14/24.

> the Chinese personnel and the Ugandan officials. In turn, Ugandan officials acted as middlemen between Chinese and Soga people.[131]

Beyond the need for translation that officials faced in learning about Kibimba wetland from farmers, language barriers were prevalent among officials.

In response, construction personnel and other officials created "Kibimba Language." As oral communication, it left no archival record beyond the General Manager's speech. However, it enabled them to rework a landscape by exchanging knowledge across multiple language barriers. He framed its existence as evidence of cooperation despite conflicts:

> the society here managed to narrow down the communication barrier by develping [sic] a new language called 'Kibimba Language'. This is a language hypridized [sic] with the Chinese, Englishe [sic], Swahili, Luganda and other local languages. For a number of years now, staff, workers and the experts have been communicating easily and comfortably without having to strain the only one interpreter we had. It is true that we may have had disagreements here and there. to this, we sincerely apologise to the experts – there was no ill-intention meant. This is what would happen and happens in any family.[132]

For Ugandan officials, Kibimba Language represented the possibility for cooperation regarding the development of a wetland despite conflicts with Chinese officials. There is little information about it in records from KRS. However, this chapter finds evidence of tensions at DRS in the

[131] Ngobi, "A Study of the Kibimba Rice Scheme," 22-23.
[132] "Welcome Speech by the General Manager on the Occasion of Bidding Farewell to the Chinese Technical Team at Kibimba Rice Company Ltd on 20th March 1990," DIFACOS, DRS/2, folio 85.

archive of the Doho Irrigation Farmers Cooperative Society Limited Archive (DIFACOS), the cooperative that inherited the infrastructure in 2003, whereas the Ugandan government sold KRS to a private corporation, Tilda.[133] Oral research could reveal tensions during the creation of KRS.

In the late 1960s, officials began overseeing rice production at KRS as plots became available. The government had recently obtained seeds of wetland varietals from western Kenya.[134] From 1967-68, PRC officials tested five varietals, four under wetland irrigation plus one on upland plots.[135] The Ugandan government focused on the wetland trials (the Ministry of Agriculture never acknowledged the reports about the upland trials).[136] Officials' experimentation indicated that Bungalla and Sindano – the main varietals that farmers in Bunyole had grown along wetland edges – were the best options.[137] Farmers' experimentations with varietals along wetland edges in the early twentieth century became the basis of postcolonial officials' experimentation with the reclamation of wetland interiors.

During the late 1960s, officials in the independent government also began noting farmers' use of wetland edges in southeastern Uganda to grow rice. This included Busoga and the lands further east, which then comprised Bukedi and Teso Districts.[138] Bungalla and especially Sindano, which by 1969 received the highest price, were the main varietals.[139]

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[133] Unlike KRS which government initiated, DRS began after a request by farmers and with the expressed intent that it become farmer-run.
[134] J.P. Oyende to Eastern Region Marketing Officer, 14 May 1965, UNA-JDA, Agriculture 33/16/36/enclosure. Kirya to Nyanza Province Marketing Board Senior Marketing Officer, 20 October 1966, UNA-JDA, Agriculture 33/16/50. Kirya to all County Agricultural Assistant Officers, 20 October 1966, UNA-JDA, Agriculture 33/16/51.
[135] Maidment to Bukedi, Busoga, and Teso District Agricultural Officers and Agricultural Officer in-charge of Serere Research Station, 25 March 1947, UNA-JDA, Agriculture 27/22/154.
[136] Zie, *Appropriate Technology, Productivity, and Employment in Agriculture in Uganda*, 62.
[137] Kirya to all County and Subcounty Chiefs, 17 August 1966, UNA-JDA, Agriculture 33/16/42: 2.
[138] Ibid., 1-2. G.L.M. Kagezi to Eastern Regional Agricultural Officer, 11 June 1969, UNA-JDA, Agriculture 23/19/10: 1-2. Kagezi to Eastern Regional Agricultural Officer, 15 August 1969, UNA-JDA, Agriculture 23/19/11: 1.
[139] P.S. Gubi to Busoga District Agricultural Officer, September 1969, UNA-JDA, Agriculture 33/16/119: 2. M.N. Ndugwa to the Commissioner for Agriculture, "Rice Report for July 1972 Eastern Region," UNA-JDA, Agriculture 33/16/unnumbered folio.

Farmers, particularly those east of Busoga, were obtaining Sindano seeds from Kenya via Indian traders.[140] Following Amin's 1972 expulsion of Indians, the government turned to farmers for its own supply of Sindano seeds, and to supply other farmers – despite Sindano having become officials' primary recommended varietal.[141] In 1974, KRS officials began growing varietals created by the International Rice Research Institute in the Philippines.[142] By 1976, they were experimenting with crosses between these varietals and Sindano.[143] The varietals that KRS officials produced, particularly K5, became prominent across southeastern Uganda.[144] To make the operation of KRS viable, officials relied on farmers to develop and/or identify varietals as well as to obtain and distribute seeds.

In 1977, KRS opened officially. It functioned as a state farm for demonstrating irrigation or reclamation techniques to farmers and producing rice under a PRC-controlled parastatal called the Kibimba Rice Company. At the ceremony, a crowd of Ugandan representatives gathered behind Amin for a tour (see Figure 2.4). It is unclear if the Chinese interpreter could speak Kiswahili, Amin's preferred language for government, or, if like the interpreter present during construction, he spoke English.[145] Regardless, most farmers there spoke neither English

[140] Kagezi to Eastern Regional Agricultural Officer, 11 June 1969, UNA-JDA, Agriculture 23/19/10: 2.
[141] W.M. Okoche to the Eastern Regional Agricultural Officer, 6 October 1971, UNA-JDA, Agriculture 33/16/154. Ndugwa to the Eastern Regional Assistant Agricultural Officer in-charge of Rice, 28 August 1972, UNA-JDA, Agriculture 33/16/159. Ndugwa to the Eastern Regional Agricultural Officer, 24 January 1973, UNA-JDA, Agriculture 33/16/unnumbered folio.
[142] Zie, *Appropriate Technology, Productivity, and Employment in Agriculture in Uganda*, 5.
[143] Mukasa, "An Attempt at Swamp Reclamation in an Area," 21.
[144] Zie, *Appropriate Technology, Productivity, and Employment in Agriculture in Uganda*, 21. Ngobi, "A Study of the Kibimba Rice Scheme," 30-31, 42.
[145] By 1984, there was a Chinese interpreter at DRS named "Huang" or "Wang" who spoke Swahili; if the Wang referenced as an interpreter in a 1977 letter to DRS management is the same person, he was in Uganda by the year KRS opened (Wang to Rusoke, 12 September 1977, DIFACOS, DRS/7, folio 9).

Figure 2.4: Ugandan and PRC representatives watch and listen while President Idi Amin and an interpreter discuss a model of KRS at the opening ceremony *(UBCFNA, File 5598 Image 036, used with permission)*.

nor Kiswahili, despite the importance of these languages in the administration of KRS. Amin and other officials to learn about KRS as a corporation and international project in English and Kiswahili, but farmers would have learned rice farming in Lusoga and Luganda. Among the "outgrowers" nearby, Lusoga would have been particularly prevalent.

Besides language usage, another difference between rice production at KRS and nearby wetlands was the form of labour. Whereas the construction and operation of KRS were mostly mechanized, farmers outside the scheme created and cultivated rice plots in wetland interiors via manual labour.[146] In 1988, geographer Victoria Mwaka found that, "[c]otton used to be the chief cash crop grown in the area and it had no rival. However, due to low prices offered to cotton farmers during recent years and unpredictability of the crop being bought from farms, cotton production drastically fell. […] rice production is gaining importance year after year." Farmers outside KRS used a "try and error [sic] method" to adapt rice farming based on the environments and technologies they could access. As a result of this experimentation, "[d]rainage of swamps and flooding of gardens [became] widely practiced by small-scale farmers" outside KRS. Mwaka estimated that by 1980 there were more than 100 such farmers, and that in 1988 there were around 350. Furthermore, she found that farmers outside the scheme sometimes rejected the demonstrations at KRS. For example, farmers with relatively large plots broadcasted seeds rather than transplanting from nurseries, against official recommendations.[147] Farmers outside the scheme used manual labour and their knowledge of local environments to adapt the techniques demonstrated at KRS, eventually accounting for most of the reclaimed wetland area in Busoga.

Farmers' expansion of rice farming via reclamation changed the ecological and economic statuses of wetlands in Busoga. Whereas in the colonial era rice farming was limited to the edges of wetlands, in the postcolonial era farmers developed techniques for draining wetland interiors via manual labour.[148] These new techniques conflicted with other uses of wetland interiors,

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[146] Ngobi, "A Study of the Kibimba Rice Scheme," *iii*.
[147] Victoria Miriam Mwaka, "The Diffusion of Irrigation Farming in Iganga and Kamuli Districts," in *The Agrarian Question and Technological Change in Uganda*, edited by E.G. Nabuguzi (Kampala, Uganda: Makerere Institute of Social Research, 1990), 267, 272, 275, 285.
[148] G.L.M. Kagezi to the Commissioner for Agriculture, 25 January 1970, UNA-JDA, Agriculture 23/19/12: 2.

focused on sweet potato farming and papyrus gathering. Another Lusoga word for wetland is *lútóógo*, meaning a "wide area of papyrus." Similarly, my Lusoga tutors informed me that *bitóógo*, literally meaning "papyruses," is a "slang" word for wetlands. These words may derive from the root meaning "to finger" or "to handle," reflecting the importance to people in Busoga of using the interiors of wetlands as places for gathering papyrus and other grasses.[149] The spread of reclamation in the postcolonial era decreased opportunities to obtain grasses from wetlands, pushing them to turn to imports for household items and homebuilding materials. However, for rice farmers, imports were part of the appeal. Soga rice farmers no longer saw wetlands as the sides of hills, suitable only for potato cultivation and obtaining grasses and water, but as areas that could become focal points of crop production if drained.

Bungereza and the 'Factory', 1972 to 2000s

DRS began partly as Doho farmers' response to pressure by the central government to expand agricultural lands. However, it also resulted from long-term planning by farmers regarding the interior of the wetland. Furthermore, the expansion of rice production beyond the site has depended upon farmers adapting knowledge to wetlands across the region, as farmers in nearby areas began growing rice to reproduce the success associated with Bungereza. This place-name reflected the British colonial history of the area – including the introduction of bicycles and the expansion of cash cropping – but not postcolonial Chinese involvement. Instead, Kyaddondo heard that people around Doho sometimes called the buildings at DRS *hi China*.[150] Archival records reveal tensions between PRC officials and Ugandan officials as well as farmers, which manifested in instances of translation at the DRS buildings. Officials identified the causes of

[149] Gonza, *Lusoga-English and English-Lusoga Dictionary*, 194.
[150] Kyaddondo does not translate the term, but it clearly connects the place to China ("'Rice is a Jealous Crop'," 19).

these tensions as translation errors, deemphasizing the underlying economic and social issues. The usage of the place-names Bungereza and *hi China* reflected aspirations that farmers at Bunyole have had since the colonial era for bicycle ownership and other economic changes – as well as the tensions that they experienced in pursuing them through interactions with PRC officials. Despite these tensions, farmers continued rice production at DRS, calling it a 'factory'. As farmers outside DRS expanded rice production, violent conflicts emerged over land and water.

In early postcolonial Bunyole, farmers recalled with frustration the connection between cash cropping and bicycles. In 1970, Whyte recorded an explanation of the origin of cash cropping:

> The story tells of a man from Bunyole who went away to Kampala to work and who returned with something new and wonderful – a bicycle. 'The man rode up and down on the paths […] A local tinker (*omubuti*) looked carefully at the bicycle and decided to make one for himself. He did so, using metal and wood and banana fibers to tie pieces together. […] Then the tinker made another bicycle, and still another, to sell to Nyole who had requested them. But then one day the D.C. (District Commissioner) arrived in a Land Rover with some local police. The police broke up all the newly made bicycles and took the tinker off to jail. The D.C. told the people that, should they want bicycles, they must cultivate cotton and earn money and buy the bicycles from Asian traders'.

Whyte observes that, "[b]efore the imposition of the D.C.'s contract, it is not clear which is center and which is periphery. Relationships are apparently symmetrical; both can build bicycles. After the imposition of the contract, asymmetry is established."[151] In the colonial and postcolonial eras, to assert a favourable position in the globalized markets of rice trading and bicycle importing, farmers in Bunyole used their knowledge of environments in experimentation with crop production.

This assertion of place took a new form – sustained rice production in wetland interiors – soon after the first major postcolonial interaction in Bunyole between farmers and officials. In 1972, officials toured promoting Amin's "Double Production" campaign, encouraging farmers to bring as much new land under cultivation as possible. The 1972 Development Plan detailed the goals of this push, which focused on export crops to boost foreign exchange earnings as well as "wheat and rice […] to make Uganda self-sufficient" in these foods.[152] By this point, rice consumption in Uganda totalled 10,000 tons annually while production totalled 4,000 tons.[153] The government recognized that rice was "both a food and a cash crop. [Therefore t]he farmers will successfully wage war against famine and poverty" by growing it. Officials advocated "both extensive and intensive agriculture," the latter including fertilizers, pesticides, and other inputs.[154] However, Amin's government offered few resources to farmers. In practice, the campaign depended on the extension of agriculture into forests and wetlands, which the government promoted based on the finite nature of these areas, as "Ugandans were instructed to clear vegetation in order to grow crops and graze animals to boost the economy and compensate

[151] Whyte, "We have no cash crops any more," 312-313.
[152] Government of the Republic of Uganda, *Achievements of the Government of Uganda during the First Year of the Second Republic* (Entebbe, Uganda: Government Printer, 1972), 17.
[153] Ndugwa, "Progamme of Work for the Rice Development Scheme in the Eastern Region, 1971," UNA-JDA, Agriculture 33/16/unnumbered folio.
[154] Ndugwa to the Commissioner for Agriculture, 29 February 1972, UNA-JDA, Agriculture 33/16/154/enclosure: 1-2.

for the declines in the manufacturing and commercial sectors. Anyone who did not fully utilize their land would lose the surplus to an active neighbor."[155] Although usage of these places had been communal (or in some cases, legally reserved for government foresters), as farmers increasingly reclaimed places for themselves – causing the area of communally-accessible wetlands to decline – the pressure that other farmers faced to do so increased.

Responding to the push to bring more land under cultivation, Bunyole farmers petitioned the government for a rice scheme. They asked in 1974, through Bunyole County Chief Azaliya Wanjala.[156] The only archival source detailing Wanjala's request is an application for a DRS plot, over fifteen years later. W.K. Birehire claimed to have "convince[d]" Wanjala to ask after Birehire visited KRS and an irrigation scheme in western Uganda: "[a]t the beginning many people abused Mr. Wanjala and he gave up. But [Birehire] encouraged him" based on his experiences touring irrigation schemes, and a memory from the colonial era:

> it was in 1944, when the District Commissioner Bukedi asked Bunyole county council to allow the Government plant Trees in Namunasa Swamp [to drain it]. Luckily, I was present, though very young. [...] The father of UNUSU MIYA (Haji) [...] told the D.C. that we shall not agree. Bunyole is a small county, therefore Namunasa has to be Reserved for our children and Grandchildren. After having Enough Education, they will be able to use the swamp. The Request was rejected. Sir, with those words ringing in

[155] Eric Kashambuzi, "Once There Were Trees: Impacts of Agricultural Policy on Climate Change in Uganda," *Whitehead Journal of Diplomacy and International Relations* 16, no. 1 (2014): 149.
[156] Rusoke to District Team/Planning Committee, 2 April 1976, DIFACOS, DRS/2, folio 6.

> my head, I determined to inform Wanjala to implement the idea, and here we are.[157]

According to Birehire, DRS was the result of intergenerational planning regarding educational and environmental changes at Doho. It began with the rejection of a government proposal for drainage in order to reserve the wetland for use once the "children and Grandchildren" of the area had more knowledge, and it culminated in the solicitation of a project to make the wetland profitable. The Ugandan and PRC governments agreed to build a second rice scheme that would eventually be run by the farmers rather than as a parastatal, and in late 1975, surveying and the construction of irrigation channels began.[158] The Forestry Department objected, saying it was a Forest Reserve, but construction continued and the scheme opened in 1986.[159] Farmers rejected colonial officials agroforestry proposal and in the postcolonial era, under Amin's Double Production campaign, they successfully opposed the Forestry Department's claim that the area should be maintained as a Protected Area.

Constructing DRS involved reproducing issues experienced at KRS. Initially, the state knew little about the local environment. Officials first recorded the temperature at Doho in 1970 and began continuous rainfall records in 1976.[160] Furthermore, "communication [wa]s a problem as there [we]re no telephones in the area."[161] The presence of only one Chinese interpreter at a time, speaking English or Kiswahili, further limited communication.[162] Considering that, a

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[157] W.K. Birehire to Officer-in-Charge, 17 March 1991, DIFACOS, DRS/PT/4/10, folio 180: 1-2.
[158] Rusoke, "Notes about DRS Presented to the Officials from the E.E.C.," 24 August 1979, DIFACOS, DRS/conf/2, folio 34: 2.
[159] Forest Ranger to Assistant Agricultural Officer, 18 March 1976, DIFACOS, DRS/7, folio 1.
[160] Omwatum to the Commissioner for Agriculture, 9 January 1971, UNA-JDA, Agriculture 23/19/unnumbered folio: 1. "Staff Meeting Doho Rice Scheme 18th June 1981," DIFACOS, DRS/9, folio 13: 2.
[161] A.C. Wegoye, "Land Reclamation for Rice Production: A Case Study of Do Ho Rice Scheme in Bukedi District" (bachelor's thesis, Makerere University, 1978).
[162] "Minutes of Meeting Held in the O/C's Office," DIFACOS, DRS/9, folio 3. "Meeting between African Staff and Chinese Construction Preparatory Group Held on 14th May, 1985," DIFACOS, DRS/9, folio 68.

decade prior, many schoolteachers in Bukedi District did not know English, there were relatively few opportunities for exchanges of knowledge across language barriers.[163] There is no evidence that the workers who made DRS created a "Doho Language" to circumvent these challenges.

Instead, to show international cooperation at DRS, the Ugandan state newspaper proclaimed that the "[f]armers try to learn the language of the Experts."[164] Furthermore, officials repeatedly claimed that rice farming at DRS began and continued based on farmers' initiative. Many farmers provided labour towards construction: PRC officials started planning in January 1976, and by March "dozens of channels ha[d] already been dug by the farmers themselves [...] enough to control the flow of water to about 300 acres."[165] Additionally, "[t]he construction of the sluice gate and [...] bridge needed 21 tons of sand, which the farmers collected from the river nearby without spending a single cent."[166] Farmers contributed much unpaid labour, based on their needs for cash and increased agricultural productivity under Amin.

However, contrary to official claims of voluntarism at DRS, there is also evidence of tensions over translations regarding labour, land, and more. Farmers' skepticism of PRC officials became evident as they opposed the use of Chinese weighing scales because of "a belief that they were being cheated."[167] A PRC report describes early tensions over labour and money: "[a]t the beginning [...] there were some unavoidable misgivings" based on different interpretations of unpaid group labour. According to the report, "because the Bunyole farmers never had the experience of doing such a thing in such a manner" they worried about "the benefit going to the government [… or] farmers from other places" and circulated claims "that the government had

[163] "Bukedi District Half Yearly Report January to June 1968," Makerere University Library Africana Collection, G EAU/BUK E3 (05) 1: 5.
[164] "Brief to Pressmen from *Voice of Uganda*," 16 September 1977, DIFACOS, DRS/2, folio 27: 2.
[165] C.A. Amone to DTFC Members, 24 March 1976, DIFACOS, File DRS/7, folio 9.
[166] Chinese Technical Team to the Ministry of Agriculture and Forestry, 4 February 1988, DIFACOS, in DRS/2, enclosure with folio 26: 2.
[167] Rusoke to the General Manager, Kibimba Rice Company, 25 June 1984, DIFACOS, unlabelled file, folio 123.

allocated money to pay the farmers for their day-to-day labour [...] but the money was rumoured to have gone to the pocket of chieves [sic] or local officials."[168] As farmers pursued questions about fairness and trust, a pattern of officials attributing socioeconomic conflicts to translation issues began emerging.

The creation of DRS also prompted land conflicts. Some farmers argued that not everyone was compensated for the appropriations involved in the scheme's construction, including one who claimed his family had farmed rice there since 1937.[169] One member of a locally prominent family told DRS officials that they were on "our very land on which we were born and brought up. All our ancestors are buried there [...] my father is [...] your immediate neighbour, just behind your offices."[170] The creation of DRS displaced some of the farmers who had developed the core of the rice industry in Uganda through the cultivation of wetland varietals.

Subsequently, Ugandan farmers experienced tensions that continued manifesting at points of translation, and in instances when farmers desired translations yet did not receive them. The year after the completion of the scheme, the farmers went on strike. Health care was a key issue: "the workers were saying that the Doctor is too far from the construction site. They also say that when the Interpreter is not present when the workers go there, the doctor doesn't understand. Also when the workers are given a note from the site the doctor miss-handles them in fear of contracting a disease from the Africans."[171] In response, Chinese officials "advised that [the

[168] Chinese Technical Team to the Ministry of Agriculture and Forestry, 4 February 1988, DIFACOS, DRS/2, enclosure with folio 26: 2.
[169] Mazimasa Residents to DRS Allocation Committee, 21 April 1990, DIFACOS, DRS/PT/4/10, folio 54. E. Mung'ang'ala to the Officer-in-Charge, 12 January 1989, DIFACOS, DRS/10, folio 133.
[170] G.W. Were to the Officer-in-Charge, 12 March 1989, DIFACOS, DRS/10, folio 228.
[171] "Minutes of Meeting Held between African Staff and Construction Team of Chinese, Held on 18th July," 5 August 1986, DIFACOS, DRS/9, folio 88: 2.

Ugandans] should get a Ugandan medical staff to assist the Chinese Doctor."[172] They framed translation as the main cause of the labour dispute, saying that Chinese interpreters did not translate medical examinations, only agricultural and administrative matters. The economic and social inequalities of DRS manifested in officials' selectivity about which knowledge they translated.

Despite tensions with officials, farmers at DRS continued developing rice plots there. Moreover, many farmers in neighbouring areas saw the rising incomes associated with the scheme and began growing rice themselves. Yet, reclaiming or renting part of a wetland required considerable labour and/or money. Farmers rented DRS plots as they opened, and by 1983 officials boasted that "[t]he rice farmers in Doho are regarded by their non-rice growing friends as rich people" – overlooking the economic barriers to plot use.[173] In 1985, the Bunyole chief exhorted farmers at a public meeting to contribute labour "to aid in the final development of the place such that it will eventually look like the 'Real Bungereza'."[174] In 1987-93, Whyte and Whyte found that people around Doho "referred to [DRS] as 'little Europe' because of its money."[175] Many farmers started growing rice at wetlands outside DRS. This expansion was facilitated by demonstrations at DRS, which took multiple forms. "The main method [wa]s to hold on-the-spot meetings with the farmers," but talk was not always convincing. Officials took pride when farmers initially doubted their suggestions yet adopted them after seeing results: "[f]acts taught the farmers," proclaimed Chinese officials.[176] Even before DRS was complete,

[172] Rusoke to Commissioner for Agriculture, 7 September 1987, DIFACOS, DRS/conf/2, folio 72: 2.
[173] Rusoke to the Zonal Agricultural Officer, Jinja/Tororo, 13 April 1983, UNA-JDA, Agriculture 2/8/59: 1.
[174] "General Meeting between Farmers, County Chief, Agricultural Staff of DRS and Chinese Construction Prep. Team," 26 June 1985, DIFACOS, DRS/9, folio 75: 4.
[175] Whyte and Whyte, "The Values of Development," 228.
[176] Chinese Technical Team to the Ministry of Agriculture and Forestry, 4 February 1988, DIFACOS, DRS/2, enclosure with folio 26: 5-6.

farmers from two nearby wetlands asked for schemes.[177] By 1986, "most of the swamps in [Bunyole, and Bugwere to its north] ha[d] been opened up for rice growing."[178] An increasing number of farmers with relatively high levels of access to labour and money pursued rice production based on changes at DRS.

Besides relationships between farmers and officials, tensions regarding intercultural communication and translation had also emerged between PRC and Ugandan officials during construction. These included differences between cultural approaches to space, which affected housing. Ugandan officials complained that designers of both schemes clustered houses too closely for "the African lifestyle," despite having wide-open places.[179] Later, Kyaddondo found that people referred to the DRS headquarters as '*hi China*'.[180] *Hi China* became the site of multiple conflicts between farmers and officials involving translation. For example, the year after the official opening of the scheme, Ugandan officials lost their offices, which Chinese officials blamed on translation. The DRS manager "inquired from the Chinese as to why the uniport he had erected for use by African staff, had been dismantled. It was discovered that it was due to error in interpretation. The Chinese said that due to money problems and the need to complete the project by the end of the year, it is not possible [to re-erect]."[181] Even administrative work did not necessarily receive close attention from interpreters.

Two years after the completion of the scheme, officials began opening a new block of plots. To ease "misgivings" regarding labour and land, officials claimed land "would be

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[177] "Annual Meeting Held Between Chinese Experts and Established Staff of Doho Rice Scheme on 22nd Dec. 1983," DIFACOS, DRS/9, folio 42: 6, 7.
[178] Rusoke to the Minister of Agriculture and Forestry, 24 March 1986, DIFACOS, DRS/2, folio 60.
[179] Rusoke to Commissioner for Agriculture, 23 March 1983, DIFACOS, DRS/2, folio 43A: 6. Rusoke to the Chairman to the Commission of Inquiry into Corruption and Financial Mis-Management, 7 October 1986, DIFACOS, DRS/2, folio 66: 3.
[180] Kyaddondo, "'Rice is a Jealous Crop'," 19.
[181] "Meeting with Chinese Experts and African Staff of Doho Rice Scheme to Resolve Workers Grievances," 11 August 1987, DIFACOS, DRS/9, folio 92A: 4.

distributed according to the principle of greater efforts, more land and bigger contribution, earlier distribution," i.e., the more land a person helped drain, the earlier they would receive a plot and the larger it would be.[182] Following this labour, at a meeting in 1989 Ugandan officials informed Chinese officials that they and the farmers had expected the Chinese officials to have already surveyed and distributed the new plots. The officials agreed this "misunderstanding" was due to an interpreter not remaining with the Chinese Technical Guidance Team Leader.[183] They framed anxieties over land as an issue of translation.

Despite what officials told farmers, the distribution of the new plots was not necessarily proportional to labour contributions,. There were further eligibility requirements. These included being aged 20-45 and having "some formal Education for easy extension communication." Yet, the possibility of enforcing this was limited and officials later complained of "[l]ow levels of literacy among majority farmers."[184] Applying for a plot required enough education to send a letter, although many farmers got other people to write for them.[185] For example, in 1991 for the last opening of new plots, many letters came in sets of two, three, or four written on the same date in the same village by the same hand with the same phrasing, but different personal details.[186] While officials blamed anxieties about land distribution on translation issues, farmers endeavoured to obtain translations of their applications for land to circumvent officials' maintenance of hierarchies in language use.

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[182] Chinese Technical Team to the Ministry of Agriculture and Forestry, 4 February 1988, DIFACOS, DRS/2, enclosure with folio 26: 2.
[183] "Minutes of Joint Staff Meeting Held on 23rd Sept. 1989," 9 November 1989, DIFACOS, DRS/9, folio 124: 1-2.
[184] J. Omudu to the Commissioner for Land Resources and Development, 15 April 1996, DIFACOS, TRO/LCV/59, unnumbered folio: 3.
[185] Of the records in the DIFACOS office in Nampologoma Trading Centre, Mazimasa Subcounty, Bunyole County, many if not most are applications for plots.
[186] DIFACOS, DRS/10.

Furthermore, conflict emerged between DRS and outgrowers around Doho, manifesting a newly-created Lunyole term. Farmers in southeastern Uganda continued growing upland rice varietals rice along wetland edges into the 1970s.[187] After the creation of DRS, farmers in Bukedi District began making rice fields in wetland interiors by using drainage and irrigation channels based on the flow of the Manafwa, Mpologoma, and other rivers. In 1993, DRS and Doho outgrowers experienced tensions regarding the positions of their infrastructures along the Manafwa; this conflict resurged in the 2000s.[188] This issue is encapsulated in the term *ohuligulula amaaji*, meaning to "maliciously divert water; open a water channel to prevent water from flowing into neighbours' rice fields."[189] As farmers had done a century prior by creating Lunyole words including *obwali* that loaned Kiswahili terminology, farmers created a word to reflect their knowledge about rice production – this time regarding the creation of irrigation infrastructure through manual labour. In subsequent years, reclamation infrastructure outside Doho became the locus of violent conflict between farmers from different ethnic groups, who also used manual labour to adapt knowledge about channeling infrastructure.

Conflicts over rice farming became entrenched because cash cropping at DRS was crucial for many households. By 1983, DRS farmers had found a ready market in "individual businessmen some of whom come from Kampala."[190] A Ugandan researcher who interviewed DRS farmers in 1990 found that they had "became full time rice growers instead of cotton

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[187] Ndugwa, "Progamme of Work for the Rice Development Scheme in the Eastern Region, 1971," UNA-JDA, Agriculture 33/16/unnumbered folio.
[188] The first conflict between DRS and other rice farmers started in 1993 – when one hired KRS engineers to design a project, Lwoba Irrigation Farm, and requested permission from DRS to access water downstream but built upstream instead – and continued until at least 2009. Rusoke to the Managing Director, 30 July 1993, DIFACOS, DRS/36, folio 50. Rusoke to A.N. Naleba, 31 August 1993, DIFACOS, DRS/36, folio 53. Naleba to the Director of Water Development, 1 September 1993, DIFACOS, DRS/36, folio 56. Naleba to Kachonga Police Post, 7 January 2009, DIFACOS, DRS/36, unnumbered folio.
[189] Musimami and Diprose, *Ehyagi hy'ebibono by'Olunyole Lunyole Dictionary*, 175.
[190] Rusoke to the Zonal Agricultural Officer, Jinja/Tororo, 13 April 1983, UNA-JDA, Agriculture 2/8/59: 1.

producers even though both of these crops are labour intensive and some of them remarked 'the swamp has become our factory' in view of the 'waves' of people from the more than 20 surrounding villages, some as far as 12 miles and beyond, descending on it every morning and leaving it every afternoon."[191] Meanwhile, farmers in multiple parts of Busoga were doing the same. In 1988, Mwaka found that farmers outside KRS rented plots "as far away as 5 to 10 kms from their homes. They use bicycle [sic] as a means of transport."[192] These situations contrast with the description that a colonial official gave in 1940, claiming that the distance between farmers' homes and rice-growing areas was limiting the expansion of the crop. With the establishment of DRS, some farmers in Bunyole said their relationship with the landscape came to resemble the labour patterns of a factory. Farmers in southeastern Uganda began travelling considerable distances on bicycles to rented rice plots, using the proceeds from cash cropping partly to ensure their continued ability to produce.

As Ugandans took on the management of DRS, PRC officials began leaving. The last wave started to depart in 1988. The Ugandan government paid for airfare, impacting foreign exchange savings: tickets for nineteen of the roughly 100 Chinese experts at DRS cost $22,246 USD.[193] The year 1989 saw the "informal handover" of DRS to the Ugandan government.[194] The handover caused confusion regarding how to translate the accounting books, which had been handled by PRC officials only. Initially, the interpreter "claimed that he had no time to translate them as they were too many." He relented after Ugandan officials emphasized "the difficulties of checking accounting books written in Chinese" and the fact that "[t]he Chinese Accountant has

[191] Zie, *Appropriate Technology, Productivity, and Employment in Agriculture in Uganda*, 64.
[192] Mwaka, "The Diffusion of Irrigation Farming in Iganga and Kamuli Districts," 283.
[193] Yang Xian-Da to the Permanent Secretary, Ministry of Agriculture, 5 August 1988, DIFACOS, DRS/33, unnumbered folio. V. Sekitoleko to G. Kiyonga, 23 September 1988, DIFACOS, DRS/33, unnumbered folio.
[194] Rusoke to the Commissioner for Agriculture, 28 November 1989, DIFACOS, DRS/2, folio 83.

his own system for of [sic] keeping books which is difficult for us to understand."[195] The ability to generate translations proved contentious from start to finish in Ugandan-Chinese relationships at DRS, as global inequalities influenced how officials engaged (or not) with the challenges and costs of interpretation. The construction and operation of DRS led to conflicts that manifested in instances of translation at *hi China*.

As Ugandan officials began managing DRS, they began implementing additional kinds of knowledge about rice farming. By this point, the scheme had received visitors from Egypt, South Korea, various European countries, and more.[196] In 2002, facing the perennial problem of farmers refusing to clean channels, the Irrigation Officer endorsed a proposal by a Japanese consultant "to cut off even the little water so that farmers miss a season if they don't."[197] Having knowledge about rice production meant different things to farmers and officials based on their relationships with irrigation infrastructure.

Outside DRS, as farmers continued expanding wetland rice hectarage, more conflicts emerged. In the 2000s, rice farmers from different ethnic groups fought over land and water in the 1600-hectare Dokho-Namatala wetland, near Doho. *New Vision* characterized the conflict as a "scramble for the wetland in [a] no-man's land between […] sub-counties" as "wetlands, formerly taken as communal areas, have become vital for growing rice."[198] Journalists started reporting about the conflict in 2008, although it started in 2007.[199] In 2008, Banyole rice farmers set the homesteads of Adhola rice farmers on fire, "accus[ing them] of encroaching on their

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[195] Rusoke to the Permanent Secretary, Ministry of Agriculture, 4 July 1988, DIFACOS, DRS/33, unnumbered folio. Wang Jun-Gan to Rusoke, 8 August 1988, DIFACOS, File DRS/33, unnumbered folio.
[196] "Proposed Program of the Tour of the Team of Egyptian Agricultural Experts at DRS on 8th July 1987," 8 July 1987, DIFACOS, DRS/7, folio 75. "Minutes of Meeting between Chinese Construction Preparatory Group and African Staff," 28 May 1985, DIFACOS, DRS/9, folio 69: 2. "Notes about DRS Presented to the Officials from the E.E.C.," 24 August 1979, DIFACOS, DRS/2, folio 34.
[197] Richard Mukandya to the Officer-in-Charge, 15 February 2002, DIFACOS, DRS/36, unnumbered folio.
[198] Moses Nampala, "Tororo, Butaleja leaders agree to end tribal clash," *New Vision*, 5 September 2008: 9.
[199] Daniel Edyegu, "Farmers at Namatala wetland now calm," *New Vision*, 16 November 2009: 10.

land"; in response, Adhola farmers slashed down Banyole farmers' fields.[200] Some farmers "hired armed security to scare away their foes." The farmers agreed to end their conflict soon after.[201] As the continued expansion of rice production came up against the finite nature of wetlands, farmers navigated tensions between communities regarding land usage.

Later in 2008, tensions between Bagisu and Bagwere rice farmers became violent over another part of Dokho-Namatala wetland – including after the creation of infrastructure to divert water away from rival farmers. Previously, Bagisu and Bagwere farmers had both cooperated and conflicted over this 200-hectare section of the wetland. They each had used it as a place for collecting water and grazing animals. However, following redistricting in 1954, it became the locus of a conflict between sub-counties that a 1962 commission under the Ugandan government resolved by awarding jurisdiction to Bagisu officials.[202] In 2008, Bagisu farmers accused Bagwere farmers of encroaching on their land – and killed one. Bagisu farmers also "built a barrier to divert the wetland stream from the Bugwere side to their rice fields." *New Vision* photographed this barrier, which was several metres wide and made of logs.[203] Further violence ensued, in which three Bagwere and two Bagisu farmers died. Bagisu and Bagwere farmers then "met and agreed to till their plots while waiting for a the [sic] Government report on the border demarcation." A representative of the farmers explained to *New Vision* that, '[w]e realised that politicians were fanning the conflict to prove their might', and as violence subsided, they resumed cultivating: '[i]nitially, you would find the whole rice field slashed. Now, you come confidently knowing you are going to work'. [204] As rice farming spread outside Bunyole, where

[200] Nampala, "Jopadhola, Banyole clash over wetland," *New Vision*, 25 August 2008: 8. Edyegu, "Districts in drive to save Dokho wetland," *New Vision*, 19 December 2008: 8.
[201] Nampala, "Tororo, Butaleja leaders agree to end tribal clash," 9.
[202] Frederick Womakuyu, "Local leaders take sides as Bugwere and Budaka shed blood over land," *New Vision*, 9 October 2008: 22, 63.
[203] Edyegu, "Museveni asked to intervene in Bagwere, Bagisu clashes," *New Vision*, 13 January 2009: 10.
[204] Idem., "Farmers at Namatala wetland now calm," 10.

farmers had created the term *ohuligulula amaaji*, conflicts over land and water again led to farmers adapting channeling techniques to redirect flows away from other farmers' plots. Farmers have also worked to resolve these conflicts based on their mutual interests in cash cropping.

Conclusion: Adapting and Demonstrating Knowledge

The spread of rice farming across the region manifested farmers' need for cash, traders' demand for rice, and officials' interest in import substitution. Farmers expanded production based on local demand in a globalized market, mitigated the challenges of price fluctuations by incorporating rice into their diets, experimented with different varietals on hills and in wetlands, and developed techniques for reclamation via manual labour. These adaptations aligned with the central government's financial planning throughout the twentieth century. Connecting farmers' experimentation and officials' planning, traders occupied intermediary positions between Ugandan wetlands and global markets. Farmers in postcolonial Bunyole recalled traders' role facilitating colonial cash cropping by controlling the circulation of bicycles, under what Whyte called the D.C.'s contract. Furthermore, farmers identified traders as the main source of limitations on their use of agricultural and environmental knowledge to change their positions in globalized markets: "'[w]e're working for the traders', said one [Bunyole] man" according to Whyte and Whyte.[205] Nonetheless, rice farming continued to be one of the most common means of purchasing the bicycles, clothes, and the other goods that marked Bungereza. Farmers used their environmental knowledge to experiment with rice varietals and cultivation techniques to gain land ownership and obtain cash – but they also became subject to exploitation by traders

[205] Whyte and Whyte, "The Values of Development," 229.

with access to global markets, and by officials planning to change the position of Uganda in those markets.

In Bunyole, many if not most rice farmers were young men whose county and first language share a linguistic root, who had little formal education, and whose access to bicycles and imported clothes was aspirational rather than assumed. By the nineteenth century, outsiders called this place Bukedi, and at the turn of the twentieth British and Ganda rulers conquered it. Yet, farmers used their knowledge of rice farming to reshape the landscape and call the Doho area Bungereza, following their importations of bicycles, clothes, and more – and memorialized the DRS buildings as *hi China*. The use of these place-names reflected the significance of colonialism in institutionalizing rice cash cropping, and the tensions that emerged during the construction and operation of DRS.

These tensions often manifested in exchanges between farmers and the people occupying intermediary positions connecting them with global markets for bicycles, rice, and more. In the colonial era, interpreters and other intermediaries performed fraught work, which British officials had preferred Ganda, Indian, and Swahili officials to do not only because of a desire to avoid interpersonal conflicts, but also because of language barriers and gaps in their own knowledge about rice farming. In the postcolonial era, officials identified the causes of conflicts during the construction of DRS as inadequate translations in relationships between farmers and officials, rather than the global inequalities that influenced exchanges of knowledge, money, and goods. Nonetheless, farmers continued pursuing these exchanges because they enabled the creation of Bungereza in former Bukedi – reasserting a symmetry that the D.C.'s contract had undermined.

Examining changes in the landscape of southeastern Uganda, the languages used there, and markets for rice including different varietals reveals the roles of farmers in rethinking wetland usage. During the creation and operation of demonstration farms, officials depended on farmers' environmental knowledge. Furthermore, the expansion of rice production beyond demonstration farms required farmers experimenting with multiple varietals on hills and in wetlands, and later developing techniques to cultivate wetland interiors via manual labour. Bringing this history into conversation with scholarship about other exchanges of knowledge means reconsidering the significances of demonstration farms – including the crucial roles of farmers in their creation, as well as in developing changes in environmental thinking.

Chapter 3 –

From "Waste Lands" to "Wetlands": Creating the National Conservation Policy and its International Influence, 1986 to Present

In 1986, shortly after taking control of the state, the National Resistance Movement (NRM) banned large-scale reclamation until the creation of a policy regulating wetlands. In 1994, Uganda became the first country in Africa and the third worldwide with a national policy for wetland conservation.[1] The policy identifies the need to "involv[e] all the concerned people and organizations in the country including local communities."[2] Ugandan conservationists emphasized local communities partly because of the limited power of the central government over wetlands, most of which are outside the Protected Area (PA) system. The decentralizing and neoliberalizing reforms that the NRM pursued also prompted consideration of how the communities that used wetlands could implement their conservation. Furthermore, the community-based approach aligned with the concept of wetland ecology that international conservationist networks had been promoting, which identifies wetlands as focal points of multiple overlapping ecological relationships that are of vital importance to people living near them. During and after the creation of the policy, Ugandans established international influence by consulting abroad and by hosting exchanges of knowledge, particularly through the Ramsar Convention, the international organization for wetlands conservation.[3]

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[1] New Zealand was first in 1986, then Canada in 1991 ("New Zealand Wetlands Management Policy," https://www.ramsar.org/sites/default/files/documents/library/national_wetland_policies_-_nz.pdf, accessed 3 June 2021. Clayton D.A. Rubec, "Status of National Wetland Policy Development in Ramsar Nations," in *Report of Technical Session A, Proceedings of the Sixth Meeting of the Conference of the Parties to the Ramsar Convention (Brisbane 1996), Vol. 10/12* (Gland, Switzerland: Ramsar Convention Secretariat, 1996), 20-27).

[2] "National Policy for the Conservation and Management of Wetland Resources" (Kampala, Uganda: Ministry of Natural Resources, 1995), *iii*.

[3] Representatives of Australia, Finland, Greece, Iran, Norway, South Africa, and Sweden first signed the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat in 1971, in Ramsar, Iran.

The NRM soon enacted a legal framework that included provisions for local and central government implementation of the policy. Ultimately, this marked the early stages of a recentralization of power. The 1995 Constitution, the present legal foundation of the country, asserts that "[t]he State shall protect important natural resources, including […] wetlands."[4] This positive valuation contrasted with the document that had constituted the legal foundation of Uganda: the Uganda Agreement of 1900, which grouped wetlands under the category of "waste and uncultivated lands," i.e., marginal yet reserved for government ownership in case the range of environmental practices that were possible there expanded to include ventures they considered valuable.[5] With the rise of conservationism, the government ascribed greater value to wetlands – and the new constitution marked a reassertion of central government authority over them.

This chapter argues that Ugandan conservationists created the national wetlands policy based on local environmental changes, a national political transition, and global scientific exchanges – and that they made this experience a basis for international leadership in wetland conservation. However, it also finds that the creation of the policy and subsequent legal framework became an opportunity for neoliberalization and recentralization, which in subsequent years have limited policy implementation. First, it outlines how officials critiqued reclamation in Uganda until the 1980s, when some local and central officials began associating climatic changes with drainage projects – which created an understanding among conservationists of the importance of wetlands as ecosystems. Next, it narrates the creation of the national wetland conservation policy in two parts: the creation of the National Wetlands Conservation and Management Programme (NWCMP) from 1986-89, and the work of NWCMP officials creating the policy. This narrative reveals how wetland conservationists interested the

[4] 1995 Constitution of the Republic of Uganda, article XIII.
[5] Uganda Agreement, Britain-Buganda, 10 March 1900, article 15.

government in promoting their cause – and how the government enrolled wetland conservationists into its broader strategy of recentralization, while doing little to promote the implementation of the new policy. The chapter then shows the international influence of Ugandan wetland experts. Analyzing the multidirectional international exchanges of knowledge in which Ugandan wetland conservationists participated contributes to the historiographies of conservation in Africa, and of Africa in global conservation.

Wetlands officials faced a range of challenges in creating the policy. Some were associated with being a developing country, including the need for international funding to meet some of their costs. Others were unique to Uganda, including the characteristics and distribution of wetlands there. Douglas Taylor, a British national with a PhD in Botany and the first Technical Advisor of the NWCMP, noted that, "[v]ery few other places in the world have such a large number of small wetlands all interconnected or with complex boundaries. Many countries have wetlands, but they are usually single systems, large or small with a simple shape [...] The small size of these dambo/valley wetlands means that people have access to all the benefits of wetlands but it is this very access that leads to the danger that excessive use could destroy them."[6] Paul Mafabi, a Ugandan from the southeastern district of Sironko with an MSc in Ornithology and the first Commissioner of the NWCMP, explained that, "[i]t is the seasonal wetlands and smaller valley wetlands that are most closely associated with human activity and pressure upon land has taken a heavy toll upon these forms of wetland. All these wetlands are of insignificant individual size, and yet have great significance both to people and wildlife conservation. They bridge the interface between dry land and water, often in narrow strips only

[6] A.R.D. Taylor, "General Characteristics of Ugandan Wetlands," n.d., Kabale District Archives (KDA), Lands 33/DEV 4-5/3: 3.

100 metres wide."[7] Compounding these challenges, Mafabi and Taylor were the only NWCMP officials until 1991 (Mafabi was employed by the Ugandan government, Taylor by the International Union for the Conservation of Nature (IUCN)) when they began hiring some of the other early wetlands officials. During policy creation, they argued that conserving "the many small, but important wetlands distributed over much of Uganda" required guidelines for usage that people would implement with little intervention by the central government.[8] They also developed interdisciplinary knowledges about the significances of wetlands for agriculture, climate, disease, hydrology, and wildlife – but favoured economic analyses by making concepts such as "ecosystem services" foundational to their approach.

During policy creation, the NWCMP focused their messaging on other Ugandan officials. Some district officials, particularly in southwestern Uganda, were already concerned about reclamation because of local climatic changes. In 1990, Mafabi and Taylor told a conference of African wetland conservationists that "the people who live near a wetland often make several uses of it and therefore understand that wetlands have multiple values," whereas government bodies are single-purpose, so "[i]t is, in fact, the case that central government requires education and training rather than the rural people."[9] Mafabi remarked to a 1993 conference of African wetland conservationists that, "[t]he process of making a wetlands policy creates vital awareness about wetlands and gives them a new lease of life," creating "awareness especially within government."[10] He reflected that while there was "very little political support, awareness, and

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[7] Paul Gumonye-Mafabi, "Values, Threats and Problems Facing Ugandan Wetlands," n.d., KDA, Lands 33/DEV 4-5/9: 3.
[8] Idem., "Appendix 1.4 Uganda," in *Wetlands and Waterbirds in Eastern Africa: Proceedings of an IWRB Workshop, Uganda 1990*, edited by C.M. Finlayson and D.E. Pomeroy (Slimbridge, UK: IWRB, 1991), 69.
[9] A.R.D. Taylor and Paul Gumonye-Mafabi, "Management of Wetlands for Sustainable Use," in *Wetlands and Waterbirds in Eastern Africa*¸ 25.
[10] Paul Mafabi, "Development of a National Policy for the Conservation and Management of Wetland Resources: The Ugandan Experience," in *Proceedings 1993 African Crane and Wetland Training Workshop 8-15 August 1993*

information" for creating a policy, they could not wait "until the whole country [wa]s behind the idea."[11] As this and subsequent chapters demonstrate, there was little support for the policy even within the NRM, beyond enacting it to burnish their international image. The program needed to produce a policy that would encourage support, rather than depend on existing interest.

Examining the creation of the Ugandan wetlands policy builds on the historiography of conservation in Africa. Ugandan wetland conservationists used Uganda's first national park as a basis for joining the Ramsar Convention, but afterwards worked outside the country's PA system. Based on the challenge of country-wide conservation and the national trend towards decentralization, Ugandan conservationists created the national wetlands policy by focusing on the significance of wetlands to communities across the country. To do so, they used terms such as "goods and services," "ecological functions," and "socio-economic functions" to identify benefits that people derived from wetland ecosystems. Their approach reflected the emerging concept of ecosystem services, borrowed from economists to facilitate conservationism under neoliberalization.[12] Analyzing this history contributes to the historiography of conservation in Africa by examining how the ecosystem concept related to the rise of community-based conservationism. Conservationists used the concepts of communities and ecosystems to incorporate their work into the decentralization and neoliberalization that marked the era.

Analyzing the international influence of Ugandan wetland conservationists contributes to studies of networking through the Ramsar Convention. It updates the timeline of Ramsar since

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Wildlife Training Institute Maun, Botswana, edited by Richard D. Beilfuss, Warwick R. Tarboton, and Nathan N. Gichuki (Baraboo, WI: ICF, 1996), 181.

[11] P. Mafabi, "National Wetland Policy: Uganda," in *The Wetland Book I: Structure and Function, Management, and Methods*, edited by C.M. Finlayson et al (Dordrecht: Springer Science and Business Media, 2016), 2.

[12] Harold A. Mooney and Paul R. Ehrlich, "Ecosystem Services: A Fragmentary History," in *Nature's Services: Societal Dependence on Natural Ecosystems*, ed. Gretchen C. Daily, 11-19 (Washington, DC: Island Press, 1997). Erik Gómez-Baggethun et al, "The History of Ecosystem Services in Economic Theory and Practice: From Early Notions to Markets and Payment Schemes," *Ecological Economics* 69, no. 6 (2010): 1209-1218. Philippe C. Baveye, Jacques Baveye, and John Gowdy, "Monetary Valuation of Ecosystem Services: It Matters to Get the Timeline Right," *Ecological Economics* 95 (2013): 231-235.

the publication of the organization's official history, *The Ramsar Convention on Wetlands: Its History and Development*, which was published before the creation of the Ugandan policy.[13] It also builds on a study of trends in the delegations to each triennial Conference of Parties (COP), which finds that "developed/advanced developing" countries usually send more delegates than do "developing and least developed" countries. After joining in 1988, Uganda often sent two but up to four delegates to each COP until 2002, when they sent seven. In 2005 Uganda hosted COP9, in which eleven Ugandan delegates participated – the second-smallest host delegation as of Goodwin's 2013 study (the smallest host delegation represented a wealthy country, Switzerland, which also hosts the Ramsar Secretariat). Yet, Mafabi may have participated in more COPs than any other delegate, including each from 1990 to 2018. According to legal scholar Edward Goodwin, "[o]ther long-serving delegates include Veit Koester (1980-2002) and Paul Jepsen (1987-2002) for Denmark, Makoto Kamoda (since 1990) for Japan, and Dr Zygmunt Krzeminski (1980-1999) and Dr Kazimierz Dobrowolski (1980-83 and 1990-99) for Poland. The effect of such individuals upon negotiations and developments under COPs remains unclear."[14] This chapter indicates one development from Mafabi's long-running participation: following discussions at COP9, which Uganda hosted, he became one of three co-authors of Ramsar's successful application to join the United Nations (UN) as an observer. Furthermore, this chapter analyzes Ugandans' broader influence in international conservationist networks.

[13] G.V.T. Matthews, *The Ramsar Convention on Wetlands: Its History and Development* (Gland, Switzerland: Ramsar Convention Bureau, 1993).
[14] Edward J. Goodwin, "Delegate Preparation and Participation in Conferences of the Parties to Environmental Treaties," *International Community Law Review* 15 (2013): 67-70.

Critiquing Reclamation, 1950s to 1980s: Malaria, Hydrology, and Climate

After the decline in influence within the government of critiques of reclamation during the early 1950s – which focused on how drainage would impact the older practices of drought cultivation and grass harvesting – conservationist thinking was largely absent from officials' considerations of wetlands until the 1980s. Instead, officials who were critical of reclamation focused on malaria and hydrology. In the late colonial era, medical officials became worried about breeding mosquitoes in reclaimed wetlands based on concerns regarding malaria. In the early postcolonial era, hydrological officials began noting floods associated with reclamation; they also began testing assumptions that officials in the late colonial era made about water consumption by papyrus. However, the environmental relationships they identified using these sciences were relatively narrow compared to the ecological critiques of reclamation that conservationists began voicing in the 1980s. Their identification of intersecting climatological, hydrological, and other aspects of wetland ecology promoted an understanding of these places as complex ecosystems – rather than simply as farmlands, mosquito breeding sites, or walls of papyrus. By 1983, various officials gathered observations of multifarious climatic changes, particularly in southeastern and southwestern Uganda, and identified reclamation as the cause. Central government officials soon banned large-scale reclamation because of emerging concerns about the "ecological balance" of wetlands.[15]

Malaria: Reclamation Facilitating Mosquito Reproduction

By the early twentieth century, medical officials promoted reclamation in urban centres based on the premise that mosquitoes breed in wetlands. However, they disliked rural reclamation for cultivation because it meant continued human activity near breeding mosquitoes. They had the

[15] S.K. Katehangwa to all County and Sub-county Chiefs, 26 August 1986, KDA, Lands 4/DEV 4-5vii/317.

support of the Kigezi District Commissioner, who wrote in 1950 that "[t]here must be no swamp cultivation because mosquitoes bread [sic] in the water lying between the potato ridges."[16] However, reclamation for cultivation proceeded in the 1950s, and there were deadly outbreaks of malaria in several communities in Kigezi, where the disease was otherwise uncommon. Medical officials attributed to its low temperatures – and therefore with rising temperatures in the 1980s, their concerns later grew. As reclamation in rural areas proceeded, medical officials argued that it could worsen malaria.

While officials promoted drainage in urban areas, in rural contexts reclamation did not remove water altogether. In part, this was because rural projects did not receive as much maintenance as did drainage infrastructure in Kampala and other large towns. The Kigezi Medical Officer wrote that at many swamps in the district, "along the edges there is extensive swamp reclamation of sweet potatoes, also there are a good many fish ponds – many of which are in the very dilopidated [sic] condition. There is clear water between the potatoes drills and no attempt to fill in with cut grass as people are supposed to do – with a view to preventing Mosquito breeding."[17] The Game Warden argued that the problem was linked to inadequate maintenance of reclamation infrastructure.[18] An aquatic biologist released a study of swamps across Uganda, including the relationship between reclamation and malaria. He found that malarial mosquitoes in Uganda "do not normally breed in swamps [...] There is danger however if swamps are in any way interfered with."[19] In response to these concerns, medical officials recommended practices to limit mosquito reproduction, such as leaving grass in the furrows of wetland agriculture and throwing "trash [...] into any open water lying around the cultivation

[16] Kigezi District Commissioner to the Kinkizi and Ruzhumbura Saza Chiefs, 3 March 1950, KDA, Health 3/MED 7i/179.
[17] Kigezi Medical Officer to Director of Medical Services, 8 October 1957, KDA, Health 3/MED 7-1/113: 4.
[18] Game Warden to Acting Director of Medical Services, 22 July 1959, KDA, Health 8/C-MED 7/96.
[19] L.C. Beadle, *Research on the Swamps of Uganda* (Kampala, Uganda: Makerere College Library, 1959), 13.

since rotting vegetables made the water acid and discouraged mosquito breeding while not affecting the cultivation."[20] Medical officials' objections to rural reclamation were based on its potential to worsen malaria, therefore measures against mosquito reproduction satisfied their complaints until infection rates increased again in the 1980s.

Hydrology: Rethinking Floods and Transpiration

However, other officials were rethinking reclamation by engaging with the hydrological impact of drainage and by quantifying transpiration by papyrus. The Kigezi District Commissioner reconsidered the value of reclamation in 1963, when drainage in Kiruruma North "flooded land lower down which was formerly dry."[21] As reclamation expanded, officials encountered the problem of drainage worsening conditions elsewhere – particularly when water impacted people using the lowest portions of a valley. However, this still left unchallenged the idea that reclamation yielded benefits to most wetland users, negatively impacting only those who used places where drainage further downhill would be impossible.

Soon, officials from Uganda and other governments in the Nile basin began engaging with the question of how much water papyrus actually transpired, rather than simply considering it to be an overly-water intensive plant. The supposed wastefulness of papyrus had become a justification for reclamation in the Nile basin (see Chapter One). Starting in 1966, botanists, hydrologists, and other environmental scientists in East Africa participated in a UN-funded project regarding Lake Victoria, including an experiment to quantify the transpiration rate of

[20] "Malaria," 1959, KDA, Health 8/C-MED 7/100/enclosure.
[21] E.R. Norris to the Permanent Secretary, Ministry of Minerals & Water Resources, 22 January 1963, KDA, Lands 4/DEV 4-5vii/47.

papyrus.[22] This was the first step in evaluating the assumption that papyrus was hydrologically wasteful. By reconsidering the effects of drainage on downhill places, and by quantifying the water consumed by the vegetation that reclamation would remove, officials in the 1960s began acknowledging the existence of hydrological issues for which there was no quick technological fix. Nonetheless, the potential for reclamation to boost agricultural yields outweighed these considerations as district and central government officials continued approving reclamation projects.

Climate: Disease, Water Cycling, and More

Concerns about the impacts of reclamation on broader ecological relationships – including yet irreducible to questions about malaria rates and water tables – emerged following observations of localized climatic changes. (These observations confirmed the hypothesis that colonial agricultural officials offered in the 1940s, i.e., that reclamation would reduce morning mists in southwestern Uganda.) During the 1980s, officials in former Kigezi District began noting rising temperatures and decreasing mists in the southwest. In 1983, the Kabale District Medical Officer explained the continued increases in malaria by noting that "[t]he weather of the district has changed from cold to a warm climate" and that the subcounties "greatly affected" included Buhara, Kamuganguzi, Kashambya, Rubaya, and Rwamucucu, where much of the reclamation in Kigezi District had occurred.[23] District officials also began observing a decline in the amount of mist that shrouded the area each morning, according to former Kabale Environment Officer Paul Sabiiti.[24] These observations of climatic changes provided the strongest scientific basis yet for

[22] *Hydrometeorological Survey of the Catchments of Lakes Victoria, Kyoga and Albert – A Biennial Review (1967-1969)* (Entebbe, Uganda: World Meteorological Association, 1970), 20-23.
[23] Kabale District Medical Officer to Kabale District Commissioner, 20 June 1983, KDA, Health 4/HEA 003/262.
[24] Paul Sabiiti, interview by author, Kabale, 27 February 2020.

opposition to reclamation that focused on broad ecological relationships. Unlike previous government critics of reclamation, who had focused on direct impacts on human health and the hydrological issues associated with flooding and papyrus transpiration, conservationists identified numerous ecological changes affecting malaria, water cycles, and the environment more broadly.

In the 1980s, central government officials became increasingly concerned about reclamation because of its complex and multifarious environmental effects. In 1984, the Uganda Land Commission put a ban on drainage in rural in Kabale (the centre of former Kigezi) "to restore the ecological balance."[25] In 1986, the District Executive Secretary wrote to Kabale chiefs, noting that "[y]ou are all aware of the changes in weather/climate we are now experiencing as a result of having drained most of the existing swamps."[26] That year, the Minister of Environmental Protection wrote that, "Kabale, which had a minimum temperature of 10°C has now got a minimum temperature at 12°C. The 2°C increase having taken place over a period of only 40 years" (i.e., since the completion of drainage at Kashambya, the first major late colonial reclamation project in the region).[27] The new national government expanded the ban on reclamation in rural Kabale into a Uganda-wide ban.

Creating the Program: Ornithologists and Other Conservationists, 1986 to 1989

The year 1986 was pivotal for Uganda and Ugandan conservationism. By installing one of their commanders, Yoweri Museveni, as President, the NRM solidified their victory in a civil war that had started in 1980. Later that year, they established the Ministry of Environment Protection

[25] Katehangwa to all County and Sub-county Chiefs, 26 August 1986, KDA, Lands 4/DEV 4-5vii/317.
[26] Kabale District Executive Secretary to all County and Subcounty Chiefs, 26 August 1986, KDA, Lands 4/DEV 4-5vii/317.
[27] "Meeting Between the Minister of Environment Protection and the Kabale District Team and Planning Committee," 22 December 1986, KDA, Wildlife & Forestry 4/WIL 003/1: 3.

(MEP) which banned large-scale wetland drainage until there was a national policy to regulate practices in wetlands. However, the NRM were not the main impetus behind wetland conservationism in Uganda. By the 1980s, critics of reclamation were framing their arguments using conservation sciences – including accounts of localized climatic changes and internationally-circulating knowledge about wetland ecology. Ornithologists became prominent among these critics, particularly after Mafabi researched the effects of reclamation on crane reproduction at the Doho Rice Scheme (DRS). These changes culminated in 1989 with the creation of the national wetlands program. This section analyzes how conservationists in Uganda used ecological critiques of reclamation to facilitate the creation of the NWCMP despite a lack of commitment from the NRM beyond their own image-making.

The 1986 Ban and the NRM

Interviews with Ugandan conservationists indicate that while the NRM was instrumental in the 1986 ban, the main impetus did not come from the NRM. Although interview participants did not question the role of the NRM, their attributions of credit for the decision did not emphasize it, either. The 1984 decision by the Uganda Land Commission to ban swamp drainage in rural Kabale based further attests to the growing influence of wetland conservationism in the central government even before the NRM took Kampala in 1985.

Only three interview participants mentioned Museveni: Mafabi (i.e., the wetland conservationist with the most experience navigating the politics of the NRM), early outreach officer Teddy Tindamanyire, and one who did so on condition of anonymity. Mafabi explained the ban based on local and international changes before saying “also, I think, it was the philosophy of the government, and particularly I believe it was the President, because it is the

one thing he has said the same from 1986 up to now. Other things he has changed. On this one of wetlands he has maintained the same statement: the need for us to protect them. So I think it was also partly inspired by that."[28] Mafabi identified Museveni as part of the story, but not the main part. Tindamanyire pointed to connections between Ugandan conservationists and representatives of the UN Environmental Program (UNEP) before saying, "[a]nd I think the President also knew and he wanted to make a difference, this is one of the things that was on the national agenda, but also the international agenda."[29] Like Mafabi, she framed Museveni as part but not all of the story. Another conservationist told me anonymously "Museveni can be talked to about wetlands in terms of water, because he's a cattle person," as a powerful man from southwestern Uganda.[30] This explanation also gives Museveni some credit for the ban – but suggests that Museveni shares only some of the reasoning behind it, based on the class and environmental interests of a cattle-oriented worldview. The interview participant's request for anonymity in discussing cattle and wetlands attests to the contemporary recentralization of power including through questions about conservation.

One interview participant identified the role of the NRM more broadly when explaining the ban. Collins Oloya, who in 1991 began working for the MEP and in 2013 became the second and present wetlands commissioner, attributed the decision to the first NRM cabinet – but no specific member.[31] Overall, while Ugandan conservationists see a connection between the 1986 ban and the NRM, they explain the reasons for and the timing of the ban without making primary reference to the NRM.

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[28] Paul Mafabi, interview by author, Kampala, 12 February 2020.
[29] Teddy Tindamanyire, interview by author, Kampala, 10 March 2020.
[30] Interview by author, 2020.
[31] Collins Oloya, interview by author, Kampala, 9 March 2020. Oloya works for the Wetlands Management Department, the present successor to the NWCMP. He became Assistant Commissioner in 2009.

Nonetheless, the NRM used its conservationist reforms to distinguish its image from those of previous administrations under presidents Idi Amin and Milton Obote – although in practice, they rarely implemented the conservationist proposals that would justify this reputation. In 1986, they established their iteration of the Ugandan state newspaper: *New Vision*. It promoted the claim that the new regime would conserve the forests, wetlands, and wildlife that previous regimes had degraded.[32] The NRM used *New Vision* to signal an intention to change environmental policies in Uganda. Especially after the 1988 hiring of journalist Ndyakira Amooti, the newspaper covered multiple environmental issues including wetland conservationism. However, Amooti soon revealed ongoing abuses of environmental laws under the NRM.[33] After enacting the ban on reclamation, the involvement of NRM leadership in wetland conservationism was limited until they made series of laws following the completion of the national policy. These laws authorized both decentralization and recentralization through wetland conservation, and the NRM soon built on the latter possibilities to reassert control over wetlands across Uganda while doing little to prioritize conservationists' proposals.

The 1986 Ban and Changes in Conservationism

Ugandan conservationists attribute the ban on reclamation to a range of environmental, intellectual, social, and political changes in the 1970s and 1980s. In an interview, Mafabi identified national and international organizations as integral to the push for wetland conservation by drawing attention "to the degrading of regional wetlands and the impacts,

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[32] S. Sentamu Makumbi, "Environment Policy," *New Vision*, 30 April 1986: 4. "Population ills must be checked," *New Vision*, 8 July 1986: 4. "Forests make farmers rich," *New Vision*, 5 December 1986: 4. Asuman Nakendo, "Elephants Back from Hiding," *New Vision*, 22 July 1986: 1. Alfred Labongo, "Elephants are near extinction," *New Vision*, 2 September 1986: 5. Conservationist Kidepo, "Director overlooked Parks Act," *New Vision*, 29 July 1986: 5. "Wildlife symposium shows the way," *New Vision*, 9 December 1986: 4.

[33] Ndyakira Amooti, "Illicit bird trade booms," *New Vision*, 26 April 1988: 1, 12. Idem., "Game exports threaten wildlife," *New Vision*, 27 April 1988: 6-7.

especially in the areas of southwest Kabale." Regarding awareness about wetlands among students and teachers, he emphasized the role of the Wildlife Clubs of Uganda (WCU) – a quasi-independent organization founded in 1975 comprised of school-based nature groups, each run by teachers volunteering their time in association with an executive board that employed him as an administrator from 1983-88.[34]

Other government employees became interested in wetland conservation through international networking with representatives of the IUCN, and people associated with the Ramsar Convention. In interviews, other conservationists also explained the ban in terms of changes in global environmentalism and local environments. William Banage and Nora Namakambo, a geographer and one of the first NWCMP officials, pointed to communications between national and international environmental organizations, especially via UN bodies and conferences.[35] Banage said, "it's been a movement worldwide, and Uganda could not be left behind [...] we became part of the international community [...] I can't say 'this is the moment', it just evolved."[36] Margaret Lwanga, who started working for the MEP in 1986, also attributes the ban to global intellectual changes, saying it was because "the science around wetlands was coming through."[37] Local environmental changes figure more prominently in the understanding of Vincent Barugahare, an official who began working for the wetlands program in 1999: "Kabale was very cold, a lot of mist, you couldn't move. [...] Within 1980s, we started observing change in weather patterns. In Kabale, there was also increase in malaria incidences, because malaria in cold places normally is rare, but people in Kabale started getting malaria. Weather

[34] Mafabi, interview by author, Kampala, 12 February 2020.
[35] Nora Namakambo, interview by author, Kampala, 3 March 2020.
[36] William Banage, interview by author, Kampala, 14 February 2020.
[37] Margaret Lwanga, interview by author, Kampala, 9 March 2020.

patterns changed. Water levels, streams started drying."[38] In addition to the change in government regimes, the 1986 ban came from a mix of changing global sciences, degrading local environments, and the interests that national officials had in expanding governance as well as in creating positions in their international networks.

Ornithology and Ugandan Wetland Conservationism

Both the global intellectual emergence of wetland conservation, and its status in Uganda, depended largely on ornithologists. Still, ornithological knowledge regarding waterbirds has tended to lag behind that of other kinds of birds. Wetlands were a "kind of inner frontier: islands of wild and inaccessible nature," therefore ornithologists were relatively slow in compiling knowledge about their birdlife.[39] As the global community of ornithologists turned greater attention towards wetlands in the following decades, they encountered obstacles to knowledge production. To study birds in such areas, participants in a 1990 waterbird conservation conference in Africa heard that "the most useful techniques are mist-netting and tape-recording to identify bird calls, and even to attract birds by playing back their calls. However, these methods are not quantitative and are only useful for compiling a species list."[40] Moreover, waterbirds make their nests in areas guarded by thick vegetation, making their reproduction hard to study.[41] Without the abilities to quantify bird populations or analyze their reproduction, scientific conservation was difficult.

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[38] Vincent Barugahare, interview by author, Kampala, 10 March 2020.
[39] Robert E. Kohler, *All Creatures: Naturalists, Collectors, and Biodiversity, 1850-1950* (Princeton, NJ: Princeton University Press, 2006), 20.
[40] Pomeroy and Christian Perrenou, "Waterfowl Counting Techniques," in *Wetlands and Waterbirds in Eastern Africa*, 34.
[41] William Olupot, Hamlet Mugabe, and Andrew J. Plumptre, "Species conservation on human-dominated landscapes: the case of crowned crane breeding and distribution outside protected areas in Uganda," *African Journal of Ecology* 48 (2009): 123.

Soon after the 1986 ban – which had not been based primarily on changes in waterbird populations, but on other environmental phenomena including malaria, precipitation, and temperature – ornithologists found ways to connect their work to the campaign for wetland conservation. These connections began with two decisions by the Ugandan government: joining the Ramsar Convention in 1988, including the designation of Uganda's first "Ramsar Site"; and hiring Mafabi to lead the NWCMP from its inception in 1989. The 1988 decision to join the Ramsar Convention can be understood as an extension of the 1986 ban on large-scale reclamation. Additionally, doing so helped the new regime re-establish Uganda's position in the international community (which had fallen during the violence of 1971-86). A decade later, Ugandans were developing positions of international leadership – despite the convention coming into force in Uganda after dozens of other countries, including ten in Africa.[42]

The main requirement for a country to join the Ramsar Convention has been designating and committing to conserve at least one Ramsar Site or "Wetland of International Importance." Uganda designated Lake George, in western Uganda, as its first site. This was because it was "the site that had the most information," Mafabi said in an interview.[43] At the time, "most [wetlands in Uganda] d[id] not appear on any maps."[44] Its boundaries included parts of two national parks. Although by 1988 there were few published studies of the wildlife of the area (including a handful of studies regarding birds in the area since 1930), as a tourist site there were over 540 recorded species in Queen Elizabeth National Park including six of the seven East

[42] "Contracting Parties to the Ramsar Convention," 4 November 2019, https://www.ramsar.org/sites/default/files/documents/library/annotated_contracting_parties_list_e.pdf, accessed 4 June 2021.
[43] Mafabi, interview by author, Kampala, 12 February 2020.
[44] Paul Gumonye-Mafabi, "Current habitat assessment activities in aquatic ecosystems," in *Conservation of Biodiversity in Uganda: Proceedings of the Second Conservation Forum*, edited by Derek Pomeroy (n.p.: n.p., 1990), 31.

African "papyrus endemics," one of which was listed as "Threatened" by the IUCN.[45] In addition to wildlife, Barugahare said in an interview that, "a lot of research had been done indicating how the lake was going to die because of human activities. There was Kilembe mines, there was cobalt. The mining was done in the 1960s but the impact was coming out in the 1980s."[46] Some officials may have known earlier: Amooti argued that "[s]tudies carried out as far back as 1975 by Uganda's scientists who did not want to reveal results, for fear of displeasing dictator Idi Amin, indicated that Lake George and the surrounding soils were under stress from copper effluent."[47] Regardless, it became the wetland that had generated the most discussion within the government. Building on the PA system enabled Ugandan wetland conservationists to meet the main criterion for joining the international convention. However, it could not become a basis for spreading conservationism nationally.

Instead, officials were looking for other ways to expand conservation. In 1987 two of the first top MEP officials, Dorothy Etoori and Frank Tuliyatunga, produced a report about wetlands in Uganda. The report included research commissioned from UNEP scientists, who identified climatic changes and biodiversity losses associated with drainage.[48] Etoori and Tuliyatunga recommended that the government establish a national program for wetland conservation.[49] Lwanga, who worked for Etoori and Tuliyatunga at the time, said in an interview that they asked her to recommend someone to lead the NWCMP – and that having graduated recently with a BSc in wildlife management from Makerere University, she knew of a graduate student who was analyzing the effects of reclamation at DRS on the Grey Crowned Crane, Uganda's national

[45] Derek Pomeroy, "Appendix 4: Lake George Ramsar Site," in *Wetlands and Waterbirds in Eastern Africa*, 95.
[46] Barugahare, interview by author, Kampala, 10 March 2020.
[47] Ndyakira Amooti, "Lake George wetland in need of attention," *New Vision*, 8 November 1994: 13.
[48] Lwanga, interview by author, Kampala, 9 March 2020. Barugahare, interview by author, Kampala, 10 March 2020.
[49] "Launching of the National Wetlands Policy," *WetNews*, January-March 1996: 1.

emblem.[50] Tuliyatunga may not have known yet about Mafabi's project, but Etoori would already have been well aware of it: she was one of the two people who suggested it to him, as he said in an interview (along with Higenyi Dumba, a university lecturer from Butaleja District, the location of DRS). Both were Mafabi's friends from the WCU. Etoori invited Mafabi to apply for the position leading the NWCMP, which he got. In an interview he attributed this to his master's research and his administrative experience with the WCU.[51] MEP conservationists created the NWCMP by building on local climatic observations, the national transition under the NRM, and international ornithological networking.

Creating the Policy: Conceptualizing Ecosystem-based Interventions, 1989 to 1995

NWCMP officials justified creating the new policy by attributing multiple environmental changes to reclamation. They identified economic and social impacts of these changes and proposed ecological interventions against the negative trends that communities across the country faced. Framing wetlands as ecosystems that provide numerous benefits required an integrated approach to policy creation. To develop an interdisciplinary perspective, wetlands officials met with officials representing local governments as well as national authorities in agriculture, forestry, medicine, etc. – and international donors. Among these interdisciplinary knowledges, they favoured economic analyses over other ways of knowing wetlands by focusing on the concept of ecosystem services, and related ideas. Meanwhile, some people in southwestern and southeastern Uganda started pressing for conservation before national officials completed the new policy. The policy and legal framework offered possibilities for wetland

[50] Lwanga, interview by author, Kampala, 9 March 2020.
[51] Mafabi, interview by author, Kampala, 12 February 2020.

conservation under local as well as central government bodies. Yet, in subsequent years the NRM's recentralization of power limited the implementation of this policy.

The Ecological Significance of Climate

Early NWCMP officials and other wetland conservationists based their activities largely on concerns about climatic changes, which had emerged in Uganda in the 1980s, and on the ways in which wetlands benefit humans. Their focus on climate is evident even in early drafts of the policy and in communications between local and central government officials. At a waterbird and wetland conservation workshop in 1990, NWCMP officials asserted that, "[a]lthough scientifically unproven, climatic conditioning by wetlands is highly probable and this, coupled with the association of forests with rain catchment, may be responsible for the maintenance of Uganda's fertility."[52] Despite the theory being unproven, other researchers supported it. In 1991, a UNEP researcher who worked in Uganda from 1970-72 and in 1988 wrote,

> [a]s is well known, swamps, forests, and other various types of vegetation cover regulate micro-climates and indeed effect long-term climatic change and ultimately agricultural production. Data collected over the last fifteen years suggest the dynamics of change in micro-climates as a result of ecological interference [sic]. [...] In many places in the country, farmers report that the former light, steady, and long rains of most wet seasons are increasingly giving way to heavy, short-duration downpours, which increase erosion, flooding, and crop damage. [...] Farmers in [Kampala, Mpigi, Masaka, Mukono, Jinja, and Iganga D]istricts now report fewer

[52] Taylor and Gumonye-Mafabi, "Management of Wetlands for Sustainable Use," 16.

> and fewer of these fogs as swampland has been increasingly cleared and drained to produce new agricultural land or obtain mud for house and brick consumption.[53]

Additionally, an early NWCMP report argued that "[t]he ability of swamps to lock up [plant] carbon in peatlike sediment may be very important in alleviating global warming."[54] Wetlands officials focused on climate based on government records, observations by farmers and local officials, and global ecological sciences.

Some local officials, particularly in the southwest, had been observing climatic changes for approximately a decade. In 1991, the Kabale District Executive Secretary ended a circular "direct[ing] [officials] to stop any swamp draining" with a warning: "THE DESERT IS COMING, WATCH OUT AND AVOID IT. DEVELOP THROUGH CONSERVATION."[55] The Rubanda Parish Chair replied by naming individuals and cooperatives who were involved in ongoing drainage despite attempts backed by unanimous support from the district council to intervene (by closing drainage trenches) – and by echoing the Secretary's warning: "[w]e hope that you will cooperate as you develop through conservation in the spirit of avoiding desert."[56] In 1993, the Kabale District Chair wrote to the Secretary that, "[a]ny body seeking utilisation of wetland is an enemy of the people of Uganda. Statistics have revealed that we in Kabale have lost 3% Centigrade [sic] since 60s and this indicates a terrible calamity. The Sub-County Chiefs and [Subcounty] Chairmen should arrest and imprison any body violating wetland policy."[57] Governmental concern about climatic changes in southwestern Uganda – a foundational aspect

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[53] Richard Fusch, "Human Settlement, Political Instability, and Environmental Deterioration in Uganda, 1972-1989," *Centennial Review* 35, no. 2 (1991): 352-353.
[54] Taylor, "General Characteristics of Ugandan Wetlands," n.d., KDA, Lands 33/DEV 4-5/3: 4.
[55] Kabale District Executive Secretary to all County Chiefs, Subcounty Chiefs, and Subcounty Chairmen, 17 May 1991, KDA, Lands 4/DEV 4-5vii/318.
[56] J.B. Kanyamunyu to Kabale District Executive Secretary, 10 January 1992, Lands 4/DEV 4-5vii/319.
[57] Y.B. Baguma to Kabale District Executive Secretary, 1 November 1993, Lands 33/DEV 4-5/23.

of the early NWCMP – came largely from local officials. However, local officials lacked the power necessary to implement the interventions they wanted.

Meanwhile, central government officials became increasingly interested in climatic changes. By 1990, NWCMP officials connected reclamation to "changes in the microclimate in some valleys, decreasing humidity and increasing ambient temperatures."[58] In addition to wetlands, MEP officials were also concerned about reclamation projects causing climatic changes across Uganda. One researcher wrote,

> [a]lready signs of climate change are being felt in this district and elsewhere in the Country. The 1992 drought still lingers in our minds and persists in some parts; Generally, there has been an increase of temperature over S. Western Uganda, and the spread of desert like conditions/bare hills of Mbarara. Overdependance [sic] on fuel wood, use of fire and swamp drainage are partly to blame. Although presently at micro level, if these changes continue, it may have serious consequences in form of prolonged dry seasons [...] there is need for action before the situation gets out of hand resulting into catastrophic deaths.[59]

Conservationists did not argue that drainage was the only cause of climatic change. By associating the climatic significance of wetlands with a range of environmental issues, NWCMP officials used ideas about the ecological impacts of reclamation to emphasize the potential benefits of conservation.

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[58] Gumonye-Mafabi and Taylor, "Draft Wetlands Policy for Uganda," 14 April 1990, KDA, Lands 33/DEV 4-5/2: 5.
[59] Samuel K.M. Nsingwire, "General Environmental Issues with Reference to Kabale District, Uganda," 21 April 1993, KDA, Wildlife & Forestry 7/FOR 3ii/287: 7-8.

Ecology and Economics in Policy Creation

Beyond climate, NWCMP officials identified numerous ways in which wetlands were beneficial for humans if left undrained. They argued that, "the debate about wetlands should not be driven by purely economic pressures. Wetland conservation should be the primary objective, ensuring that this resource remains intact in perpetuity." However, they emphasized the need to "enlist the support of rural people" in protecting the "goods and services" that communities derive from wetlands.[60] They observed that, "[a]s some wetlands have been lost and others severely degraded, society has grown to appreciate the many diverse goods and services provided free by wetlands."[61] To frame these benefits in a way that other officials would understand, and in a way that made it possible to design specific interventions that could affect complex ecosystems in desirable ways, they joined other conservationists in highlighting the economic values of environmental phenomena. To create a conservation policy aligned with the nature of wetlands across the country, and with the priorities of national and international bodies during decentralization and neoliberalization, they focused on the potential value of wetland conservation to communities across the country.

Yet, other officials had already ascribed considerable value to reclamation. Late colonial and early postcolonial elites built reclamation into the national fabric of Uganda. Because reclaimed swamps were large, flat, open spaces, they were often used as fields for sports, dances, and other group activities at churches and schools.[62] Churches, hospitals, and schools bought

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[60] Taylor and Gumonye-Mafabi, "Management of Wetlands for Sustainable Use," 14, 18.
[61] Margaret Lwanga, "Social-cultural values of wetlands: A case study of North Kiruruma Valley, Kabale District, Uganda," *Proceedings 1993 African Crane and Wetland Training Workshop*, 223.
[62] Elisha Kagonyera, "Kiruruma Swamp Reclamation for Agricultural Production" (bachelor's thesis, Makerere University, 1980), 91. URN, "Shs 665m Akii-Bua stadium money well spent – Ministry," 3 November 2018, *Observer*, https://observer.ug/news/headlines/59092-akii-bua-stadium-money-well-spent-ministry. Ritah Ainembabazi, "Nakivubo Stadium Construction on Course – Hamis Kiggundu," 23 September 2020, *SML News*, https://smlnews.ug/2020/09/23/nakivubo-stadium-construction-on-course-hamis-kiggundu/.

much of the rice grown at the demonstration farms.[63] As late as 1984, the government was surveying southeastern Uganda for another wetland in which to open a rice scheme.[64] To reframe the values of wetlands, conservationists sought to demonstrate that they offered even more fundamental benefits to communities.

NWCMP officials emphasized long-standing practices, particularly harvesting grasses and collecting water. They commissioned a study in 1990 to determine the values of wetlands, which "focused on swamp fisheries, papyrus regeneration, and the filtering effects of wetlands as well as their social and cultural values."[65] Whereas in previous decades officials had often overlooked the importance of grass harvesting in favour of drainage, conservation officials highlighted the biological productivity of papyrus. Taylor wrote that it "has one of the highest growth rates of any plant."[66] NWCMP officials noted the importance of papyrus and other grasses in making buildings, fuel, and handicrafts across the country.[67] By considering the value of papyrus – something many farmers had been emphasizing since the 1940s – NWCMP officials began echoing a crucial objection to reclamation.

Conservationists emphasized problems in water collection associated with declining water retention by wetlands. In 1992, researchers noted that, "[i]n the rural areas people collect water for domestic use from swamps. When the swamp is reclaimed and the water table drops and it dries up, people are deprived of their main source of water. As a result women and children have to walk long distances to collect water from alternate sources."[68] *New Vision* also

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[63] For examples, see Uganda National Archives (UNA), Jinja District Archives (JDA), Agriculture 59/14/83-85, 87, 90, 94, 96, 101, 104, 110, 113, 115, 156.
[64] Ministry of Agriculture and Forestry to District Agricultural Officers, 9 February 1984, UNA-JDA, Agriculture 36/29/48.
[65] "Launching of the National Wetlands Policy," *WetNews*, January-March 1996: 1-2.
[66] Taylor, "General Characteristics of Ugandan Wetlands," n.d., KDA, Lands 33/DEV 4-5/3: 2.
[67] Taylor and Gumonye-Mafabi, "Management of Wetlands for Sustainable Use," 16, 20.
[68] J.M. Were, A.D. Muhwezi, and G. Rutaremwa, "Population Pressure, Land Use Changes and Consequences on the Environment in Kabale District Draft Paper," KDA, Lands 4/DEV 4-5vii/326: 38-39.

echoed concerns about water retention. Reporting on interviews that NWCMP researchers conducted with farmers across the country, Amooti wrote that, "[s]wamp drainage is considered to be the cause of increasing water shortage by at least half the peasants interviewed in the study areas. The situation is particularly growing worse in the south-west, according to the research. [...] Springs and wells – which are often adjacent to swamps – are the sources of water for more than 80 per cent of Ugandans. Continued decimation of the swamps therefore is bound to aggravate water shortage in rural Uganda."[69] The following year, he wrote that,

> [u]nsupervised swamp drainage for rice cultivation is threatening to wreck the remaining ecological patches of Tororo [in southeastern Uganda]. The removal of swamps has not only meant the loss of these important wetland habitats, but has led to shortages of water in some places and cause siltation downstream. [...] In some instances, drained swamp areas are baked up in dry seasons to become hard pans. In this way, more barren land is being created in Tororo. In the words of [WCU representative Peter] Olwodo, 'many swamps are now dead'.[70]

Another journalist reported that in some places, because of rice farming "[w]omen now have to walk up to six miles to draw water [...] wak[ing] up as early as 4.00 a.m."[71] In an interview, Lwanga said that during the early years of the NWCMP "we had a drive on using water as one of the catchphrases, because everybody wants water, wants clear water, and what you see in this country, not yours, people are still collecting water from where it comes from."[72] Amooti,

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[69] Ndyakira Amooti, "Land destruction: An urgent problem," *New Vision*, 9 September 1991: 8-9.
[70] Idem., "Tororo moves to restore environment," *New Vision*, 15 May 1992: 8-9.
[71] Tezira Jamwa, "Famine threat in West Budama," *New Vision*, 4 June 1992: 8-9.
[72] Lwanga, interview by author, Kampala, 9 March 2020.

Lwanga, and other Ugandan conservationists promoted wetland policy creation by connecting the ecological and economic issues people across the country faced.

Early NWCMP officials also discussed how biodiversity benefits people. At two conservationist conferences in 1990 in western Uganda – a national one about biodiversity, and an international one about waterbirds and wetlands – Mafabi noted the importance of wetlands for animals commonly used as food including sitatunga and various kinds of fish.[73] *New Vision* published articles describing some of these ecological linkages in terms of their significances for humans. For example, Amooti noted that malaria was rising in southeastern Uganda and argued that this was because of ecological changes associated with reclamation (although not because of climatic changes; the climate was already conducive). He wrote that wetlands there "used to have large-eyed fish species, locally known as *nkongo*, which used to predate on mosquito larvae. This certainly reduced the incidence of mosquitoes in the area. These swamps have been destroyed along with the mosquito's natural enemy – *nkongo*."[74] Wetland conservationists in the NWCMP and *New Vision* developed critiques of reclamation by analyzing numerous ecological relationships – even incorporating older concerns about wetlands and malaria into their argumentation.

To create an institutional basis for these new critiques of reclamation, NWCMP officials collaborated with representatives of international organizations and with other Ugandan officials, including in the central and district governments. The initial plan was to develop within two years a national policy that would enable the government to fulfill its obligations under the

[73] (Sitatunga are antelopes with elongated hooves, enabling them to walk in wetlands.) Taylor and Gumonye-Mafabi, "Management of Wetlands for Sustainable Use," 16. Paul Gumonye-Mafabi, "Wetland ecosystems," in *Conservation of Biodiversity in Uganda*, 12.
[74] Ndyakira Amooti, "Why we should save our wetlands," *New Vision*, 9 August 1994: 14.

Ramsar agreement, which it had signed in 1988.[75] However, the NWCMP started small: for its first three years, it had two staff including Mafabi.[76] They conferred with the National Wetlands Advisory Group (a committee of representatives from different government ministries, academic institutions, and Non-governmental Organizations (NGOs)), but beyond this had little institutional support.[77] In this context, NWCMP officials approached policy development based on the assumption that institutional support would remain low. In a meeting at the Lake George Ramsar Site, they suggested that the government should encourage "self-regulating community groups" to manage the hunting of birds in wetlands because centralized management was not working.[78] Despite the importance of the PA system in enabling Uganda to join Ramsar, NWCMP officials recognized that it would have less value in implementing wetland conservation across the country.

In part this was because the government had little knowledge regarding most wetlands in Uganda. In the 1990s their main source of data was what many referred to as "the Langdale-Brown map," a 1964 nation-wide study of different environmental types.[79] Conservationists identified shortcomings regarding wetlands in this map by 1990. Mafabi said at the national conservation forum that, "[i]t is clear that the classification adopted by Langdale-Brown [...] has insufficient categories for wetlands," and that the scale they used (1:50,000) was not fine-grained enough to include "the many small, but important wetlands" of Uganda. It was therefore

[75] Mafabi, "National Wetland Policy," 4.
[76] Reint J. Bakema and Paul Mafabi, "Towards Sustainable Wetlands Management: The Ugandan Experience," in *Wetlands of Ethiopia: Proceedings of a Seminar on the Resources and Status of Ethiopia's Wetlands*, edited by Yilma D. Adebe and Kim Geheb (Nairobi, Kenya: IUCN, 2003), 105.
[77] Marcela Bonnells and Monica Zavagli, "National Ramsar/Wetlands Committees Across the Six Ramsar Regions: Diversity and Benefits," *Journal of International Wildlife Law & Policy* 14, no. 3-4 (2011): 269.
[78] Taylor and Gumonye-Mafabi, "Management of Wetlands for Sustainable Use," 19.
[79] Mafabi, interview by author, Kampala, 12 February 2020. I. Langdale-Brown, H.A. Osmaston, and J.G. Wilson, *The Vegetation of Uganda and its Bearing on Land Use* (Kent, UK: The Government of Uganda, 1964).

"particularly hard to assess wetland losses."[80] Furthermore, the "wetlands of greatest importance for the conservation of biological diversity may be the smallest in individual area, since it is the interface zone [i.e. wetland perimeter or ecotone] that governs diversity, rather than total area," making this limitation significant for biodiversity conservation.[81] Access to scientific knowledge regarding vegetation and most animals in wetlands in Uganda remained limited, although Derek Pomeroy suggested that because they "support many species of birds[, a]s other groups come to be studied, it is likely that they too will be found to be highly diverse."[82] Until they had more data, NWCMP officials had limited capacity to identify the ecological and economic significances of wetlands.

Funding Policy Creation

Producing more data required funding and training, which NWCMP officials obtained mainly from international sources. Makerere remained a crucial educational institution and the Ugandan government contributed towards the some of the costs of NWCMP through offices, utilities, and some salary costs – but international organizations and other governments were integral for training, travel, and other aspects of the program. One of the first two NWCMP officials was Taylor, whom the IUCN employed there from 1989-91. Additional support came through the IUCN, Ramsar, UNEP, and European governments. However, in the late 1990s, the instability associated with having to locate and obtain new funding prompted wetlands officials to pursue greater support from the central government.

The NWCMP depended largely on international organizations for funding. In an interview, Namakambo said,

[80] Gumonye-Mafabi, "Wetland Ecosystems," 10
[81] Idem., "Appendix 1.4 Uganda," 70
[82] Pomeroy, "Appendix 4: Lake George Ramsar Site," 96.

> [w]hatever we developed was either through IUCN, UNEP, or Ramsar. So for them they helped us setting up, getting donors. [...] Ramsar was doing that support function. IUCN did a lot of technical assistance. With Ramsar, we drew from what they had in their archives. And whatever they were developing as principles of guidelines, we were picking on them, and trying to see where we would fit. We were using their guidelines to make our own guidelines. UNEP was another one for financing and support.[83]

The NWCMP obtained its first international funding from the IUCN and UNEP, and from European governments contacted through these organizations.

These organizations provided connections to European governments. The Norwegian government funded the NWCMP from 1989-92.[84] The Dutch government then became its main international donor until 1998, and continued funding it into the 2000s.[85] The Belgian government became a major international donor to the NWCMP starting in 1996.[86] This funding enabled the NWCMP to train and support administrative, technical, and outreach personnel in the coming years, totalling five to ten such officials at a time. Funding for some of the training workshops and programs also came from other international sources. For example, several agencies funded the 1990 waterbird and wetland workshop.[87] Furthermore, NWCMP officials

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[83] Namakambo, interview by author, Kampala, 3 March 2020.
[84] Mafabi, interview by author, Kampala, 12 February 2020.
[85] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda: External Review Mission" (Kampala, Uganda: Royal Netherlands Embassy, 1998), 2.
[86] Government of the Republic of Uganda, "National Wetland Conservation and Management Programme – Phase III" (n.p: n.p, 1996), 5. Mafabi, interview by author, Kampala, 12 February 2020.
[87] These included the Ramsar Convention Bureau, the Danish government, the Swiss government, the British High Commission, the Consul-General of the Netherlands, IUCN, the Royal Society for the Protection of Birds, and World Wildlife Federation, as well as the Uganda Ministry of Environment Protection and Uganda National Parks. (See C.M. Finlayson and D.E. Pomeroy, eds., *Wetlands and Waterbirds in Eastern Africa*, foreword, and C.M. Finlayson, "Welcome Address," in *Wetlands and Waterbirds in Eastern Africa*, 5).

obtained a number of smaller grants to supplement the external governmental funding.[88] Starting relationships with new donors created extra work, because "when you come with a new donor, you're starting basically anew," said Mafabi in an interview.[89] However, this work enabled Ugandan wetland conservationists to advance their positions in the government by developing the policy, and, later, in international conservationist networks by sharing their experiences.

By the late 1990s, having seen international donor programs start and end, NWCMP officials sought a permanent source of funding to promote the institutional sustainability of governmental wetland conservationism. In 1998, the government agreed to form a Wetlands Inspection Division (WID) as a permanent body.[90] In 1999, a number of NWCMP officials, whose work was funded primarily by international donors, "lobbied strongly" to be transferred fully to the ministry payroll via the WID: Mafabi, Namakambo, Tindamanyire, and Lucy Iyango (who joined the NWCMP in 1994).[91] In 2000, the government transferred them and "raised the funding of wetland activities from an average of 10-20m Ush during the last 3 years, to 300m […] with a commitment for similar funding levels in the years to come." The funding was for capacity-building and outreach particularly among district governments, which facilitated decentralization, as well as for increasing the number of staff at the WID and its capacity for centralizing and compiling knowledge production.[92] This spending increase was in response to the challenges of finding and working with a succession of international donors, and marked a departure from the neoliberalization that the NRM usually pursued. Yet, it increased the

[88] Wetlands Inspection Division, "Semi-annual Report January-June 2000" (Kampala, Uganda: IUCN and Ministry of Water, Lands, and Environment, 2000), 5.
[89] Mafabi, interview by author, Kampala, 12 February 2020.
[90] Namakula Regina, "Wetlands Management Department Born," *WetNews*, January 2008: 4.
[91] Wetlands Inspection Division, "Semi-annual Report July-December 1999" (Kampala, Uganda: IUCN and Ministry of Water, Lands, and Environment, 2000), 8.
[92] Idem., "Semi-annual Report January-June 2000," 3, 8.

authority that the central government had over the activities of wetlands officials, creating the possibility for wetland conservation to become part of a recentralization of power.

Integrating Perspectives on Policy Creation

Creating a national policy regulating the usage of a type of ecosystem with multiple significances required the perspectives of officials representing multiple sectors of government. Conservationists had convinced the Uganda Land Commission to enact the ban on drainage in Kabale, and the NRM to extend the ban country-wide, but otherwise interest in wetland conservation among central government officials was low. NWCMP officials met with officials from a range of bodies in the central government, as well as in various local governments, to increase interest in their work. The main forum for central governmental networking was the Inter-Ministerial Committee, formed in 1989 of representatives from eighteen national ministries and departments "to guide the development of the policy and ensure that inputs were provided from those institutions with responsibilities for wetland management."[93] Despite the number of government bodies involved in the committee, records from it in major archives are few.[94] Interviews with former NWCMP officials indicate the significance of these conversations in shaping their approach to policy creation.[95] Crucially, wetlands officials found that agricultural officials had entrenched approaches to land use and began reconsidering the ecological significance of rice farming.

Interdisciplinary networking informed wetlands officials of issues in diverse sectors of government while increasing other officials' knowledge of wetland issues. These officials'

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[93] "Launching of the National Wetlands Policy," *WetNews*, January-March 1996: 1. ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 9.
[94] JDA, KDA, UNA.
[95] Mafabi, interview by author, Kampala, 12 February 2020. Lwanga, interview by author, Kampala, 9 March 2020.

expertise covered numerous environmental issues, including agriculture, fisheries, health, land, wildlife, and more. In an interview, Mafabi said that, "there was a lot of initial activity actually centered around awareness. And that awareness was mostly within the government because we realized that the terms of policy, there were a lot of policies that were conflicting with the conservation of wetlands, so that's why we focus so much on building awareness, especially within government, but also having institutional coordination. So one of the first things we need to do, was to set up an inter-ministerial committee which was bringing together people from lands, finance and others."[96] At a 1990 conference, Taylor and Mafabi wrote that the people who live near a wetland often make several uses of it and therefore understand that wetlands have multiple values, whereas the various officials under whose jurisdictions wetlands fall – e.g., fisheries officers, forestry officers, medical officers – have singular focuses.[97] NWCMP officials networked with other central government officials to share their broad view of wetlands, and to sharpen their approach to policy creation by incorporating the perspectives of specialists representing multiple disciplines.

Among the topics that NWCMP officials discussed with other environmental experts, rice farming was perhaps foremost. In an interview, Lwanga recalled that,

> rice growing was really at the helm. [...] when the policy was being approved, it was the Ministry of Agriculture, was the one that had a lot of questions [...] Should we stop growing the rice? What are the alternatives? Of course, upland rice came, that was a good option. But then upland rice seemed to be a different part of the country. Where the paddy rice is being grown, they don't grow

[96] Mafabi, interview by author, Kampala, 12 February 2020.
[97] Taylor and Gumonye-Mafabi, "Management of Wetlands for Sustainable Use," 25.

> upland rice. Because the question is how can those farmers grow paddy rice without leading to drainage. Because when you are in those places, some of those places have dried out [... But] can we say it's rice growing, or a climate change issue?[98]

As NWCMP officials engaged with these questions, they became less rigid in their views of reclamation, which they began seeing as sometimes compatible with conservation.

By 1990, NWCMP officials had been engaging with the challenges of integrating rice farming into the policy. Mafabi based his master's research on the premise that the spread of rice farming was limiting crane reproduction, but as head of the NWCMP he began emphasizing the different relationships between birds and rice. At the 1990 conference regarding biodiversity across Uganda, he noted that rice paddies "support large numbers of birds" other than cranes.[99] At the 1990 conference for waterbird and wetland conservation, he said that rice farming in wetlands could be "[s]ustainable development" if managed properly.[100] And at the Crane and Wetland workshop held in Maun, Botswana in 1993, Ugandan ornithologists identified complex relationships between rice and birds, saying that while Little Bitterns and Hammerkops were less common on rice fields than "natural wetlands [...] All the remaining species were relatively common on rice fields particularly DRS. Many species were restricted to rice fields between November and March."[101] Beyond this, the Ugandan delegation to Maun mentioned in their Action Plan that "Crowned cranes can tolerate some human activities such as cultivation, as is evidenced by their nesting close to [...] rice fields (Doho)."[102] Not only did it seem that cranes

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[98] Lwanga, interview by author, Kampala, 9 March 2020.
[99] Gumonye-Mafabi, "Wetland ecosystems," 12.
[100] Taylor and Gumonye-Mafabi, "Management of Wetlands for Sustainable Use," 18-20.
[101] Pantaleon M. B. Kasoma and Julius Arinaitwe, "Lakeshores and Wetlands as Habitats for Ciconiiform Wading Birds in Uganda," in *Proceedings 1993 African Crane and Wetland Training Workshop*, 240.
[102] "Uganda Crane and Wetland Action Plan," in *Proceedings 1993 African Crane and Wetland Training Workshop*, 637.

may have a degree of tolerance to rice farming, but also that rice farms could provide habitat for a range of other bird species – even their sole habitat in some seasons. As conservationists found that the relationship between farming and biodiversity was more complex than they had initially thought, they began rethinking connections between ecological and economic changes.

Making a national policy required conservationists to give more attention to the significance of human activities for conservation projects. When Mafabi shared his experiences developing the Ugandan national policy with the sixth Ramsar COP, he said that, "[a]lthough the initial focus of the Convention was on conservation of wetlands especially as waterfowl habits, we now recognize that wetland conservation is not just about birds but about human survival and welfare as well as wildlife survival. Therefore, we now have to answer tough questions such as [...] how much rice can be grown before a wetland changes its ecological character?"[103] They had little choice: an external program review by the Dutch government noted that the Ministry of Agriculture, Animal Industry and Fisheries "inevitably encroach on wetlands in some parts of the country, e.g. Pallisa."[104] NWCMP officials abandoned the idea that reclamation necessarily precluded wetland conservation after engaging further with questions about the environmental significance of rice farming, and by starting to engage with questions about the relationships between conservation and people. However, as the policy would show, their position on rice farming remained ambivalent.

Alongside discussions among in the central government about integrating different perspectives on wetland uses, officials also met with local government officials regarding policy creation to solicit feedback and raise awareness. These discussions unfolded in accordance with a directive in place by 1990, to decentralize some functions of the central government to the

[103] Paul Mafabi, "Implementation of National Wetlands Policies: Opportunities and Challenges," in *Report of Technical Session A*, 28.
[104] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 31.

district governments. The NWCMP made wetlands one of the first bases for interaction between the environmental ministry and district governments: "the MEP's own District level structure is incomplete. Indeed the Wetlands Programme is acting as a model of how other areas of environmentally sound management may be coordinated at District level and below," noted an early draft of the national policy.[105] (NWCMP officials later heralded their program as the "first born child" of the MEP.[106] In an interview, ornithologist Julius Arinaitwe said that among government conservationists in the 1990s "wetlands symbolized interest in the environment to a large extent."[107]) In 1991, the Kabale District Environmental Sub-committee noted that they agreed with the proposed policy, although "they however wish[ed] to add that: Technical qualification of 'hazardous uses' [should] be provided for various localities to facilitate policy implimentation [sic]."[108] NWCMP officials solicited input from various local and central officials to create a policy promoting the conservation of wetlands based on their multiple values to communities across the country.

Conservation during Policy Creation

Local officials in some places were also making conservation policies before national officials completed theirs. By the early 1990s, local officials in southeastern and southwestern Uganda had expanded their critiques of reclamation by creating wetland conservation policies for their jurisdictions rather than waiting for the central government to finish the national policy. In the keynote address to a 1991 MEP seminar about wetlands policy creation, the Commissioner for

[105] "Design of a Long Term Wetlands Programme," n.d., KDA, Lands 33/DEV 4-5/1: 22.
[106] "The Odyssey of the Wetlands Programme," *WetNews*, January-March 1999: 1.
[107] Julius Arinaitwe, interview by author, Kampala, 2 January 2020.
[108] Kabale District Environmental Sub-committee, "Minutes of Wetlands Policy Review Committee Meeting," 12 July 1991, KDA, Wildlife & Forestry 4/WIL 003/26: 1-3.

Environment Protection noted that the district governments of Soroti and Kumi (in southeastern Uganda) had laws forbidding drainage.[109]

Beyond policy creation, farmers in some places were already moving towards implementing conservation by opposing the individual and corporate leasing of wetlands – with varying degrees of success. In 1992, Amooti wrote about legal conflicts that emerged "[a]s the swamps face the panga and the hoe [...] ordinary *wananchi* in some districts and local administrators in alliance with community leaders, say they cannot wait for the government policy and legislation to be in place. They have decided to take the bull by the horns, and foiled a number of 'illegal' swamp drainage [sic]." Regarding the southeast, he noted that, "[i]n the case of Tororo, isolated incidents of farmers taking up arms against swamp encroachers in the name of developers, have been recorded in Iyolwa. Here peasants foiled a plan by some people to lease swamps in the area." Community-based organizing prevented wetland leasing in some cases.

However, conservationist farmers in other places were having less success against the neoliberalization of wetlands. In Kisoro District, farmers and some local officials who had been unable to stop people from expanding reclamation took one of their complaints to the High Court of Uganda, after "administrators openly sided with the intending developer." Regarding Bushenyi District, he wrote that the dynamic between farmers and top local officials was the opposite: "[m]illet cultivators who had invaded Orutsindura swamp at the beginning of this season had to be evicted with the help of the police." Still, Bushenyi officials were also able to mobilize farmers to block drainage channels in five wetlands. He lamented that in Kabale District, "there is no effort yet to save the rapidly dwindling swampy ecological zones in the district," despite the existence of local and national policies against drainage there.[110] An MEP

[109] T.O. Acere, "The Need for a National Wetlands Policy," n.d., KDA, Lands 33/DEV 4-5/4: 3.
[110] Ndyakira Amooti, "Peasants fight to protect swamps," *New Vision*, 2 December 1992: 10-11.

official noted of Kabale that "some of the would-be implementors of the bye-law were also participating in the draining of the wetlands."[111] Kampala-based conservationists were learning that the conflicts between farmers and local officials varied between wetlands.

NGO personnel also began work on wetlands before the completion of the policy. In 1993, Amooti wrote about an NGO in Bushenyi District (former Kigezi), the Rukararwe Partnership Workshop for Rural Development, which one of its co-coordinators started in 1987 after attaining a Master's of Economics in Europe. The NGO had been encouraging "peasant farmers, traditional healers, black smiths and craftsmen" to use native plants and other products from swamps like clay to generate livelihoods, rather than practice reclamation.[112] Amooti did not analyze the impact of the NGO, but indicated its focus on the economic significances of wetlands.

While farmers, local officials, and NGO members began working on local-level conservation efforts, NWCMP officials were completing the national policy. After over four years of discussions between representatives of various local and central government bodies, and of multiple international organizations, the NWCMP had finalized a draft. In December 1993 they submitted the final draft to "scientists from environment, water, game, fisheries, land departments [...] as well as environment non-governmental organisations."[113] Following this feedback, they submitted it to the national cabinet for approval in April 1994. The cabinet approved it in July 1994, and the NWCMP launched it in November 1995.[114]

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[111] "Report on the Trip to Assess Wetland Issues in South-Western Uganda," 10 November 1992, KDA, Lands 4/DEV 4-5vii/327: 4.
[112] Ndyakira Amooti, "Bushenyi takes steps on environment," *New Vision*, 6 January 1993: 10-11.
[113] Idem., "Wetlands law in offing," *New Vision*, 21 December 1993: 12.
[114] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 6.

The National Policy and the Legal Framework

The policy is sixteen pages. It summarizes the importance of wetlands to people, the problems facing "wetland resources," and a set of goals, principles, and strategies for rectifying existing problems and preventing future ones. It also includes a set of guidelines for development, prioritizing certain practices: collecting water, harvesting grass, fishing, and public grazing of cattle. The guidelines do not mention farming rice or sweet potatoes, or private cattle grazing.[115] However, the policy reveals tensions within Ugandan wetland conservationism regarding how to implement these recommendations. It highlights the need for communities to implement wetland conservation – along with the need for the government to educate communities regarding the significance of wetland conservation.[116] In coming years, the contradiction between conservationists' simultaneous reliance on communities' autonomy and on government initiatives drove conflicts regarding policy implementation.

Socioeconomic divisions, including differential access to central government decision-makers, structured these conflicts. Regarding extant "massive drainage especially in Kabale, Bushenyi and Iganga" (representing the southwest and southeast), the policy advocates rehabilitating certain wetlands through actions that "may range" from working with people who have leases "to full rehabilitation after the lease has been cancelled or eviction on case of users with no leases."[117] The recognition of existing leases meant that the policy could do little to reverse the neoliberalization of land that had the NRM had overseen. The policy thereby relied on communities to oppose the neoliberalization of wetlands on their own, as when farmers at Iyolwa wetland prevented the issuance of leases. Recognizing leases also meant that the policy

[115] "National Policy for the Conservation and Management of Wetland Resources," 13-14.
[116] Ibid., *iii*.
[117] Ibid., 8.

could not challenge the recentralization of power over land that marked subsequent decades, as the government continued to approve leases in wetlands.

The policy frames wetlands as "resources" that have "ecological functions" and "socioeconomic functions" of benefit to communities. It does not use the term "ecosystem services." However, NWCMP officials had identified "services" provided by wetlands since the early 1990s, and Ugandan wetland conservationists later incorporated the term. In 2004, wetlands researchers wrote that, "these ecosystems can provide a wide range of products and services."[118] Also that year, the NWCMP reached an agreement with Uganda Breweries Limited in which the latter paid 25,000 USD for conservation efforts in "acknowledge[ment] that its activities lead to pollution of the wetland and water in Lake Victoria" (see Chapter Six); in 2013, Ugandan conservationists framed this as an example of "payment for ecosystem services."[119] The emphasis on identifiable and valuable functions enabled the policy to emphasize certain aspects of wetlands as justifications for conservationist interventions. It also enabled NWCMP officials to continue networking with international donors, by specifying the social services that would be provided through wetland conservation.

The policy also includes a provision for the creation of "Protected Wetlands Areas."[120] This builds on an idea that Mafabi proposed at Uganda's Second Conservation Forum, when he said that creating "Wetland Reserves" as a new category within the PA system would afford additional protection.[121] The exact legal character of the areas mentioned in the wetlands policy

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[118] Beatrice Okello and Rita Laker-Ojok, "The Critical Triangle Relationship between the Diversity of Wetlands Utilization, the Enhancement of Agricultural Productivity and Food Security in Uganda," IFPRA Eastern Africa Food Policy Network Report 8 (Kampala, 2004), 4.
[119] Pauline Nantongo Kalunda, Annet Ssempala, Adrine Kirabo, and Jude Sekabira, "Effectiveness of Payment for Ecosystem Services in Uganda," in *Proceedings of the Second Uganda Conservation Conference: Conservation Conference 24th-25th May 2012, Kampala*, comp. Dianah Nalwanga Wabwire, eds. Derek Pomeroy and Achilles Byaruhanga, 18-39 (Kampala, Uganda: NatureUganda, 2013), 28.
[120] "National Policy for the Conservation and Management of Wetland Resources," 6.
[121] Mafabi, "Wetland Ecosystems," 12.

is undefined. The central government has rarely implemented this clause, likely because of the limited economic benefits it has ascribed to wetland conservation compared with Forest or Wildlife Reserves. They designated Nakivubo Wetland as Uganda's first wetland PA after its wetlands officials identified its economic significance to Kampala (see Chapter Six).

By December, legislators were drafting laws to facilitate policy implementation.[122] These included several passed between 1995-98: the National Environment Statute 1995, the Constitution 1995, the Local Government Act 1997, and the Land Act 1998.[123] The new Constitution declared that "the Government or a local government […] shall hold [wetlands] in trust."[124] Ascribing authority to multiple levels of government afforded opportunities for any officials to pursue wetland conservation. This provided a legal basis for continued decentralization by giving new powers to local governments, yet also for recentralization by giving additional power to the central government.

These environmental laws superseded the extant legal framework regulating what the government considered natural resources. Prior regulations included the Factories Act of 1964, the National Parks Act 1964, the Game Preservation and Control Act 1964, Plant Protection Act 1964, Game Preservation and Control Amendment Decree of 1975, and the Control of Agriculture Chemicals Bill 1988.[125] Mafabi later wrote, "[t]his quick succession of laws and attendant wetland clauses gave the National Wetlands Policy statutory 'muscle'. It also created, however, a certain level of confusion, notably on the status of wetlands as a natural resource."[126] As subsequent chapters of this dissertation show, the implementation of the policy and legal framework involved numerous actors and tensions between them. Having a world-leading policy

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[122] Ndyakira Amooti, "Wetlands policy approved," *New Vision*, 20 December 1994: 16.
[123] Mafabi, "National Wetland Policy," 4.
[124] 1995 Constitution of the Republic of Uganda, article 237(b).
[125] Jolly Azabo, "Butele cautions on wetland protection," *New Vision*, 11 February 1991: 16.
[126] Mafabi, "National Wetland Policy," 4.

came with successes and challenges – which Ugandan wetland conservationists shared with experts from around the world.

International Legacies of Ugandan Policy Creation into the Twenty-first Century

By enacting its policy in 1994, Uganda became the first country in Africa and the third worldwide to have one. At that point, Ugandan wetland conservationists had already begun sharing their experiences in policy creation through Ramsar. In subsequent years they have published through Ramsar and in academic journals, hosted international exchanges of knowledge, and travelled abroad to attend conferences as well as to consult about creating policies and programs.

Uganda became prominent in international wetland conservation mainly through the Ramsar Convention. Their influence began in discussions about the concept of "Wise Use." The term appears in the 1971 Ramsar Convention but was undefined. In 1987, participants at the third COP defined it in terms general enough to enable global exchanges of knowledge: "human use of a wetland so that it may yield the greatest continuous benefit" to living and future generations.[127] Ramsar formed a Wise Use Working Group to report on practices around the world. They met from 1990-93, producing a report highlighting fifteen case studies illustrating the concept of Wise Use: twelve local and three national, i.e., Canada (the second country with a policy), and Equatorial Guinea (regarding its coastal management), and Uganda.[128] Later, Mafabi based much of his approach to consulting abroad on this global approach to local issues.

[127] "Recommendation REC C.3.3. Annex: Definition of Wise Use," 1987 https://www.ramsar.org/sites/default/files/documents/library/key_rec_3.03e.pdf2, accessed 2 June 2021. David Farrier and Linda Tucker, "Wise Use of Wetlands Under the Ramsar Convention: A Challenge for Meaningful Implementation of International Law," *Journal of Environmental Law* 12, no. 1 (2000): 21-42.
[128] T.J. Davis, ed., "Towards the Wise Use of Wetlands" (Gland, Switzerland: Ramsar Convention Bureau, 1993).

Mafabi was the wetland conservationist who was most active in developing Ugandan international influence. He participated in academic conferences, interactions through the Ramsar Convention, and NGO meetings and trainings. His first trip for this work was through the International Crane Foundation (ICF). In 1987 he presented his findings at their sixth workshop, held in Heilongjiang, China.[129] After becoming NWCMP commissioner, he discussed Ugandan policy-making at international conferences including in 1990 in Queen Elizabeth National Park and in 1993 in Maun, Botswana. In 1995, he received an Environment Leadership Award from the Nairobi-based East African Environment Network, for his work towards the national wetland policy.[130] In 2003, he participated in an Ethiopian policy creation workshop by sharing Uganda's experience.[131] Later, he was one of five main contributors to the Ramsar guide for how to develop a national wetlands policy.[132]

Most of Mafabi's travelling was under arrangements made through the Ramsar Secretariat. In the early and mid-2000s, he visited a number of countries as a "Resource Person," as he said in an interview. He consulted in Botswana, Tanzania (twice), a number of West African countries including Benin and Senegal, as well as Trinidad and Tobago. His roles each case were "facilitating discussion about policy," and sometimes "imparting skills to some of the people" such as inventorying wetlands in a country. For example, in an interview he explained that he consulted in Tanzania because "[t]hey had chosen not to have a separate wetland policy. But they wanted to make sure that the wetland issues are adequately addressed as they were revising their wildlife policy." All of these consultations, being exchanges through Ramsar, were

[129] PG Mafabi, "The ecology and conservation status of the Grey Crowned Crane in Uganda," in *Proceedings of the 1987 International Crane Workshop, Qiqihar, China*, edited by JT Harris, 363-367 (Baraboo, WI: ICF, 1991).
[130] "Wetlands Manager Wins an Award," *WetNews*, July-September 1995: 1.
[131] Bakema and Mafabi, "Towards Sustainable Wetlands Management," 97-107.
[132] *Handbook 2: National Wetland Policies, 4th ed* (Gland, Switzerland: Ramsar Convention Secretariat, 2010), 8.

about applying "best principles [...] within the broader framework of Wise Use of wetlands."[133] As indicated in a follow-up interview conducted primarily to elicit more details, Mafabi approached these consultations using a similar framework and remembered them in global terms. For example, when asked about Trinidad and Tobago, he replied,

> Well, all of them have to do with human problems, all of them have to do actually with human activities, a growing population, urbanization. And of course, there's no money, budget, or lands where the poor tend to, we're seeing here in Kampala that the poor tend to go more into the marginal areas. But also the rich who have the resources and the means to degrade. So we have both of them. So it is really the human activities. I think, by the time we started the policy formulation process, the issue of climate change was not really a major issue. That, of course, has now changed. As we speak, now, of course, it's a big area of focus for wetland conservation, but then, it was more of the habitat degradation, more of the growing population, and the pressure now that is being exerted on the wetlands. So of course, a number things have changed. We didn't have a big problem with extractive industries in those days, but now it is the big issue.[134]

His approach to international consultations was facilitating discussions about the local manifestations of global phenomena – such as the longer-standing issue of urban manifestations

[133] Mafabi, interview by author, Kampala, 12 February 2020.
[134] Mafabi, interview by author, Kampala, 3 March 2020.

of socioeconomic inequality, and more recent concerns about climate change – regarding which he proposed solutions based on the "Wise Use" framework.

In these years, Mafabi also shaped global wetland conservationism through other international organizations. In the 2000s-10s, he participated in conferences in China and Thailand held by WetlandsInternational and the IUCN – including as a member of the Supervisory Council of WetlandsInternational during its 2014 meeting, providing "policy direction, and oversight of the organization."[135] Unfortunately, in 2020, he died prematurely.[136] Other Ugandans continue building Ugandan international influence through a range of positions abroad that involve waterbird and/or wetland conservation, including BirdLife and the IUCN (two of Ramsar's six present International Organization Partners) and the ICF.[137]

In addition to work abroad, Ugandans have hosted exchanges of knowledge. The largest example so far has been the ninth Ramsar conference, COP9, in 2005, with over one thousand participants representing 146 hundred countries. In part, it reflected Ugandan influence based on work abroad. The delegation from Trinidad and Tobago "paid tribute to Uganda as a pioneering force in wetland conservation and thanked Paul Mafabi for his contribution to [their] Wetland Management Programme."[138] But Ugandans had also influenced international wetland conservation by hosting exchanges of knowledge in Uganda by 1990. In 1994, they hosted a wetlands awareness strategy workshop in which experts from Kenya and Tanzania

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[135] Ibid.
[136] "Senior environmentalist succumbs to COVID-19," *New Vision*, 16 September 2020, https://www.newvision.co.ug/news/1527142/senior-environmentalist-succumbs-covid-19, accessed 17 September 2020.
[137] Adalbert Aine-Omucunguzi, interview by author, Kampala, 30 January 2020. Arinaitwe, interview by author, Kampala, 2 January 2020. Barugahare, interview by author, Kampala, 10 March 2020. Lwanga, interview by author, Kampala, 9 March 2020.
[138] "9th Meeting of the Conference of the Parties to the Convention on Wetlands, Kampala, Uganda, 8-15 November 2005" (Gland, Switzerland: Ramsar Convention Secretariat, 2005), 6.

participated.[139] In 1995, they hosted a subregional Ramsar workshop for Eastern Africa with delegates from Burundi, Ethiopia, Kenya, Rwanda, and Tanzania.[140] In 1998, they hosted 25 foreign experts "to review wetland activities around the world and to develop a strategy for the IUCN global initiative on ecosystem management," and separately hosted the third Pan-African regional Ramsar meeting, for policy-makers to review implementation efforts and plan for the next COP.[141] In the 1990s-2000s, representatives from Bangladesh, Japan, Pakistan, and other countries also visited, and IUCN representatives convey the Ugandan experience to Vietnam which was developing its own program.[142] In 2007, Uganda hosted the second Ramsar training for English-speaking African countries on Wetlands and Poverty Reduction.[143] COP9 continued a longer history of hosting international exchanges of knowledge.

Hosting COP9 was an initiative that the NRM started yet supported ambivalently – as had been the case with the 1986 drainage ban. In an interview, Mafabi said "the hosting of the COP in 2005 was really an initiative by the government, because they felt they had a lot to share with the international community." Furthermore, Ramsar had been moving towards hosting its conferences outside Europe and North America, and "it was clear that it was time for Africa to also host such a meeting and of course, countries in Africa like South Africa, maybe Egypt, had much more developed facilities, but in terms of wetland conservation things to show, there was little. So Uganda of course took the leadership in that case."[144] The NRM took the initiative to host COP9 as a way to advance the international image of Uganda as an attractive place for experts from around the world.

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[139] Amooti, "Wetlands policy approved," *New Vision*, 20 December 1994: 16.
[140] "Uganda Hosts the Eastern Africa Sub-Regional Ramsar Workshop," *WetNews*, January-March 1996: 14-15.
[141] "Uganda Hosts IUCN Wetlands Advisory Group," *WetNews*, March-June 1998: 7.
"3rd Pan-African Regional Meeting Kampala, Uganda," *WetNews*, March-June 1998: 17.
[142] Namakambo, interview by author, Kampala, 3 March 2020. Wetlands Inspection Division, "Semi-annual Report January-June 2002" (Kampala, Uganda: IUCN and Ministry of Water, Lands, and Environment, 2002), 2.
[143] Gladys Kalibbala, "Protect Wetlands," *New Vision*, 8 October 2007: 44.
[144] Mafabi, interview by author, Kampala, 12 February 2020.

However, the conservation officials who organized and attended COP9 found that support from the Ugandan government was less than total. Organizers experienced this as issues associated with hosting an international conservationist conference in a developing country arose. Namakambo said in an interview,

> I remember, we were a skeleton staff working to organize the COP. All I know, the biggest thing is how you are not many, and how you are struggling to organize a COP. And situations where the government is required to contribute and the resources are very difficult out of government. [...] And I remember at one point, the venue, they wanted money paid, it was the last minute, and the money hadn't been released by government and such, and in all these correspondences between the venue which we have agreed on, and then we have to pay it as government, or it was a hoax, and the deadline has come. They're saying we want our money before we confirm for you. So, the convention, the logistics, the whole thing about financing, when a government signs, it was not easy, but we ended with success. But it was not easy.[145]

These issues reflected the difficulties not only of governing with limited resources, but also of promoting conservationism in a country where most people have constrained ecological and economic options. Not only did government treasurers struggle to amass funding, decision-makers worried that the costs of conservation made the conference a losing prospect.

Museveni exemplified the regime's reluctance to provide concrete support for conservationism during his speech as President of the host country. The official report of COP9

[145] Namakambo, interview by author, Kampala, 3 March 2020.

states that he "highlighted some of the threats to Uganda's wetlands and his reflections on how those threats might be addressed."[146] According to a *New Vision* journalist, he also indicated the limits that existed on the Ugandan government's support for wetland conservation, and some reasons for those limits: '[o]ne of the threats facing wetlands in Uganda today is the international environmental NGOs. If they are here, this is the time for me to take them on face to face. They have been sabotaging my work but I have them today. […] When you interfere with the electrification in the third world countries like Uganda, then you are the biggest enemy of the environment because most of our people use wood."[147] However, as shown by Amooti and other journalists, Museveni and the NRM have overseen the giveaway of the forests upon which communities have relied, to the benefit of wealthy investors.[148] Explanations for Ugandan leadership in wetland conservationism leadership must look beyond the NRM, which undermined it when economically or politically expedient.

Ugandan conservationists have continued building on the expertise they deepened during COP9. During the COP, members adopted a resolution formalizing Ramsar as a legal international organization (this had not happened yet because "[f]or many years the parties to the Convention assumed that the Ramsar secretariat was an intergovernmental organization and therefore no steps were taken to give a proper status to the secretariat"). The following year, Mafabi appeared one of three coauthors of Ramsar's successful application to gain observer status the UN Economic and Social Council.[149] Through COP9, Uganda became key in integrating Ramsar into the UN.

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[146] "9th Meeting of the Conference of the Parties to the Convention on Wetlands," 27.
[147] Apollo Mubiru, "Museveni criticizes wetlands activists," *New Vision*, 15 November 2005: 4.
[148] For example, see Keith Child, "Civil Society in Uganda: The Struggle to Save the Mabira Forest Reserve," *Journal of Eastern African Studies* 3, no. 2 (2009): 250-258.
[149] Peter Bridgewater, Paul Mafabi, and John Bowleg, "Application of an intergovernmental organization for observer status with the Economic and Social Council," 11 April 2006, United Nations Economic and Social Council, 2-3.

The most tangible legacy of COP9 has been the Ramsar Centre for Eastern Africa (RAMCEA), launched in 2009. The Ugandan Ministry of Environment and Water (the present successor to the MEP) hosts RAMCEA at its office in Kampala, although the positions of the Chair and Deputy Chair of RAMCEA rotate between member states, i.e., Burundi, Kenya, Rwanda, Tanzania, and Uganda, plus Ethiopia as an observer state. According to an interview with Iyango, who in 2009 became Assistant Commissioner of the Wetlands Management Department (WMD) which replaced the WID in 2007, they created it because "the manpower at the [Ramsar] Secretariat, it's not adequate [...] we have only two staff for the whole of Africa."[150] RAMCEA is a forum for exchanging knowledge and conducting training that does not rely on the Secretariat in Switzerland for initiative. The interactions it hosts include but are not limited to representatives of RAMCEA states, or even East African states: in an interview, Commissioner Oloya estimated that during the two previous years around forty people had visited for training in wetlands inventorying, enforcement, and monitoring from Burundi, Egypt, Ethiopia, Ghana, and more.[151] Barugahare included Sudan in the list, and Adalbert Aine-Omucunguzi, East Africa Regional Manager of the ICF, added in an interview that parliamentarians and technical teams from South Sudan and Uganda had been discussing wetland conservation.[152] Through RAMCEA, Ugandan wetland conservationists have collaborated with experts from across Africa.

RAMCEA member states bring different experiences to these exchanges. In an interview, Assistant Commissioner Iyango identified the strength of each member state: "for Uganda, our strength is in the policy. For Kenya, it is in the research. For Tanzania, it is in the CEPA

[150] Lucy Iyango, interview by author, Kampala, 10 February 2020.
[151] Oloya, interview by author, Kampala, 9 March 2020.
[152] Barugahare, interview by author, Kampala, 10 March 2020. Aine-Omucunguzi, interview by author, Kampala, 30 January 2020.

activities, Communication Education Participation and Awareness. And for Rwanda and Burundi, for Rwanda mostly it is about the practical interventions in wetland management that they have. For Burundi, they are learners, but they are learners that you can move with."[153] When the Ugandan government created a permanent body to replace the NWCMP – the WID, later the WMD – Uganda became the first country with a government body dedicated to wetlands management.[154] Ugandan wetland conservationists have brought their experience with this institution to RAMCEA: "one of the key interventions we did here is knowledge exchange […] sharing knowledge and capacity building. Because most of our neighbours on the region have not reached our level. They don't have a specific department for wetlands, it is hidden somewhere, in the prime minister's office, in Kenya it is in wildlife services," Barugahare said in an interview.[155] Ugandans have brought expertise regarding wetland conservation policy and governmental organization to exchanges of knowledge with a range of visitors to RAMCEA.

In addition to Ugandan experience with policy and institutional design, foreign experts have sought to learn from how Ugandans have conceptualized the unique wetlands of the country. In an interview, Namakambo said that many of the experts from Bangladesh, Japan, Pakistan, and other countries whom she guided during COP9 and at other times were interested in learning how Ugandans managed the diversity and quantity of small wetlands there, because "we have a unique situation that our coverage does not compare to any other, because for us, one kilometre is another one. Totally different from the people who have one big swamp, [e.g.,] the Okavango Delta [in Botswana], they are dealing with one big area so they can even study it in very many details. For us, it's too diverse. And so there are people interested in how we are

[153] Iyango, interview by author, Kampala, 10 February 2020.
[154] Okello and Laker-Ojok, "The Critical Triangle Relationship between the Diversity of Wetlands Utilization, the Enhancement of Agricultural Productivity and Food Security in Uganda," 22.
[155] Barugahare, interview by author, Kampala, 10 March 2020.

managing this biodiversity. In terms of categories, and even solutions."[156] Ugandans have shared their experiences with conservationism, including in the categorization of diverse wetland types and the challenge of learning about the many small wetlands spread across the country.

East African conservationists have also used RAMCEA as a forum for consolidating regional positions regarding questions about global conservation initiatives. Iyango, Assistant Commissioner of the wetlands office, said in an interview that,

> [A]t the Ramsar Conference of Parties, we choose to speak as a bloc on certain issues. It can be an East African bloc, West African bloc, North African bloc, depending on what the issue is. [...] You meet as teams and you agree on your position, then we'll have what you call Africa position. There'll be Europe position, Asia position. Far East position just like that. So that is the advantage of having that organized system. RAMCEA, or any initiative under the Ramsar Convention, is not a mouthpiece of the convention. No. You must work in conformity with, read the rules and the procedure or the Ramsar Convention. So you cannot go and say that I am speaking on behalf of the Secretariat. No. You speak on behalf of the initiative that you run. To avoid contrary information being spread.[157]

RAMCEA has not been an extension of the Switzerland-based Ramsar Secretariat, but a forum in which officials from across Africa have exchanged knowledge regarding their interests in wetland conservation. Based on their experiences with a world-leading policy, Mafabi and other

[156] Namakambo, interview by author, Kampala, 3 March 2020.
[157] Iyango, interview by author, Kampala, 10 February 2020.

Ugandan wetland conservationists travelled abroad and hosted exchanges of knowledge, and have institutionalized the latter in RAMCEA. Through this networking, they have influenced waterbird and wetland conservation around the world.

Conclusion: Local Observations, a National Transition, and International Exchanges

Ugandan wetland conservationists built on local environmental observations during a national political transition to create a country-wide policy and to facilitate international scientific exchanges. While the national transition in government facilitated conservationists' access to state power, it also imposed conditions on policy creation. Crucially, they needed to align their approach with the NRM's promotion of decentralization and neoliberalization. They did so by building on observations of the ecological impacts of reclamation to facilitate an understanding within government of wetlands as ecosystems that offer tangible benefits to communities across the country. To interest not only officials from departments across the government, but also international donors, they developed interdisciplinary knowledges about wetlands while making economic analyses foundational to their perspective through the concept of ecosystem services.

The colonial architects of the Uganda Agreement of 1900 built the idea that swamps were "waste" into the legal foundation of the colony. Yet, some officials in late colonial Uganda critiqued reclamation based on observations regarding malaria and social conflicts, as well as predictions of climatic change. In early postcolonial Uganda, these critiques also included hydrological observations and experimentation. In the 1980s, officials in Kampala and local governments, especially in former Kigezi, began discussing climatic changes, and banned reclamation in rural Kabale. These discussions coincided with a civil war, which culminated in the NRM installing Museveni as President in 1986. The same year, the NRM established the

MEP, which promptly banned large-scale drainage across Uganda until the creation of a policy to regulate practices in wetlands – and launched *New Vision*, which heralded the government's creation of conservationist policies, while critiquing the NRM's limited commitment to implementing them. In 1988, Uganda joined the Ramsar Convention and designated its first Ramsar Site, Lake George, using the knowledge and physical infrastructures of the national PA system to gain a foothold in the international network of wetland conservationists.

In 1989, the MEP started the NWCMP based on local observations of climatic changes, on knowledge exchanged through international conservationist networks, and on their mandate derived from the NRM's claim that the new regime would approach environmental issues in Uganda differently than had previous administrations. NWCMP officials used climatology, ornithology, and other sciences to create the national wetlands conservation policy, which the NRM cabinet enacted in 1994. Ugandan wetland conservationists used their experience creating the policy to develop international influence by travelling around the world to conference and consult, and by hosting international exchanges of knowledge. To facilitate policy implementation, the government passed a series of laws from 1995-98 enabling the conservation of wetlands under local as well as central government authority. However, policy implementation has often met with considerable difficulties because of the limitations of neoliberal conservationism and because the NRM's recentralization of power has limited the power of community-based conservation groups over wetlands. The next three chapters historicize strategies by Ugandan conservationists to engage with these difficulties.

Chapter 4 –

"Mr. Crane, the Faithful Husband": Making an "Indicator" and "Flagship" Species for Ugandan Wetland Conservation, 1986 to Present

In 2018, the editorial cartoonist of the Ugandan government newspaper, *New Vision*, drew a flock of Grey Crowned Cranes breeding prolifically (see Figure 4.1). One meets a Kob, evoking the national coat of arms. The Kob asks, "Eh! Do you cranes know what family planning is?" It replies, "We want to send a message to investors who degrade wetlands that destroying our bedrooms will not affect our stamina!" Another sits on a pile of eggs. Copulating cranes

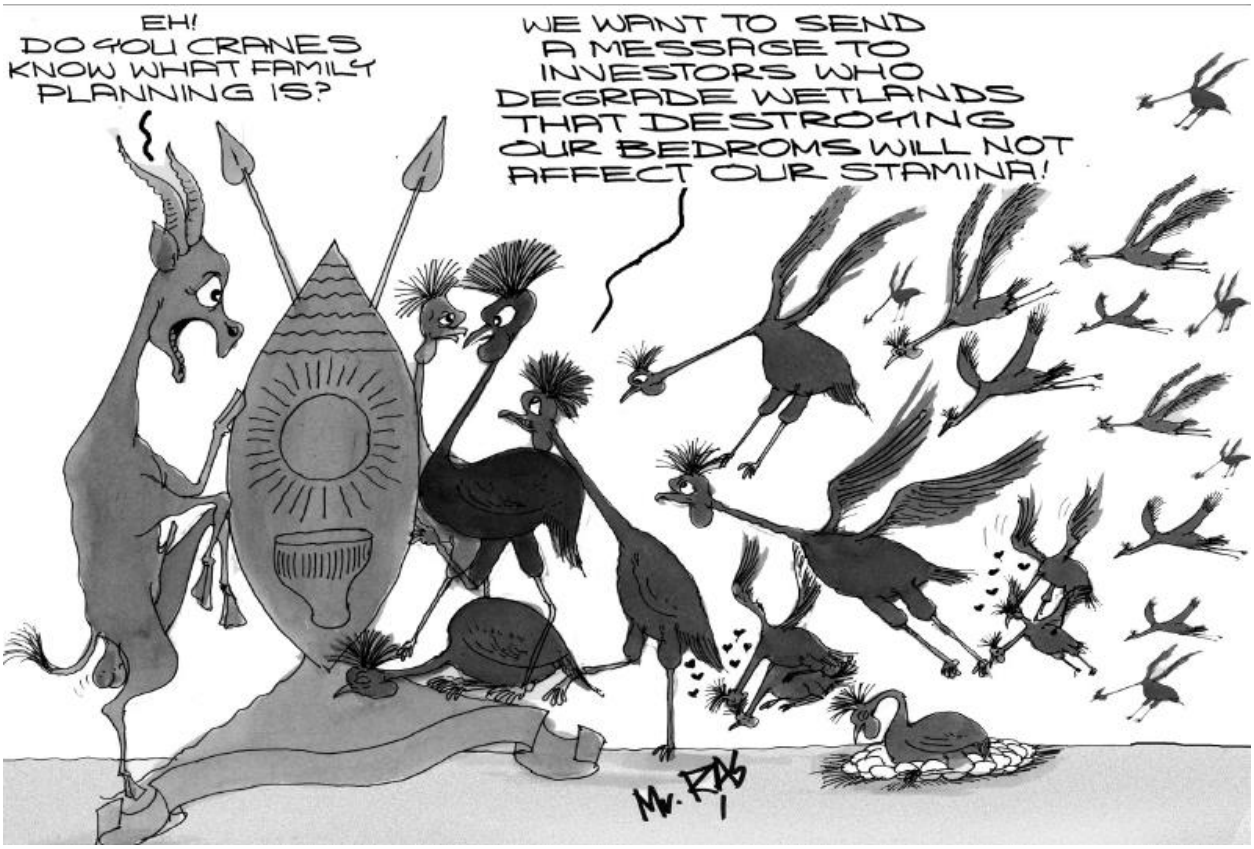

Figure 4.1: Cartoon about crane conservation *(Mr. Ras, "Cartoon of the Day," New Vision, 22 November 2018: 16)*.

surrounded by floating hearts fly above. The cartoonist's attention to human impacts on crane reproduction aligned with messaging by Ugandan ornithologists. However, he took artistic license. Cranes lay only two or three eggs per clutch, and when breeding are too territorial to flock. Furthermore, the resilience of the cartoon cranes undercut ornithologists' main point: that crane pairs rarely recover from impacts to their breeding places. While the caption claimed the crane population was rebounding after a decades-long decline, Herbert Tushabe, the director of the National Biodiversity Database at Makerere University, said in an interview that the trajectory had still remained downward at the time.[1] When ornithologists promoted conservation in newspaper articles and community projects – by emphasizing that pairs remain monogamous and return to the same wetland to breed – they found that people interpreted crane reproduction in diverse ways.

This chapter argues that Ugandan conservationists developed strategies for connecting cranes and wetlands in response to changing cultural practices and ongoing neoliberalization. It begins by examining changes in cultural representations of cranes since earlier in the twentieth century. Next, it analyzes how governmental crane conservationism connected the impacts of three turning points in Ugandan history that happened in 1986: the solidification of a new regime pursuing decentralization and neoliberalization, the enactment of a national ban on large-scale reclamation, and the start of scientific concern about crane reproduction. It then examines the role of Non-governmental Organization (NGO) personnel in crane conservation through a range of projects dependent upon international funding and public participation, especially by children and university students.

[1] Mr. Ras, "Cartoon of the Day," *New Vision*, 22 November 2018: 16. Herbert Tushabe, interview by author, Kampala, 13 February 2020.

Crowned Cranes have been reproducing in (what is now) Africa for up to fifty-four million years. They pre-date the other extant species of crane by tens of millions of years.[2] Their fossils are in Africa, Europe, and North America, but when global temperatures lowered in the Pleistocene epoch they "held on only in Africa."[3] Based on the fossils among which theirs have been found, which represent "a faunal assemblage very much like a present-day African savanna community […] we can only conclude that crowned crane ecology has changed little in the past 10 million years."[4] However, the range of habitat in which they maintained these ecological relations began declining in the twentieth century with reclamation, which colonial officials promoted and postcolonial governments expanded.

Ugandan conservationists have justified their attention to cranes based on the concepts of "indicator" and "flagship" species. They see cranes as indicators of wetland conditions because changes in these places impact crane reproduction. They use the crane as a flagship to attract interest in wetland conservation because of its significances as the national emblem of Uganda and in the cultures of some ethnic groups. However, cultural practices and national politics have not always aligned with conservationists' proposals. Additionally, government funding for conservation is low in Uganda, which since 1986 has been among the foremost examples of neoliberalization globally.[5] Given the high profile of the crane and low level of government funding for conservation, Ugandan wetland conservationists have focused on the crane to attract participation by communities across the country and funding from international NGOs.

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[2] K. Morrison (compiler), *International Single Species Action Plan for the Conservation of the Grey Crowned-crane*. AEWA Technical Series No. 59 (Bonn, Germany: ICF-EWT Partnership, 2015), 9.
[3] Ibid., 9. Curt D. Meine and George W. Archibald, *The Cranes: Status Survey and Conservation Action Plan* (Gland, Switzerland: International Union for the Conservation of Nature, 1996), 1.
[4] Janice M. Hughes, *Cranes: A Natural History of a Bird in Crisis* (Buffalo, NY: Firefly Books, 2008), 24.
[5] Christopher Gore, "Environment and Development in Uganda: Understanding the Global Influence on Domestic Policy," in *Environmental Management in Global Context: Perspectives from the South*, eds. Jordi Díez and O.P. Dwivedi, 155-181 (Peterborough, ON: Broadview Press, 2008).

This chapter advances scholarship about conservation by analyzing efforts to create a decentralized, nation-wide campaign using the concepts of indicator and flagship species that has built on indigenous knowledge. These concepts belong to a broader category, called "surrogate" species, which includes attempts to justify species-based programs in terms of their broader usefulness for ecosystem conservation. Historian D. Graham Burnett observes that in the late twentieth century, many conservationists began thinking "that the whole business of saving whales and pandas may have been […] a vast ruse by which collective social action was siphoned off onto gaudy baubles."[6] National conservation programs with flagship species are often based in Protected Areas (PAs) and other law-based forms of habitat protection, and/or on anti-hunting laws.[7] E. Elena Songster analyzes the creation of a flagship species in relation to the conservation of its habitat – but pandas are confined to PAs in mountain ranges far from the experiences of most Chinese people.[8] The panda is a flagship to promote China abroad, not to interest Chinese people in local projects. In contrast, many Ugandans hear and/or see cranes daily. By making the crane into an indicator and flagship species based not on legal protection but on attempts to convince people to change their environmental practices, Ugandan ornithologists have developed strategies for promoting decentralized conservation projects in a context of neoliberalism.

Scholars identify crane-focused conservation projects as exemplary of efforts to justify species-based conservation.[9] In the early twentieth century, North American ornithologists

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[6] D. Graham Burnett, *The Sounding of the Whale, Science and Cetaceans in the Twentieth Century*. (Chicago, IL: University of Chicago Press, 2012), 655-656.
[7] Spencer Schaffner, *Binocular Vision: The Politics of Representation in Birdwatching Field Guides* (Cambridge, MA: MIT Press, 2011), 60-68.
[8] E. Elena Songster, *Panda Nation: The Construction and Conservation of China's Modern Icon* (Oxford, UK: Oxford University Press 2018).
[9] Paul Jepson, "Towards an Indonesian Bird Conservation Ethos: Reflections from a Study of Bird-Keeping in the Cities of Java and Bali," in *Ethno-Ornithology: Birds, Indigenous Peoples, Culture and Society*, eds. Sonia Tidemann and Andrew Gosler (London, UK: Earthscan, 2011), 325. Timothy J. Farnham, *Saving Nature's Legacy:*

became interested in crane conservation. In the mid-twentieth century, following the emergence of wetland ecology, they began promoting habitat protection through wildlife reserves in Canada and the United States and the development of a network of amateur observers tracking cranes' movements between the reserves.[10] Thom van Dooren reveals the intensive manipulation of every aspect of cranes' reproduction there.[11] Ugandan efforts to protect cranes offer a model unlike those studied by humanities and social science scholars. They have tried convincing communities to leave space for undisturbed crane reproduction by conserving wetlands outside PAs. To draw attention to the significance of wetlands as habitats, they have built on indigenous knowledges about crane reproduction while navigating cultural changes that emerged through colonialism.

Furthermore, this example contrasts with humanities and social sciences research regarding the production of scientific knowledge, in that it demonstrates the significance of children as actors in the production of knowledge. Scholars tend to frame children as audiences rather than producers of science.[12] They note that childhood experiences sometimes cultivate an interest in nature that becomes productive of scientific knowledge in adulthood, but do not identify contributions made by children.[13] In Uganda, children played vital roles in the

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Origins of the Idea of Biological Diversity (New Haven, CT: Yale University Press, 2007), 78-80. Barrow, "The Specter of Extinction," 430. Futoshi Nakamura, ed., *Biodiversity Conservation Using Umbrella Species: Blakiston's Fish Owl and the Red-crowned Crane* (Singapore, Singapore: Springer Nature, 2018).

[10] Thomas R. Dunlap, "Organization and Wildlife Preservation: The Case of the Whooping Crane in North America," *Social Studies of Science* 21, no. 2 (1991): 197-221.

[11] Thom van Dooren, "Breeding Cranes: The Violent-Care of Captive Life," in *Flight Ways: Life and Loss at the Edge of Extinction* (New York, NY: Columbia University Press, 2014): 87-124.

[12] Barbara Ann Birney, "Children, Animals, and Leisure Settings," *Society and Animals* 3, no. 2 (1995): 171-187. Etienne Benson, *Wired Wilderness: Technologies of Tracking and the Making of Modern Wildlife* (Baltimore, MD: Johns Hopkins University Press, 2010), 189-193. Kim Tolley, *The Science Education of American Girls: A Historical Perspective* (New York, NY: Routledge, 2003). Sally Gregory Kohlstedt, *Teaching Children Science: Hands-On Nature Study in North America, 1830-1930* (Chicago, IL: University of Chicago Press, 2010).

[13] Robert E. Kohler, *All Creatures: Naturalists, Collectors, and Biodiversity, 1850-1950* (Princeton, NJ: Princeton University Press, 2006), 39-40. Carolyn Merchant, "George Bird Grinnell's Audubon Society: Bridging the Gender Divide in Conservation" *Environmental History* 15, no. 1 (2010): 9. Thomas R. Dunlap, *In the Field, Among the Feathered: A History of Birders and Their Guides* (Oxford, UK: Oxford University Press, 2011), 4-5.

production of scientific knowledge through crane counts and in disseminating it. Uganda is not the only country where children have been instrumental in crane conservation: children were vital to the 1952 winter effort to preserve Red-crowned Cranes, and since then, "children of those original children […] have participated in the annual December count." However, scholars have not noted the role of these Japanese children outside of the International Crane Foundation (ICF) magazine.[14] Anthropologist Kristen Cheney analyzes the importance of children as agents in Ugandan nation-building, as they navigate the challenges of neoliberal developmentalism in a country recovering from decades of war.[15] This dissertation builds on her work by revealing the significance of children's work in the production of scientific knowledge and in the promotion of conservationism. Analyzing their impacts reveals that, since the late 1980s, Ugandans have engaged with the challenges of conservation under neoliberalization and following demographic destruction via war by creating innovative approaches to citizen science.

Cranes and Cultural Practices: Love, Peace, Taboos, and Totems

Most cultural practices relating to cranes have not focused on their relationships with the places in which they breed. Instead, Ugandans have associated cranes with mobility, kingliness, healing, marriage, nationalism, and more. However, these ideas have sometimes contrasted. For example, pro-monogamy discourse does not align with the marriage practices of many people in southeastern and southwestern Uganda, which is where most cranes in the country live. Furthermore, cultural practices have changed over time, including the decline of taboos against harming cranes – enabling their associations with marriage to take a new form, in medicines

[14] Erik Brynildson, "At Last Count – The Rise of International Crane Counting," *ICF Bugle* 13, no. 3 (August 1987): 2-3.
[15] Kristen E. Cheney, *Pillars of the Nation: Child Citizens and Ugandan National Development* (Chicago, IL: University of Chicago Press, 2007).

promoting men's fidelity, which newspapers call "love potions." Conservation officials focused on cranes as ecological entities and as the national emblem, whereas later, NGO personnel have also tried promoting crane conservation in relation to broader cultural practices.

Some early-twentieth century narratives regarding the crane focus on movement. One narrative featuring a crane was recorded by a missionary in a book of "folk-lore stories." Included (without attribution) is a story in which a *Kabaka*'s daughter disliked going with her family to the Sesse Islands, so she left with a crane.[16] Historian Jonathon Earle recorded another narrative when Ganda elders told him about Kigaanira Kibuuka, a healer and anti-colonial organizer. Kibuuka "mounted a large crested crane that flew him over the prison's walls to the pillars of Kkungu, where sympathizers believed that a two-headed snake transported food and money to and from the summit."[17] (The crane's proximity to a two-headed snake, the figure of the Ganda creator deity, is also auspicious). These narratives associate cranes more with mobility than with particular places.

Among the most prominent representations of cranes were their use as clan totems, which in Uganda designate not only a person's heritage but also the animals and/or plants that they must protect. Crane conservationists' preferred example is the Bahinda clan, from whom all the kings of Ankole (in southwestern Uganda) come, whose totem is the crane. The "king's crowns bore almost similar features as those of the crane. Therefore killing a kingly bird was seen as only next to killing a king."[18] In central Uganda there is a Ganda crane clan, although it does not

[16] Rosetta Baskerville, *The King of the Snakes, and Other Folk-Lore Stories from Uganda* (London, UK: Sheldon Press, 1922), 31-35.
[17] Jonathon L. Earle, "Political Activism and Other Life Forms in Colonial Buganda," *History in Africa* 45, no. 1 (2018): 387.
[18] Jimmy Muheebwa-Muhoozi, "Assessing the Status of the Grey Crowned Crane *Balearica regulorum* in Uganda" (master's thesis, Makerere University, 2004): 64.

seem to have any special role at the court of the *Kabaka*.[19] The use of the crane as a clan totem has offered protection in polities across Uganda, although particularly in the southwest.

Beyond their status as totems, there have been protective taboos regarding cranes. Earle argues that the crane "symbolized public healing," citing the proverb '[o]ne who wishes to guard against sickness: that person does not kill a crested crane'.[20] In a letter to *New Vision*'s main competitor, *Monitor*, a primary school student wrote that, "if you eat or kill one of them, you will get problems all your life and so that's why cranes should not be killed."[21] A Makerere student noted that, "in south-western Uganda is regarded as a bird which brings good luck to a family if it walks past the courtyard of a family holding; and causing grief to it would incite bad omen. There is a belief that if one crane was killed, its flock mates or family members would gather and converge at the courtyard of the killer, cry all night long until the latter gets haunted and dies or a family member dies."[22] According to an interview with Stephen Rwangyezi, an Ankole elder as well as founding director and choreographer of the Ndere Centre in Kampala (Uganda's national cultural institute) and whose mother was from the Bahinda clan, in southwestern Uganda a person who killed a crane would have *amahano*, "disfigured children."[23] Cranes were subject to a range of taboos beyond their uses as totems, including because of their associations with healing.

Taboos varied by region. In 2010, a *New Vision* reader in eastern Uganda wrote that, at least by the 1970s, the taboo against harming cranes was more because of their national status

[19] Patrick Luganda, "The 52 clans of Buganda," *New Vision*, 27 August 1999: 25. Idem, "The role of clans in Kabaka's court," *New Vision*, 27 August 1999: 24-25.
[20] Earle, "Political Activism and Other Life Forms in Colonial Buganda," 389.
[21] Elyau Marious, "Spare the Crested Crane," *Monitor*, 29 April 1997: 18.
[22] Muheebwa-Muhoozi, "Assessing the Status of the Grey Crowned Crane *Balearica regulorum* in Uganda," 64.
[23] Stephen Rwangyezi, interview by author, Kampala, 28 January 2020.

rather because of local cultures.[24] Three ecologists summarized the situation: "there are some not so strong traditional values attached to cranes in some parts of the country, but most people are aware of its status as a national bird."[25] The most prevalent sanction against killing cranes was grounded not in local cultures but national law. Contrasting the protection enjoyed by the crane with cultural taboos against hunting Grey Parrots, ostriches, owls, and Pied Wagtails, journalist Nydakira Amooti wrote that, "the crested crane is respected for another reason. [… It] is the national symbol of our country."[26] Outside the southwest, taboos existed prior to the conservationist campaign but by the 1980s were a less prominent sanction than the national status of the bird. Taboos have been stronger in the southwest. According to Rwangyezi, protective taboos regarding cranes extend across southwestern Uganda including in polities without kings.[27]

Ankole people also associated cranes with marriage. Rwangyezi said in an interview that before weddings, brides visited the homes of the women throughout nearby villages who joined them in performing *akakyeera* songs (comprised of lyrics about marriage and calls imitating the crane), "[a]nd by the time she comes back home, about three weeks of a journey, all the girls in the area are together with her making that beautiful sound." *Akakyeera* used representations of cranes to convey knowledge about marriage: "the messages in them are for the education of this girl about the new life that she's going to start [… and] had a lot to do with how this girl as a wife, as a mother, would now bring up the family," said Rwangyezi. Ankole women had used *akakyeera* to socialize each other regarding marriage. Yet, the practice declined during the

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[24] James William Mugeni, "The Gun Seems to Have Become the Symbol of Peace in Uganda!," *New Vision*, 19 March 2010 (https://www.newvision.co.ug/new_vision/news/1293879/gun-symbol-peace-uganda).
[25] William Olupot, Hamlet Mugabe, and Andrew J. Plumptre, "Species Conservation on Human-Dominated Landscapes," *African Journal of Ecology* 48 (2009): 124.
[26] Ndyakira Amooti, *What a Country without Birds!* (Kampala, Uganda: Fountain Publishers, 1998): 9, 13, 16.
[27] Rwangyezi, interview by author, Kampala, 28 January 2020.

twentieth century: Rwangyezi recalls that his sister married in 1968 without *akakyeera*.[28] This chapter does not explain the cause of this decline but traces its effects, as ideas connecting cranes and marriage took new forms and fostered new ecological relationships.

Ideas about marriage in Uganda changed with colonialism and Christianity, through the promotion of monogamy as a universal ideal. A 1982 poem about the crane framed it as a symbol of "love," "peace," "reconciliation," and "beauty" among Ankole people.[29] However, the poet did not specify what kind of love. Rwangyezi finds it "strange" that people would promote crane conservation in Ankole based on monogamy, saying it is common there for people to have sexual relationships with the sibling(s) of their spouse.[30] Moreover, in the other region of Ugandan crane conservationists' focus – the southeast – polygamy is prominent.[31] Regardless, Christianity made monogamy a common ideal in discourse about marriage in Uganda. Since the 1990s, the evangelical character of international anti-HIV/AIDS projects has further promoted monogamy. Ugandans have diverse perspectives on cranes and on marriage – although monogamy has become prominent in discourses about both.

By the 2000s, newspapers were noting the use of cranes as medicines to ensure men's fidelity. The author of the romance and sex column in *Monitor* claimed that her aunt said, '[y]ou will never meet Mr Crane without his wife, nor meet Mrs Crane unaccompanied' and that she should therefore 'get the eggs of a crested crane. Fry them nicely and eat them with your husband'. She tried it, because while this was "breaking the law since the crane is our national

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[28] Ibid.
[29] Namayo Mawerere, "Crested Crane Revered," *Uganda Times*, 31 May 1982: 7.
[30] Rwangyezi, interview by author, Kampala, 28 January 2020.
[31] C. Asowa-Okwe. "Irrigation Rice Technology and its Impact on Labour in Dokho and Kibimba Rice Schemes in Eastern Uganda," Centre for Basic Research Working Paper No. 49 (Kampala: CBR Publications, 1996), 27-29. Susan Reynolds Whyte and Michael A. Whyte, "The Values of Development: Conceiving Growth and Progress in Bunyole," in *Developing Uganda*, edited by Holger Bernt Hansen and Michael Twaddle, 227-244 (Oxford, UK: James Currey, 1998), 233.

symbol […] Our politicians have been known to eat state coffers dry."[32] Conservationists note that this practice is particularly prominent in southwestern Uganda – where taboos were once strongest.[33] Rwangyezi reflected in an interview, "You don't want to give your husband something that is going to cause you to deliver a deformed child. I'm not sure, but I find it incompatible with the beliefs around the crested crane." He explained changing cultural practices regarding cranes based on colonialism, "especially Christianity and western school education, which said these were superstitions and you can kill it and nothing will happen […] You come and told me that is a superstition, that is primitive, that is backward, that is evil worship. So I leave it, I even experiment on killing it, and indeed nothing happens, so you have unleashed trouble."[34] Christianity drove the long-term decline of taboos relating to cranes as well as the recent emphasis on monogamy of anti-HIV/AIDS programs. As part of these cultural changes, Ugandans created new associations between cranes and marriage. Ugandan conservationists have built on these associations while working against "love potions" – a countervailing manifestation of ideas connecting cranes and monogamy.

The author of *New Vision*'s romance and sex column, "Dr. Love," promoted the connection that ornithologists identified between cranes and monogamy. In an entry called "Mr. Crane, the Faithful Husband," he wrote that, "I am now passing as a very responsible conservationist" because "[i]f you got a chance to see Mr and Mrs Crane preparing for a hot secret between the sheets, you would learn a few lessons in that subject," and "[w]hen they are not in heat […] They are a peaceful pair and only get annoyed when some policemen participate in evicting people." If conservationism fails, he warned, "we shall tell our grandchildren that

[32] Melody, "Love Portions Might Prove Deadly," *Monitor*, 1 March 1997: 10.
[33] Jimmy Muheebwa, interview by author, Kabale, 25 February 2020.
[34] Rwangyezi, interview by author, Kampala, 28 January 2020.

there used to be a monogamous bird called the crane. I hope the word monogamy will not be extinct then."[35] Yet, Ugandan wetland conservationists tended to be more interested in the faithfulness of cranes to their breeding places, rather than to their partners.

The crane also has a long history as a symbol of Uganda, the most prominent example being the national flag. It did not get there by popular means: Frederick J. Jackson, Uganda's governor-ornithologist, put it there in 1914. Later it became the symbol of the colonial police force. When the first independent government took power, they changed the flag but kept the crane. According Senteza Kajubi, vice-chancellor of Makerere and chair of the committee to redesign the flag, the crane stayed because it matched the new national colours and "is friendly, gentle and shows the peace-loving character of Ugandans."[36] The crane resonated with some Ugandans: records from the national competition to create the anthem, flag, and coat-of-arms for the new nation reveal considerable support for the bird (and that other suggestions for a national emblem, like the chameleon, were proposed based on the same traits that make the crane appealing, especially its peacefulness and grace).[37] The crane became Uganda's national symbol because of top-down decisions, although it kept its position in part based on popular support.

Nonetheless, in the coming years critiques of the postcolonial government emerged alongside the decline of the crane. A *New Vision* reader in eastern Uganda lamented the decline of the bird and asserted that, since the 1970s, "the gun" had replaced it as Uganda's national emblem.[38] A writer for the *Monitor*'s Independence Day supplement for 1998 lamented the "tragic fate" that had befallen the crane, saying it was because "[p]olitics has degenerated to a

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[35] Hilary Bainemigisha, "Mr. Crane, the Faithful Husband," *New Vision,* 27 July 2009: 15.
[36] Vision Reporter, "Uganda's Anthem was Inspired by Christianity," 2012.1.11 (https://www.newvision.co.ug/new_vision/news/1298884/uganda-anthem-inspired-christianity).
[37] P.A. Odoch, "Chameleon," n.d., Uganda National Archives, President's Office (Confidential Collection), 86/21,017/70.
[38] Mugeni, "The Gun Seems to Have Become the Symbol of Peace in Uganda!"

shortcut to wealth […] The public knows this and therefore sees no reason why they should pay any attention to national symbols."[39] Even the government has given little support to crane conservation since the 1990s – when approached for information, officials from environmental, tourism, and wildlife bodies uniformly identify the NGO NatureUganda as the group to ask.[40] However, it was government officials who first made the crane into a flagship and indicator for Ugandan wetland conservationism. They focused their messaging more on cranes' ecological relationships than on their social ones, and more on the crane's status as the national emblem than on its significance in ideas about marriage.

Crane Reproduction and Government Conservationism, 1986 to 1998

The start of conservationist research regarding cranes in Uganda in 1986 coincided with other changes that enabled the creation of a broader push for wetland conservation. The National Resistance Movement (NRM) banned the large-scale drainage of wetlands shortly after establishing power. They also began a series of neoliberal reforms that limited funding for conservation. In this context, then-graduate student Paul Mafabi began researching how reclamation for rice farming in southeastern Uganda was affecting crane reproduction. That year also saw the term "flagship species" first appear in print – although in (unattributed) quotation marks, indicating a prior existence.[41] Mafabi and other wetland conservationists valued crane reproduction as an indicator of wetland conditions and a flagship for wetland conservation.

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[39] Tom Gawaya-Tegulle, "Crane; A Delicacy on Dinner Tables," *Monitor*, 9 October 1998: 14.
[40] Personal experience, 2019-20.
[41] Russell A. Mittermeier, "Primate Conservation Priorities in the Neotropical Region," in *Primates: The Road to Self-Sustaining Populations*, edited by Kurt Benirschke (New York, NY: Springer-Verlag, 1986), 233. The identification of Mittermeier is from Rolf Schlagloth, Flavia Santamaria, Barry Golding, and Hedley Thomson, "Why is it Important to Use Flagship Species in Community Education? The Koala as a Case Study," *Animal Studies Journal* 7, no. 1 (2018): 129.

However, the ecological complexity and economic limitations of wetland conservation soon prompted them to rethink their critique of rice farming and to focus on issues other than cranes.

Ornithologists in Uganda started writing about the decline in the crane population in the 1980s. In 1980, Makerere ornithologist Derek Pomeroy wrote that despite recent environmental changes, their distribution and abundance fit with the description given by Jackson in 1938 and the population "may well be increasing."[42] However, in 1985, he visited Kibimba Rice Scheme in the southeast where he expected to find many cranes yet found "only 1 young."[43] In 1986, his student Mafabi visited Doho Rice Scheme nearby to analyze how reclamation affected crane reproduction, and found that its population had declined in the previous decade.

By the time Ugandan ornithologists became concerned about cranes, an international network of crane conservationists had already begun emerging. In 1973, ornithology students at Cornell University founded the ICF.[44] They began networking with conservationists around the world, including in East Africa by the 1980s.[45] The ICF supported Ugandans, although it did not see their concerns as a priority until the twenty-first century. (A 1993 comparison of crane species characterized the Crested Cranes as "relatively safe," ranking them the least likely of African cranes and the sixth-least likely of the fifteen crane species globally to go extinct.[46] A 1996 global survey by the two co-founders of ICF counted Crested Cranes as "the most abundant

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[42] Derek Pomeroy, "Aspects of the Ecology of Crowned Cranes *Balearica regulorum* in Uganda," *Scopus* 4 (1980): 29, 35.
[43] Paul Gumonye-Mafabi, "The Ecology and Conservation Status of the Grey Crowned Crane in Uganda," in *Proceedings 1987 International Crane Workshop 1-10 May 1987 Qiqihar, Heilongjiang Province People's Republic of China*, edited by James Harris (Baraboo, WI: International Crane Foundation, 1991), 364.
[44] Cornell ornithology has long been associated with public outreach by training and coordinating bird watchers. Rick Bonney, "Citizen Science at the Cornell Lab of Ornithology," in *Exemplary Science in Informal Education Settings: Standards-based Success Stories*, eds. Robert E. Yager and John Falk (Arlington, VA: NSTA Press, 2007), 213-229. Jackson Rinn Pope, "Listening at the Lab: Bird Watchers and the Cornell Laboratory of Ornithology" (master's thesis, University of Oklahoma, 2016).
[45] Paul Konrad, "An African Wetland Safari," *Brolga Bugle* 5, no. 2 (1979): 1, 3. George Archibald, "China Open to ICF," *Brolga Bugle* 6, no. 1 (1979): 3. Idem., "The African Cranes," *ICF Bugle* 11, no. 3 (1985): 1, 4-5.
[46] Martin L. Weitzman, "What to preserve?" *Quarterly Journal of Economics* February (1993): 161, 174

of the resident African cranes."[47]) Nonetheless, they supported Ugandan ornithologists' networking, research, and training.

At the 1987 International Crane Workshop, the semi-regular meeting of the ICF, Mafabi presented his preliminary findings. He said that cranes in this area had low success rates breeding because of rice farming, and the capture of chicks by people who keep or sell them as pets. Based on interviews with "local residents" of rice farms in southeastern Uganda, he said that, "it is apparent that the number of cranes has declined […] since 1975, when rice cultivation gained momentum following the government's double production campaign. People recall that before 1975, there used to be many cranes. No numbers were given." He said that his results thus far "show[ed] a probable downward trend in the population."[48] Based on his observations and interviews with farmers, he argued that crane reproduction required protection from reclamation.

Mafabi emphasized the faithfulness of cranes to wetlands. At a pan-ornithological workshop, he said that the cranes "are faithful to their nesting sites" and therefore "[t]he head waters of swamps should not be reclaimed. This will ensure the continuity of water supply and ensure adequate areas for cranes and other swamp birds to breed."[49] By focusing on a distinct place, he created a new possible justification for the national ban on reclamation: drainage was not only affecting the hydrological cycle but was also impacting the reproduction of the crane.

Later in 1987, Mafabi trained in the coordination of crane counts at the ICF headquarters in the United States, after which he coordinated children and teachers in the first public count in Uganda. This made Uganda the sixth country in the world to host one – and the third to conduct

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[47] Meine and Archibald, *The Cranes*, 46.
[48] Gumonye-Mafabi, "The Ecology and Conservation Status of the Grey Crowned Crane in Uganda," 363, 365.
[49] Paul Gumonye-Mafabi, "The Effect of Swamp Reclamation on the Grey Crowned Crane in Doho, Uganda," in *Proceedings of the Seventh Pan-African Ornithological Congress*, edited by Leon Bennun (Nairobi, Kenya: Seventh PAOC Committee, 1988), 79.

one in multiple regions.[50] At the time, Mafabi worked for the Wildlife Clubs of Uganda (WCU), a quasi-independent association led by teachers. WCU then had roughly 400 member clubs, so their participation enabled the generation of records on a scale much larger than the observations that Pomeroy and Mafabi made individually. Mafabi trained four coordinators in four districts, who enlisted support from forty teachers and club sponsors.[51] In 1988, teachers and children explored 485 sites in ten districts across eastern and southwestern Uganda, plus Kampala.[52] Using the resources and networks of the WCU and ICF, Mafabi and other conservationists coordinated the first public crane count in Uganda.

In 1989, the NRM made Mafabi the head of the newly-formed program to develop a national wetlands policy. However, designing a national policy under a government unable – or unwilling – to enforce it country-wide posed a challenge. Wetland conservationists framed the policy to appeal widely by focusing on the crane. The campaign for crane and wetland conservation focused on reproduction not only to link these birds with these places, but also to interest people across the country because they would be the ones implementing the practices that the Kampala-based conservationists were advocating.

In 1990, the WCU extended this public-oriented approach with a second crane count. This time, however, they referred to it as a crane "census," reflecting the expansion of the project

[50] A 1987 article in the ICF magazine outlined the history of public crane counts, noting that the first attempt to count cranes was in the United States in 1941, but involved professionals only. "The earliest known grassroots non-professional" effort was the 1952 winter count of Red-crowned Cranes in Hokkaido, Japan. The next such project began in 1975, when amateurs in two counties in Wisconsin began to count Sandhill Cranes; by 1987, this became a state-wide project. Then, in the early 1980s, amateurs in Bharatpur, India, joined an effort begun in 1970 by professionals to count Sarus Cranes. In 1985, the Wildlife Clubs of Kenya published a questionnaire in their magazine regarding crane status, abundance, nesting success, and local habitat conditions, receiving 430 responses. In 1986, several hundred South Africans began monitoring approximately three hundred sites two weekends annually (Brynildson, "At Last Count – The Rise of International Crane Counting").
[51] Marion Hill, "Wildlife Clubs Count Crowned Cranes," *The ICF Bugle* 14, no. 2 (1988): 2-3.
[52] Ndyakira Amooti, "Crane Threatened with Extinction," *New Vision*, 15 November 1988: 6-7. Jolly Axabo, "Cranes' Feature Bleak," *New Vision*, 6 March 1989: 12.

from ten districts in 1988 to a nation-wide exercise, in which they recruited a coordinator for every district in Uganda. The purpose was to produce ornithological knowledge as well as to raise awareness. *New Vision* interviewed a district coordinator regarding the exercise, who said their objectives were "to create public education and awareness about the bird […] 'and to protect it'. He also noted that "during the exercise, attempts would be made to conduct research into aquatic life of other animal and bird species, [and] cultural practices of preparing and conserving foodstuffs, especially in wetlands which provide food for bird species."[53] Conservationists coordinated crane counting to produce data and spread awareness, and used the focus on cranes to draw attention to wetland issues more broadly.

Making the concept of indicator species foundational to a nation-wide conservation effort was an approach not yet tried in many countries. By 1988, Ugandan conservationists were framing their knowledge of cranes around the concept of indicator species. Amooti reported that, "[c]ranes are biological indicators because they have specific habitat. Changes in that natural environment such as swamps, would be indicated by the failure of the cranes to breed."[54] This approach reflected a broader regional trend regarding birds and wetlands. At the 1990 Wetlands and Waterbirds workshop in Queen Elizabeth National Park, sponsored by the International Waterfowl and Wetlands Research Bureau involving ornithologists from across Africa, a Kenyan representative summarized the proceedings: "[t]he importance of waterfowl in wetlands was highlighted. They can be useful bio-indicators."[55] Ugandans' leading role in the field of crane conservation was evident at the 1993 African Crane and Wetland workshop in Botswana,

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[53] Dawin Dawa, "Crested Census launched," *New Vision*, 30 May 1990: 3.
[54] Amooti, "Crane threatened with extinction," 7.
[55] Steven Njuguna, "Workshop Overview and Summary," in *Wetlands and Waterbirds in Eastern Africa: Proceedings of an IWRB Workshop in Uganda, 3-12 March 1990*, eds. C. M. Finlayson and D. E. Pomeroy (Slimbridge, UK: IWRB, 1991): 42.

attended by 100 conservationists from eighteen African countries plus Japan, the Netherlands, Saudi Arabia, the United Kingdom, and the United States. The opening day included a six-hour workshop led by Mafabi called "Development of a National Policy for the Conservation and Management of Wetland Resources: the Ugandan Experience."[56] It highlighted their approach to conserving wetlands across Uganda through the use of indicator species to involve the public in assessing changes in ecosystem conditions.

However, the 1993 conference also highlighted how Ugandan conservationists' view of rice farming had changed through the challenges of creating a policy to conserve wetlands, beyond cranes only. They found that rice farms were crucial habitats for many species, and that "[c]rowned cranes can tolerate some human activities such as cultivation, as is evidenced by their nesting close to [...] rice fields."[57] Initially the national wetlands program endeavoured to raise awareness about the relationships between wetlands and cranes – but changed their approach in response to the challenges of policy implementation. Recognizing that they would rely on farmers to implement proposals, government wetland conservationists began focusing less on crane reproduction.

NGOs and Community-based Conservation, 1998 to Present

With changing ideas about farming and the creation of laws for policy enforcement, by the late 1990s government support for crane conservation had declined. At the same time NGOs, especially NatureUganda, began work on initiatives that have often depended on public

[56] "Program," in *Proceedings 1993 African Crane and Wetland Training Workshop 8-15 August 1993 Wildlife Training Institute Maun* (Baraboo, WI: ICF, 1996), 649.
[57] Pantaleon M. B. Kasoma and Julius Arinaitwe, "Lakeshores and Wetlands as Habitats for Ciconiiform Wading Birds in Uganda," in *Proceedings 1993 African Crane and Wetland Training Workshop*, 240. "Uganda Crane and Wetland Action Plan," in *Proceedings 1993 African Crane and Wetland Training Workshop*, 637.

participation, particularly by children and university students. These have included nest monitoring, wetland restoration, crane censusing, anti-trafficking coordination, and most recently, a family planning program. While focusing on crane reproduction has enabled NGOs to solicit international funding for conservation in Uganda, it has also created opportunities to connect their work to cultural practices. However, NGO personnel have also found that, even in the southwest, most people are more interested in the aspects of their projects that relate to community usage of wetlands than to crane reproduction. By navigating changes in cultural practices and continued neoliberalism, Ugandan conservationists have coordinated the participation of people across the country in producing knowledge about, and creating projects to conserve, the wetlands in which cranes reproduce.

Institutionalizing NGO Crane Conservationism

NatureUganda formed in 1995 by replacing the Uganda branch of the East Africa Natural History Society (EANHS). British biologists founded the EANHS in Nairobi, Kenya, in 1909, making it the first conservationist group started in colonial East Africa. In 1910, the EANHS established its research credentials by starting the *Journal of the East Africa and Uganda Natural History Society*. In 1977, the Ornithological Sub-committee of the EANHS started its second journal, *Scopus*, to document the diverse birds of the region. By this time, however, the Uganda branch of the EANHS had closed because of the instability of Amin's rule, marking what Makerere faculty termed "a fallow period in Ugandan ornithology, when security problems made travel outside Kampala virtually impossible."[58] In 1989, with the increased stability that followed the establishment of the NRM government, Makerere biologists and their students – particularly

[58] Margaret Carswell, Derek Pomeroy, Jake Reynolds, and Herbert Tushabe, *The Bird Atlas of Uganda* (Gloucestershire, UK: British Ornithologists' Club and British Ornithologists' Union, 2005), 18-19.

ornithologists including Achilles Byaruhanga – revived the group. As a bachelor's student at Makerere, Byaruhanga produced ornithological data for Pomeroy in Kampala. He graduated in 1995, and later that year became active in rejuvenating the Uganda chapter, encouraged by Pomeroy.[59] NatureUganda became the national affiliate of BirdLife International and established close links with the ICF and other conservationist organizations. This international networking has been vital in NatureUganda's ability to gain funding.[60] Meanwhile, the national government has increasingly relied on NatureUganda for wetland policy implementation because of its own need to satisfy international donors.

NatureUganda began promoting two forms of conservation relating to birds, including the identification of Important Bird Areas (IBAs) and a program focusing on cranes. There was only limited overlap between these because of breeding cranes' need for space, which meant that they could not be conserved by focusing on a small number of IBAs – much as focusing on PAs would do little to conserve them. By 1996, Byaruhanga and other members of the organization had developed plans to survey Uganda and identify the most important areas in the country for birds as IBAs.[61] However, the utility of IBAs to cranes was limited. "Due to [the] diffuse nature [of wetlands] and a lack of basic information" about them, delimiting particular wetlands as discrete "areas" was difficult. Moreover, "[l]arge raptors and Cranes dispersed at low densities across wide areas […] would not be effectively conserved by this approach."[62] While non-breeding cranes often flock together, breeding pairs guard their nesting places jealously – thereby limiting how many could reproduce in any one IBA. Crane conservation, therefore, would

[59] Achilles Byaruhanga, interview by author, Kampala, 29 January 2020.
[60] Ibid. Muheebwa, interviews by author, Kampala, 29 January 2020, and Kabale, 25 February 2020.
[61] Byaruhanga, interview by author, Kampala, 29 January 2020.
[62] Achilles Byaruhanga, Pantaleon Kasoma, and Derek Pomeroy, *Important Bird Areas in Uganda* (Kampala, Uganda: East Africa Natural History Society, 2001), 9, 19, 37.

depend on finding another way to apply the concept of indicator species, including a more decentralized approach to wetlands than identifying IBAs.

In 2002, ornithologist Jimmy Muheebwa brought a proposal for dispersed, community-based conservation, plus funding for it. His master's, starting in 1998, built on Mafabi's by examining four districts spread across southwestern, central, and southeastern Uganda.[63] In 2000, he met ICF co-founder Rich Beilfuss and a Kenyan crane conservationist, Maurice Wanjala. With Beilfuss and Wanjala, he secured a grant from the Disney Foundation. Disney required that grants be used by NGOs, so he joined NatureUganda as the first Project Manager of their Crane and Wetland Conservation Program.[64] NatureUganda followed this with a grant in 2003 from the International Union for the Conservation of Nature to protect crane habitat in southwestern Uganda.[65] In 2008, Muheebwa started the "Adopt-a-crane" program to involve dedicated volunteers. In 2013, NatureUganda expanded this into its Crane Custodian program, which since has included over thirty-five volunteers reporting monthly, according to an interview with Muheebwa.[66] Gilbert Tayebwa, the assistant for the custodian program, said in an interview that they include roughly equal numbers of men and women, and age groups ranging from youths to elders.[67] In the twenty-first century, cranes have been a priority of national and international NGOs – who sometimes want to separate their work from that of government as much as possible. Neoliberalization thereby shaped the rise of community-based crane conservation in Uganda.

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[63] Muheebwa-Muhoozi, "Assessing the Status of the Grey Crowned Crane *Balearica regulorum* in Uganda," *xi-xii*.
[64] Muheebwa, interview by author, Kampala, 29 January 2020.
[65] Gerald Tenywa, "Uganda Bird Protection Project Gets US$40,000," *New Vision*, 4 February 2003: 7.
[66] Muheebwa, interview by author, Kampala, 29 January 2020.
[67] Gilbert Tayebwa, interview by author, Kabale, 27 February 2020.

Around the time Muheebwa joined NatureUganda, he also made emphasizing the monogamy of cranes part of his approach. He borrowed this idea from eulogies he heard at Christian funerals in the 2000s, when "everyone in Uganda knew someone who died from AIDS."[68] The behaviour-focused approach to HIV/AIDS taken by governmental and NGO actors in Uganda has featured monogamy prominently – owing largely to the influence of evangelical Christianity in the discourses of many international donors and in Ugandan society.[69] Christian eulogists used knowledge about a widely-familiar bird to connect to the prevailing discourses, and crane conservationists used ideas from Christian eulogies to promote conservation based on a pro-monogamy discourse. As NGO personnel established their approaches to crane conservation, they drew on other strategies developed under neoliberalization for trying to convince individuals to change their practices.

Muheebwa has worked through churches to spread crane conservationist messaging. In an interview, he said that, "if you want to get people in big numbers, you go to church. So I would use church leaders to make sure that they talk about crane and wetland conservation. So it was a combination of Site Support Groups or communities, schools, and the churches […] In church, they talk about Jesus. But now, in church they also talk about livelihoods [and] that if we keep draining the wetlands, we won't have food for tomorrow. We won't have water. So we won't have school fees for the children […] Sustainability in science means good use in the Bible."[70] NGO-based conservation has built on economic and moralist messaging at churches, promoting cranes as models of monogamy and associating their continued reproduction with sustainable livelihoods.

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[68] Muheebwa, interview by author, Kampala, 29 January 2020.
[69] Lydia Boyd, *Preaching Prevention: Born-Again Christianity and the Moral Politics of AIDS in Uganda* (Athens, OH: Ohio University Press, 2015).
[70] Muheebwa, interview by author, Kampala, 29 January 2020.

To promote voluntary changes in practices, and to obtain funding despite low government support, NatureUganda has focused much of its attention on school outreach and other networking with students. Secondary school and university students have been the core of their voluntary dues-payers. They numbered 339 of 609 in 2002 and continued to comprise over half of the group by 2016, when membership had grown past 3,000.[71] In an interview, Byaruhanga explained their focus on students by saying that, "the challenge in talking to adults is that some of them have already purchased plots in wetlands which is not the case with young people who will take messages and practice it."[72] In Byaruhanga's experience, individualized ownership of wetlands has facilitated opposition to NatureUganda's proposals – meaning that neoliberalism has not only shaped the funding channels for conservationist NGOs, but has also entrenched interests in countervailing wetland uses.

Additionally, NatureUganda conducts outreach via elementary school programs. Tayebwa said in an interview that, "we believe that when we begin working with the schools themselves to teach these young ones to love cranes right from a young age, and the dangers of what will happen to you when you are found doing that, then they can now grow loving the cranes. And even tell their parents and those who are now out of the school."[73] NGO personnel have involved children and other students in crane conservationism not only because of limited opportunities to obtain funding and participation under neoliberalism, but also to amplify their messaging.

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[71] Doreen Agaba, "Roles Played by Nature Uganda in the Conservation of Nature for Tourism in Uganda" (bachelor's thesis, Makerere University, 2002), 15. Edgar R. Batte, "Marabou storks set Byaruhanga on a journey to conserve nature," *Daily Monitor*, 21 February 2016, ahttps://www.monitor.co.ug/Magazines/Life/Marabou-storks-set-Byaruhanga-on-a-journey-to-conserve--nature/689856-3085382-12xwcwq/index.html.
[72] Byaruhanga, interview by author, Kampala, 29 January 2020.
[73] Tayebwa, interview by author, Kabale, 27 February 2020.

The 2004-06 Crane Census

As additional NGO personnel became interested in cranes, from 2004-06 researchers representing the New York-based Wildlife Conservation Society coordinated the first public crane count in Uganda since 2000. It was the first attempt to show the spatial distribution of crane breeding sites outside PAs.[74] As Minister of the Environment explained when launching the survey, '[w]e know that they use seasonal wetlands for nesting, but we do not know which wetlands'.[75] Echoing the organizers of the 1990 crane census, the researchers explained their decision to engage the public as "designed to raise awareness of the plight of the cranes as well as to collect data."[76] As with the previous two counts, it was both a means to produce new data and to spread awareness about crane conservation. The core of the census was a questionnaire for children that *New Vision*, radio stations, and the WCU publicized. The researchers wrote that "radio stations around the country further publicized the study," and the WCU "raise[d] awareness in schools" as well as through their newsletter.[77] *New Vision* provided coverage and some of the prizes raffled to submitters of questionnaires. The national men's soccer team – the Cranes – also contributed to the prizes, which included t-shirts and, for five children plus caregivers, an all-expenses-paid trip to Kampala to attend a match.

The researchers chose to collaborate with *New Vision* because "it covers all of the country and also produces local language newspapers for different parts of the country." Furthermore, the editor-in-chief, William Pike, gave free publicity through his radio station in Kampala, Capital Radio FM.[78] In an interview, researcher William Olupot said, "Pike being of

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[74] Olupot, Mugabe, and Plumptre, "Species Conservation on Human-Dominated Landscapes," 119.
[75] Gerald Tenywa, "Crested Crane Initiative Launched," *New Vision*, 10 November 2004: 1, 2.
[76] Olupot, Mugabe, and Plumptre, "Species Conservation on Human-Dominated Landscapes," 121.
[77] Olupot and Plumptre, "The Status of Crowned-Cranes in Uganda," 7.
[78] Olupot, Mugabe, and Plumptre, "Species conservation on human-dominated landscapes," 121, 124.

course very enthusiastic about wildlife conservation […] it didn't take long to persuade him, and he quickly assigned us one of the correspondents of the *New Vision*."[79] Journalist Gerald Tenywa recalled in an interview that, "I took a ride in the editor-in-chief's car. So great, nice, it's like we are together. We are not kept on the other side to jump on a *boda boda* or a taxi. You are right in the editor-in-chief's car. And right after the meeting, he said 'Gerald, what do you think is the story?' And we brainstormed again, and, 'For me think we should I approach it this way'. By the time I got to the newsroom I had the story written. So I just simply typed. It was quite inspiring."[80] The *New Vision* editorial column published the day after the launch asserted that, "[w]e urgently need to find out [cranes'] numbers so that we can protect them better. The Crowned Crane is our national totem. Just as a clan cannot harm its own totem, Uganda should do everything possible to cherish the Crowned Crane."[81] Furthermore, Tenywa and other journalists warned that Uganda would lose its crane population like Rwanda already had.[82] *New Vision* promoted the census not only materially, but also with intellectual support.

The census received well over 200 responses from across the country. While "[p]revious knowledge of crane breeding in Uganda was limited to sites in southwestern and eastern Uganda," census respondents "throughout western and parts of central, eastern, and northern Uganda" returned questionnaires with information about crane sightings. One of the researchers followed up on most of the reported sightings by visiting 224 sites and interviewing over 200 people in thirty districts.[83] They selected places to visit based on "districts which the W[etlands]

[79] William Olupot, interview by author, Kampala, 13 February 2020.
[80] Gerald Tenywa, interview by author, Kampala, 3 February 2020.
[81] "National totem," *New Vision*, 10 November 2004: 10.
[82] Tenywa, "Crested Crane Initiative Launched," 10 November 2004: 1, 2. Idem., "Save Our National Totem," 15 November 2004: 38. Vision Reporter, "Save the Crested Crane Win Prizes," 4 November 2004: 22.
[83] The researchers do not state the total number of interviews but note that thirteen people were willing to indicate whether crane numbers were increasing, decreasing, or stable in their area and that these respondents comprised 0.06% of those interviewed. Assuming this is a typo for 6%, it indicates a total of 217 interviews (William Olupot

I[nspection] D[ivision] survey of 1999 determined as part of the crowned crane range" as well as logistical and security constraints, which limited their ability to visit "many of the expansive wetlands in northeastern Uganda." Moreover, finding even the accessible sites was challenging, requiring "the help of questionnaire respondents, local informants, or geographical coordinates."[84] Logistical and security constraints – as well as the gatekeeping abilities of the people whom they interviewed, who sometimes had interests in eating or selling cranes and may have thought that the widely-known national status of the bird would make it unwise to share their experiences – limited their ability to record knowledge. Instead, they depended on people across the country to generate observations of crane reproduction in wetlands that the researchers sometimes could not even locate without the help of people local to them despite having already government reports.

The Crane Trade

NGO personnel have also worked against the international trade in cranes. In 2006, a former president of the German branch of the World Wildlife Fund wrote that, "[t]he most sought after species [of crane], and the ones most commonly kept in captivity, are African Grey Crowned Cranes […] there are probably more of these birds in captivity outside of Africa than in the wild."[85] Even for people uninterested in birds, Crowned Cranes are striking in appearance. When the sensationalist docuseries *Tiger King* introduced its audience to exotic animal auctions, they

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and Andrew Plumptre, "The Status of Crowned-Cranes in Uganda: A National Assessment of Breeding, Population Distribution, and Threats" (unpublished paper, 2006), 9).

[84] Ibid., 8.

[85] Carl-Albrecht von Treuenfels, *The Magic of Cranes*, translated by Matthew D. Gaskins and Ben Posener (New York, NY: Abrams, 2006), 220.

did so with shots of a camel being paraded and a caged Crowned Crane (see Figure 4.2).[86] Despite coordination against the crane trade, exporters – perhaps more so than conservationists – have had access to international funding and local knowledge.

Figure 4.2: A Crowned Crane at an animal auction in the United States *("The Secret," Tiger King (Netflix, 2020): 9:43).*

Traders in Uganda have illegally exported cranes from Uganda to zoos and private collectors around the world. Few people had been able to breed Grey Crowned Cranes in captivity until the mid-1980s, and even afterwards the trade in wild-caught cranes continued.[87] Between 2000 and 2010, approximately one-third of registered under the CITES treaty Grey Crowned Crane exports globally were wild-caught.[88] Considering that wild-caught crane exports

[86] *Tiger King*, season 1, episode 3, "The Secret," directed by Eric Goode and Rebecca Chaiklin, released March 20, 2020, Netflix, https://www.netflix.com/watch/81130222?trackId=13752289&tctx=0%2C0%2C1c40adba20d42a9000f63bef149f804c0357b8a8%3Ab455102cc3c0921772be710f78f50aef5bd4fae3%2C1c40adba20d42a9000f63bef149f804c0357b8a8%3Ab455102cc3c0921772be710f78f50aef5bd4fae3%2Cunknown%2C%2C%2CtitlesResults.

[87] Susan Haeffner, "Captive status and management of the Black Crowned Crane in North America for conservation," in *Proceedings 1993 African Crane and Wetland Training Workshop*, 565.

[88] "Review of Significant Trade: Species selected by the CITES Animals Committee following CoP14 and retained in the review following AC25." CITES Project No. S-380 (Cambridge, UK: UNEP World Conservation Monitoring Centre, 2012), 37.

are more likely to go unregistered than are captive-bred ones, their proportion of the global trade likely remained higher than the CITES numbers suggest.

Of those cranes sold to zoos, the vast majority were from East Africa and many became background details in large mammal exhibits. The 1992 tabulation of Grey Crowned Cranes captured in Africa and taken to zoos around the world noted that of those registered with the International Species Information System only thirteen were of the Southern African sub-species, with the remaining two-hundred-plus representing the East African sub-species.[89] In a range of exhibits built between 1954 and 1989 in Europe and the United States, zoos often held many of these birds at once in attractions with names like "Africanum," "African diorama," "African Rift," "African Savanna," and "Panorama of Africa."[90] Keeping these engineered African wildernesses stocked meant maintaining a flow of cranes out of wetlands in East Africa to zoos abroad. Instead of being indicators of ecosystem conditions and flagships for Ugandan wetland conservationism, many became part of the aesthetics of abstracted African wilderness for zoo patrons around the world.

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[89] "Section 3 – ISIS Abstract Data" and "Taxon Data Sheet – Species: Grey Crowned Crane *Balearica regulorum*," in *Crane Conservation Assessment and Management Plan, Participants' First Draft Report*, edited by Claire Mirande, Susie Ellis, and Ulysses Seal (unpublished, n.d), 22, 99.

[90] "Marineland of the Pacific, USA," *International Zoo Yearbook* 2, no. 1 (1961): 74. George Speidel, "New large mammal exhibits at Milwaukee Zoo," *IZY* 3, no. 1 (1962): 49. "Filming and televising at the London Zoo during 1962," *IZY* 4, no. 1 (1963): 152. D. Backhaus and H. Frädrich, "Experiences of keeping various species of ungulates together at Frankfurt Zoo," *IZY* 5, no. 1 (1965): 17. Antonio Jonch, "Exhibit for large African animals at Barcelona Zoo," *IZY* 5, no. 1 (1965): 84. Ryszard Piekarz, "Breeding white storks *Ciconia ciconia* at Warsaw Zoo," *IZY* 5, no. 1 (1965): 126. S. Berggren, "Further notes on the mixed species exhibit at Boras Zoo," *IZY* 7, no. 1 (1965): 240. G. Michael Flieg, "Compatible diurnal raptors in large mixed aviaries at St. Louis Zoo," *IZY* 10, no. 1 (1970): 14. Ivo Poglayen-Neuwall, "Giraffe building at Louisville Zoo," *IZY* 10, no. 1 (1970): 55. Stephen R. Wylie, "Observations on the successful breeding and rearing of Sarus cranes *Grus antigone* in captivity," *IZY* 10, no. 1 (1970): 99. Wolfgang Gewalt, "Africanum – a new exhibit for African steppe wildlife at Duisburg Zoo," *IZY* 12, no. 1 (1972): 87. Jean Delacour, "Waterfowl in large mixed collections," *IZY* 13, no. 1 (1973): 17. Elvie Turner, "African diorama at Fort Worth Zoo," *IZY* 13, no. 1 (1973): 227. C.G. Penny, "Breeding the Abyssinian ground hornbill at San Diego Wild Animal Park," *IZY* 15, no. 1 (1975): 112. "New buildings and exhibits," *IZY* 22, no. 1 (1982): 361. Jon Charles Coe and Hank Klein, "The African Savanna exhibit at Woodland Park Zoo," *IZY* 24, no. 1 (1986): 333. "New buildings and exhibits," *IZY* 24, no. 1 (1986): 418. Michael Gorgas, "Panorama of Africa: a complex for large African mammals," *IZY* 26, no. 1 (1987): 316. Abelardo Moreno, "The African Veld Exhibit at the Havana National Zoological Park," *IZY* 29, no. 1 (1990): 209.

Conservationists therefore expanded their work to include not only efforts to preserve the places where cranes breed, but also to prevent the removal of cranes from these places. In 2006, researchers including NatureUganda personnel and South African conservationists formed the African Crane Trade Project (ACTP). The ACTP based its activities not only on the same groups that had been campaigning for crane and wetland conservation, but also on the arguments these groups had been making. The ACTP leader told a writer for *Swara*, the magazine of the Nairobi-based East African Wild Life Society, that, 'If we lose cranes, we're losing wetlands we depend on'.[91] Without cranes to indicate ecosystem status, wetlands become harder to monitor – and without cranes as flagships for conservation, public participation can become harder to attract.

To oppose the crane trade, the ACTP began studying it. Their first major research project was a case study of five sites in Uganda near the Tanzanian border. NatureUganda was their local partner, and Muheebwa led the work.[92] They found evidence of smuggling by "five Tanzanian traders, two of them based in Kampala" who worked with "[l]ocal people in Masaka, Rakai and Isingiro" to transport cranes across Lake Victoria into Tanzania.[93] Since conducting this research, Muheebwa has involved other Ugandans in efforts to stop the trade. At a 2013 conference he, Byaruhanga, Pomeroy, and Mafabi assessed the trade. They noted the challenges of assessing Uganda's place in the trade due to the country's ban on it and their shared borders with crane-exporting countries. From the years 1996-2005, they said that, "Tanzania and Sudan were the two countries exporting wild caught Grey Crowned Cranes […] **noting too that no wild populations of Grey Crowned Cranes exist in the Sudan** [emphasis in original]. There is a very strong likelihood that Uganda forms part of the origins of the Grey Crowned Cranes

[91] Rupi Magnat, "Grey Crowned Cranes: Populations Decline as Wetlands Diminish," *Swara: The Voice of Conservation in East Africa* (2017): 58.
[92] African Crane Trade Project, *Final Report: Ugandan Case Study* (n.p.: ICF, EWT, and Nature Uganda, 2007).
[93] Gerald Tenywa, "Witchdoctors, Poachers Wipe out Crested Crane," *New Vision*, 10 October 2007: 1, 3.

involved," and that the licit status of the trade in Tanzania and Sudan allowed these countries to remain the leading exporters of wild-caught cranes through 2012.[94] In 2013, CITES suspended trade from Rwanda, Tanzania, and Uganda.[95] By 2020, the main basis of the crane trade in Uganda had become exporting via the Democratic Republic of Congo.[96]

Beyond international coordination, anti-trafficking conservation depends on local knowledge. Tayebwa began a dialogue with a boy in Kabale whom crane traders had approached for help locating eggs and chicks. According to Tayebwa, the boy told him about two men riding a motorcycle who have been offering money for cranes. While the amount they offered per bird (5000 shillings) paled in comparison to the international market value of a young crane, it was too large for Tayebwa to match. Nonetheless, Tayebwa said the boy decided to work with him rather than the traders.[97] Children can use their local knowledge to have crucial roles in the coordination of efforts against the international trade, although this requires foregoing personal benefits from cranes.

Conservation Agreements

NatureUganda's recent activities have also included agreements with several communities in the southwest to restore portions of wetlands. Their Crane and Wetland Program has worked at over 176 sites across Uganda.[98] Yet, most of these interventions have not included broader

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[94] Jimmy Muheebwa, Achilles Byaruhanga, Derek Pomeroy, and Paul Mafabi, "Towards the Completion of the Grey Crowned Crane Species Action Plan for Uganda," in *Proceedings of the Second Uganda Conservation Conference: Conservation Conference 24th-25th May 2012*, compiled by Dianah Nalwanga Wabwire and edited by Derek Pomeroy and Achilles Byaruhanga (Kampala, Uganda: NatureUganda, 2013), 112.
[95] Kerryn Morrison, compiler, *International Single Species Action Plan for the Conservation of the Grey Crowned-Crane* Balearica regulorum (Bonn, Germany: AEWA Technical Series, 2015), 22.
[96] Muheebwa, interview by author, Kabale, 3 March 2020.
[97] Tayebwa, interview by author, Kabale, 27 February 2020.
[98] George Archibald, "Travels with George: Uganda," 2011 (https://www.savingcranes.org/travels-with-george-uganda/).

agreements between NatureUganda and community representatives for sustained management of wetlands. According to interviews with program personnel, NatureUganda's community-based crane conservation projects have included four sites in the southwest.[99] These sites have shown NGO personnel that despite successes in using cranes in outreach to children, community-based conservation agreements depend on facilitating improvements to livelihoods rather than crane reproduction alone.

NatureUganda's relationships with individuals such as Crane Custodians often have not reflected conservationists' broader relationships with communities. In an interview, Kabale District Environment Officer Evas Asiimwe said that custodians "are also community members. But then these community members, these other community members don't like them so much. Because they know that they are the ones who are informing us to chase them out of the wetland. […] They are not comfortable with them, because they know that they are the ones who give us information concerning restoration of these wetlands, and these are the wetlands where they get their livelihoods."[100] Despite alignments between the concepts of community-based conservation, ecosystem thinking, and indicator species – in which crane reproduction attests to the capacity for wetlands to provide benefits to communities – practical tensions between cranes and communities continue.

To overcome these tensions, NatureUganda has used its funding to provide services to communities as part of agreements for wetland restoration. Byaruhanga said in an interview that,

> in the communities, the cranes are a problem. They eat their crops. They are pests. And for them, cranes should be killed to stop them

[99] Muheebwa, interview by author, Kabale, 25 February 2020. Fiona Orishaba, interview by author, Kabale, 28 February 2020.
[100] Evas Asiimwe, interview by author, Kabale, 27 February 2020.

> from destroying crops. […] You need to tell the people to allow the cranes to eat their crops […] but of course they're not going to allow, so what do you in order to allow this hostile environment, for you to be able to conserve the cranes? […] you need to have a discussion and have an agreement on what NatureUganda should do and what the communities should do in order to conserve the cranes. […] Sometimes you need soft support for communities to allow you to come in. For example, you may need to support them with the books into their schools for their children. Some of those schools may actually contain information on the cranes. You may need to do a few things like providing latrines to improve the health and reduce diseases in the communities. You may need to provide seed for crops like Irish potatoes so that they can have food security. You may need to provide tents […] in areas where you don't have shelter for communities to have a meeting place where they can meet and have the discussion.[101]

To implement conservation agreements, NatureUganda has used various versions of payment to incentivize communities to change their uses of wetlands.

Communities' interest in these projects focuses more on livelihoods than on cranes and is strongest among people without land. As Muheebwa said in an interview, "To the communities, the cranes didn't matter […] what mattered was the availability of water. Because if you drain […] there is less […] medicinal plants. There is less of the other provisions of the wetlands." As

[101] Byaruhanga, interview by author, Kampala, 29 January 2020.

a result of communities' interests in applying indigenous knowledges to obtain communally-available goods, divisions within communities regarding Muheebwa's proposals related to land ownership. He repeatedly found that, "I had two groups of people. Those who didn't own wetlands, and those who owned wetlands because they had land titles in the wetland. And it was easier to talk to people who didn't own wetlands, who didn't have titles."[102] Fiona Orishaba, NatureUganda's Crane and Wetland Program Assistant in-charge of Community Education, said in an interview that most participants are women, as "[m]en only come when they know there is cash."[103] Furthermore, obtaining the benefits associated with wetlands that Muheebwa noted (water, medicinal plants, and "other provisions") has often been women's work. Interest in material benefits associated with wetlands – particularly those obtained through communal access, and through women's unpaid labour – has driven community participation in crane conservation projects.

Of the three project sites, Nyamuriro wetland was the first and most contentious. However, it has since become a go-to example for conservationists of a successful community-based project, as indicated by interviews with NGO personnel as well as central and district government officials.[104] Muheebwa said he has taken "the same approach" to the subsequent two project sites.[105] Nyamuriro stretches from Lake Bunyonyi to Echuuya Forest, both in Kabale District, to Lake Murehe in Kisoro District.[106] Former Kabale District Environment Officer Paul Sabiiti said in an interview that whereas in 1997, the national wetlands inventory described

[102] Muheebwa, interview by author, Kampala, 29 January 2020.
[103] Orishaba, interview by author, Kabale, 28 February 2020.
[104] Adalbert Aine-Omucunguzi, interview by author, Kampala, 30 January 2020. Asiimwe, interview by author, Kabale, 27 February 2020. Vincent Barugahare, interview by author, Kampala, 20 March 2020. Orishaba, interview by author, Kabale, 28 February 2020. Muheebwa, interview by author, Kabale, 25 February 2020.
[105] Ibid.
[106] Barugahare, interview by author, Kampala, 20 March 2020.

Nyamuriro as intact, in 2000, officials began noticing "large-scale conversion" there.[107] Long-time environment ministry official Vincent Barugahare said in an interview this was mainly for farming Irish potatoes, as the cooperative "had exhausted the soils in the surrounding areas, and they were starting to grow potatoes in the wetland itself."[108] In 2001, the national wetlands newsletter identified it as "[a]mong the most threatened IBAs in Uganda."[109] Central wetlands officials moved to stop the rapid change they were observing.

According to interviews with Muheebwa, NatureUganda's work at Nyamuriro followed conflict between farmers and conservationist officials. Muheebwa said their involvement started soon after the government had evicted farmers from a nearby wetland (called Rushebeya-Kanyabaha) to conduct restoration there. Central wetlands officials soon moved to gazette the boundaries of Nyamuriro by evicting farmers for a restoration project but found them "prepared with spears to fight the government."[110] He said, "I was given the [government-created wetland management] plan to popularize it, to implement it. It should be government-implemented. But because they cannot be everywhere, sometimes we assist them. […] our duty was to help keep a good relationship between the people and the government. […] So the soft approach was that we talk to the communities, they save some area for conservation, they save some area for their crops."[111] He said that after he proposed this to the farmers, they "agreed to withdraw some meters from either side of the river, […] Then this one eventually brought to them into talking table with government, when they began withdrawing. So government said, 'Eh, you mean you can accept the withdrawal?' The community said, 'But, withdrawing also has a limit. We will

[107] Paul Sabiiti, interview by author, Kabale, 27 February 2020.
[108] Barugahare, interview by author, Kampala, 20 March 2020.
[109] Patrick Semwogerere, "Wetlands – A Haven for Birds," *WetNews* 4, no. 2 (2001): 6.
[110] Muheebwa, interview by author, Kabale, 25 February 2020.
[111] Idem., interview by author, Kampala, 29 January 2020.

withdraw but only to a certain extent, otherwise if we completely go out, then we are going to die'."[112] NatureUganda also channeled some of its USAID funding to promote avi-tourism, beekeeping, and fish farming at Nyamuriro.[113] The impetus for the project was conflict following the government's intent to evict farmers from the wetland, to which NatureUganda responded by creating an agreement with community representatives to leave part of the wetland to regenerate papyrus while continuing to use other portions.

Conservation officials and NGO personnel present Nyamuriro as a success – although officials have further aspirations for the wetland. Orishaba noted in an interview that, "it has regained fish."[114] Barugahare cited it in an interview as a prime example of those "areas where communities are completely managing the wetlands," and said that conservation officials have been trying to get the government to designate it as a Ramsar Site, which would draw further attention to Nyamuriro.[115] Asiimwe said in an interview that, "papyrus were restored, all the characteristics of the wetlands have been restored. Water is in place, nobody can drain that area […] But the other side, also requires to be restored. But I think with time, when this water where they have restored continues to increase in volume, I think even the other ones will also get out."[116] Environment ministry officials have planned expanding conservation at Nyamuriro based on the international attention that Ramsar Sites can draw, while the view of the district environment officer is that the increasing water level will prompt more farmers to leave the wetland.

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[112] Idem., interview by author, Kabale, 25 February 2020.
[113] Ibid. Ambrose R.B. Mugisha, Fredrick Kiwazi, and Patrick Kalunda, "Nyamuriro Community Wetland Management Plan (2002 to 2007)" (Kampala, Uganda: NatureUganda, 2002).
[114] Orishaba, interview by author, Kabale, 28 February 2020.
[115] Barugahare, interview by author, Kampala, 20 March 2020.
[116] Asiimwe, interview by author, Kabale, 27 February 2020.

NatureUganda has also begun a community-based project in conjunction with other organizations, connecting cranes to family planning and environmental conservation simultaneously. The goal of the project is to reduce "pressures on families themselves, and local ecosystems."[117] The organizational basis is a partnership between NatureUganda, the ICF, a London-based family planning organization called the Margaret Pyke Trust, and Rugurama Hospital in southwestern Uganda. According to an interview with Adalbert Aine-Omucunguzi, the East Africa Regional Manager for ICF, this program builds on the pro-monogamy discourse established regarding HIV/AIDS.[118] The use of the crane as an icon of family planning is at odds with the image presented in the cartoon at the start of this presentation, in which the Kob implies that their population is rebounding because they do not "know what family planning is." This discrepancy reveals the ongoing reinterpretations of cranes' reproductive behaviours that Ugandans have made. Yet, the prominence of pro-monogamy discourse and NGO service provision indicate the ongoing influence of neoliberalism in conservationist project design.

Conclusion: Navigating Different Perspectives on an Indicator and Flagship Species

Wetland ecologists see cranes as valuable indicators of ecosystem status, and use them as a flagship to promote conservation based on their prominence in Uganda. However, people understand cranes differently depending on how they interpret crane behaviour and crane-related symbolism. Conservationists used different discourses to reach different audiences, although sometimes these messages contrasted – for example, regarding Ugandan nationalism and Ankole politics, or pro-monogamy discourse and marriage practices in the places where cranes live, or

[117] "Conserving endangered cranes whilst improving family planning in Uganda," 23 November 2018, https://populationandsustainability.org/conserving-endangered-cranes-whilst-improving-family-planning-in-uganda/.
[118] Aine-Omucunguzi, interview by author, Kampala, 30 January 2020.

older associations of cranes with brides and the more recent anthropomorphizing of male cranes. Still, wetland conservationists' focus on crane reproduction as a place-bound, monogamous phenomenon enabled the creation of a campaign that people around the country discussed in a variety of terms that the Kampala-based conservationists had not necessarily anticipated. These discourses are rooted in diverse perspectives on cranes that sometimes conflict with each other, but the work of the conservationists has aligned with the Ugandan government priorities of decentralization and neoliberalism in social service provision, from environmental conservation to reproductive issues.

The campaign for crane conservation began in 1986 with Mafabi's research about how reclamation for rice farming in southeastern Uganda was impacting crane reproduction. While Crowned Cranes have been reproducing in East African wetlands amidst "a faunal assemblage very much like" that of their present-day setting, Mafabi and other ornithologists found that late-twentieth-century agricultural techniques had impacted their breeding.[119] Despite these species-level changes, they argued that individual cranes continued to be faithful to their partners and the places in which they reproduce – and that therefore, wetland conservation was necessary to ensure their continued reproduction. They organized a crane count dependent on the participation of children through the WCU and publicized the plight of cranes through the *New Vision*. For his efforts, the NRM made Mafabi the first head of the national wetland conservation program.

However, the wetlands officials had little ability to enforce compliance and the NRM had little interest in implementing conservationism beyond what was necessary to cultivate their own international image. Instead, conservationists needed to convince people around the country to change their practices. They made cranes the flagship of their efforts based on their dual value as

[119] Hughes, *Cranes*, 24.

cultural symbols and as indicators of ecological changes. Many Ugandans were aware of the former, but few had considered the latter. The values that Ugandans attached to cranes related to healing, marriage, and clan identity – as well as being the national emblem. Associating cranes with wetlands based on their reproduction was an achievement of the conservationist campaign. Yet, after a few years of running the national wetlands program, Mafabi and others became increasingly aware of the limited potential for promoting crane reproduction as a means of wetland conservation. NGOs, especially NatureUganda, became the main proponents of connecting crane and wetland conservation by developing new approaches to public engagement. The neoliberalization of Uganda has structured and limited their efforts, as have countervailing cultural trends. In response, Ugandan conservationists have increasingly turned to various community-based projects. Their focus on cranes has enabled them to solicit international funding and participation in citizen science projects such as censusing, although community participation in wetland restoration has depended on the identification of benefits to livelihoods that would emerge with crane conservation.

Chapter 5 –

The Changing Places of People in "Community-based" Conservation: Policy Implementation in Rural Uganda, 1993 to Present

In 1998, consultants whom the Dutch government hired to analyze the outcomes of its sponsorship of the Ugandan National Wetlands Management and Conservation Programme (NWCMP) submitted their final report. They lauded the creation of the wetlands policy but critiqued its implementation. They found that project sites did not offer reliable bases for livelihoods to communities, and voiced concerns about their ecological sustainability. Additionally, they expressed disappointment with a song that children had performed for them at a primary school in southeastern Uganda. When they visited Limoto wetland in Pallisa District to inspect the demonstration site that NWCMP officials had started, a choir greeted them with a song called "*Muleke Entobazi*," which the consultants translated as 'leave or stop using wetlands, do not touch'. The message did not align with the goal of the NWCMP, i.e., promoting conservationist ways for people to use wetlands – called "wise use" in the Ramsar Convention. The consultants worried that the song indicated a lack of understanding of the program.[1] Rather than a lack of understanding, this discrepancy reflected disagreements between NWCMP officials, district officials, and community representatives regarding how best to use the wetland. Furthermore, it proved prescient regarding the trajectory of conservationism at Limoto: two decades later, approximately 5000 farmers vacated the wetland under a project that wetlands officials designed. This chapter examines how tensions regarding the ecological and economic results of community-based projects prompted conservation officials to rethink wetland usage.

[1] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda – External Review Mission" (Kampala, Uganda: Royal Netherlands Embassy, 1998), 27.

When the National Resistance Movement (NRM) created the NWCMP, it was also promoting decentralization and neoliberalization – although it soon began recentralizing power. To engage with the challenges of decentralized neoliberal conservation, NWCMP officials designed their approach around the presence of people in wetlands. They focused on creating "community-based" projects, i.e., agreements between community leaders and government officials designating places for certain practices and exclusionary of other ones. Conservationists promoted projects building on indigenous knowledges and practices, such as making handicrafts from wetland grasses (which was primarily women's labour) and locating birds to show tourists (which mostly became men's labour). However, conservationists found that the Minister of Gender and Community Development was unwilling to sponsor handicrafts because of their limited financial returns, and that officials responsible for environmental law enforcement did not act to protect the livelihoods of bird guides against incursions by a wealthy investor. As NWCMP officials experienced the limitations of these projects – communities rejecting proposals, participants being unable to secure sufficient livelihoods, and investors displacing communities – they worked increasingly through strategies based on the absence of people from wetlands. This chapter argues that NWCMP officials began reconsidering the presence of people because of the limitations they experienced at projects shaped by decentralization and neoliberalization – and that this reconsideration coincided and built upon the push for recentralization that the NRM began pursuing around the turn of the twenty-first century. Neoliberalization and recentralization meant that President Yoweri Museveni used the wetlands policy to justify evictions supporting his electioneering while overlooking violations of the policy by wealthy investors against the interests of communities, and, with the assistance of wetlands officials, got international funding to incentivize the evacuation of wetlands.

The idea of achieving conservation through communities aligned with the decentralization and neoliberalization that characterized the early years of NRM government, in which they devolved numerous responsibilities from central agencies to district officials and/or Non-governmental Organization (NGO) personnel. It also enabled government officials to exert influence at wetlands outside the Protected Area (PA) system. Most Ugandan wetlands are outside PA boundaries and therefore not subject to the mechanisms of state control that characterize PAs. However, conservationists extended the tourism-oriented focus of PAs in their approaches to many community-based wetland projects. Many tourists were attracted to Uganda because it has over 1000 bird species – more than almost any country – and numerous sites that are crucial for global bird populations.[2] NGO personnel identified certain places as Important Bird Areas (IBAs) where they proposed community-based projects focused on training people, usually young and middle-aged men, as bird guides to promote these places as tourist sites. The expansion of a flower farm impacted one of the most important IBAs, Lutembe Bay wetland in central Uganda. Although IBAs lacked the institutional power of PA boundaries, as at PAs the state promoted community involvement in conservation by using its power to evict and imprison – and when the interests of communities conflicted with those of outside investors, the state maximized its financial returns by overlooking local concerns.

Wetlands officials often have had little direct control over the places they managed as government resources. As representatives of a national office they are responsible for policy implementation across the country, but the small number of staff has limited the extent to which they can become involved in managing any one of Uganda's many wetlands. For example, the most prominent point of disagreement between farmers and conservationists (as well as among

[2] Julius Arinaitwe, Achilles Byaruhanga, and Paul Mafabi, "Key Sites for the Conservation of Waterbirds in Uganda," *OSTRICH* 71, no. 1-2 (2000): 102.

conservationists) regarding wetlands outside Kampala remains rice farming – which conservationists have been largely unable to limit, although officials have continued to try. While conservationists initially engaged with these issues by focusing on community-based projects predicated on the presence of people in wetlands, tensions emerged including violence within communities as well as between communities and officials. Even outside the PA system, questions about the places of people in conservation led to tensions between officials and community leaders, within communities, among conservationists, and between conservationists and private companies.

Wetlands officials began reconsidering how to achieve community-based conservation. By the 2000s, they were experimenting with strategies predicated on the absence of people from wetlands, indicating the limitations of reforms for decentralization and neoliberalization that conservationists used to expand their influence outside PAs. They have increasingly promoted livelihoods based outside wetlands – in some cases jailing farmers if they refused to stop practices contrary to these projects, i.e., "the carrot and the stick," as a Ministry of Water and Environment official said in an interview.[3] This reconsideration was concurrent with a broader recentralization of power by the NRM, in which conservation officials gained greater access to the state's functions for the use of force. Furthermore, it built on the prerogatives of the central government to intervene in wetlands based on new laws in the 1990s. However, conservation officials in the central government have been ineffective in enforcing regulations against the interests of wealthy investors offering access to foreign markets.

Conservationists' efforts towards policy implementation focused on three regions: central, southeastern, and southwestern Uganda. In interviews and project reports, they

[3] Vincent Barugahare, interview by author, Kampala, 10 March 2020.

commented on the differences between their experiences in southeastern and southwestern Uganda. Kampala-based conservationists say people in the southwest are more receptive to their proposals than those in the southeast. They attribute this to ecological and social issues. In an interview, wetlands office Commissioner Collins Oloya said of the latter that, "they know and it is easy to convince them, and actually they're very supportive. […] This is contrary to eastern Uganda. Their land is little, they depend on wetlands, there are no alternatives […] We get resistance there."[4] Wetlands official Vincent Barugahare said that "the wetlands in the east are not well defined. The whole place is a wetland. But the ones in the west are confined, so it is easy to tell someone 'That is a wetland'."[5] However, even in the southwest conservation has sometimes met violent resistance, and in the southeast there are ongoing community-based projects.

This chapter begins by analyzing the NWCMP's demonstration site program that started in the 1990s. The sites generally did not meet their ecological and economic objectives, regardless of variation in issues such as land ownership and community participation. These ecological and economic challenges aligned with gendered tensions regarding land and labour. The results of these tensions revealed the overriding significance of neoliberalization in shaping wetland usage, including conservationism. The next section analyze how personnel of the NGO NatureUganda became involved in policy implementation in the years 1994-2006. They focused on tourism as a basis for community-based projects. Beyond this neoliberalization, recentralization further redefined the roles of NWCMP officials through the 1995 establishment of a distinct body to oversee environmental law enforcement, the National Environment Management Authority (NEMA). Recentralization also offered wetlands officials, as

[4] Collins Oloya, interview by author, Kampala, 9 March 2020.
[5] Barugahare, interview by author, Kampala, 20 March 2020.

representatives of a central government body, increasing capacity to promote conservationism across the country. The final section analyzes tensions in rural Uganda since 2006, as conservation officials have promoted alternative livelihood projects predicated on the absence of people from wetlands. It finds that these projects have generated tensions in cases where conservationists have been unable to facilitate alternative livelihoods, although wealthier farmers and those further from government centres of power have been able to avoid conflicts with conservationists.

By analyzing the changing places of people in community-based projects outside PAs, this chapter advances the historiography of conservation in Africa. Historians of Africa show that community-based projects gained prominence in PAs during the late twentieth century, following tensions regarding exclusionary practices.[6] Yet, they also find that government-backed community-based projects have sometimes become bases for the state to depopulate PAs.[7] Furthermore, even when community members remain in PAs, the power dynamics of these strategies are unequal as officials have greater command of state bureaucracies and greater access to international donors.[8] Ugandan wetland conservationists have worked primarily outside PAs – i.e., in places like those found in almost every district across the country, rather than in a limited number of areas. Examining their work builds on scholarship about community-based forest and soil conservation outside PAs. This literature identifies a propensity for communities to conserve their environments without central oversight – and for government conservation initiatives to fail, including at large-scale grazing and irrigation schemes as well as based on

[6] Phia Steyn and André Wessels, "The Emergence of New Environmentalism in South Africa, 1988-1992," *South African Historical Journal* 42, no. 1 (2000): 210-231. Matthew V. Bender, *Water Brings No Harm: Management Knowledge and the Struggle for the Waters of Kilimanjaro* (Athens, OH: Ohio University Press, 2019).
[7] David McDermott Hughes, *From Enslavement to Environmentalism: Politics on a Southern African Frontier* (Seattle, WA: University of Washington Press, 2006), 150-185.
[8] Christine J. Walley, *Rough Waters: Nature and Development in an East African Marine Park* (Princeton, NJ: Princeton University Press, 2004).

general policies for forest and soil conservation.[9] This chapter finds that gendered and socioeconomic tensions within communities have contributed to ongoing reclamation while also shaping conservation efforts. In response to the challenges of promoting decentralized community-based projects, conservationists have applied strategies developed at PAs – including evictions and tourism – at wetlands outside them.

Testing Approaches: The Demonstration Sites, 1993 to 1998

Wetland officials were testing strategies for encouraging popular participation even before the policy was complete. Starting in 1993, officials began work on a series of demonstration sites at three wetlands representing southwestern, central, and southeastern Uganda: Kitanga in Kabale District, Kyojja in Masaka District, and Limoto in Pallisa District. NWCMP officials had selected these sites through discussions with district officials and, later, community leaders. The sites included livelihood projects for adults and school programs for children. Regarding livelihoods, each demonstration site included multiple projects – such as agroforestry, beekeeping, and making handicrafts from wetland grasses – but focused mainly on one activity (fish farming at Kitanga, grass handicrafts at Kyojja, and agroforestry at Limoto). In an interview, Lucy Iyango – an early NWCMP official and, since 2009, Assistant Commissioner – said that the "intention [wa]s to have this cascade through communities across districts."[10] However, these projects were also ways for officials to test their approaches to community-based conservation – through which they experienced multiple challenges that often manifest in

[9] Henrietta L. Moore and Megan Vaughan, *Cutting Down Trees: Gender, Nutrition, and Agricultural Change in the Northern Province of Zambia, 1890-1990* (Portsmouth, NH: Heinemann, 1994). Mary Tiffen, Michael Mortimore, and Francis Gichuki, *More People, Less Erosion: Environmental Recovery in Kenya* (Nairobi, Kenya: African Centre for Technology Studies Press, 1994). James Fairhead and Melissa Leach, *Misreading the African Landscape: Society and Ecology in a Forest-Savanna Mosaic* (Cambridge, UK: Cambridge University Press, 1996).
[10] Lucy Iyango, interview by author, Kampala, 10 February 2020.

gendered tensions over land ownership and compensation for labour. Tensions resulting from some men's ownership of wetlands for rice farming and other cash-oriented practices – as well as from the lack of monetary compensation for women's labour collecting water from wetlands, and making handicrafts with wetland grasses – revealed the influence of neoliberalization in shaping wetland usage, including conservationism.

The Demonstration Site Approach

By 1993, wetland conservationists argued that there was need to exert influence outside the PA system and began work on demonstration sites to manifest this. The first NWCMP officials, Paul Mafabi and Douglas Taylor, had already noted that Uganda has many small wetlands rather than a few large ones. In 1993, at Uganda's fifth national conservation forum, Makerere University ornithologist Derek Pomeroy summarized the state of official knowledge about these wetlands by saying that while each of the 56 forest specialist species present in Uganda could be found in PAs, 24 of Uganda's 159 waterbirds could not. "Clearly, the present PA system is inadequate with respect to wetlands and their fauna," he said.[11] This recognition coincided with increased consideration among Ugandan conservationists of the question "how you allow people to also benefit," in the words of early NWCMP official Margaret Lwanga.[12] That year NWCMP officials started meeting with district officials, selecting places for use as demonstration sites to convince farmers across Uganda to change their practices in wetlands.

The first official focused on creating the demonstration sites was Teddy Tindamayire. She started working for the Ministry of Environment Protection in 1988. In 1993, she was hired

[11] Jake Reynolds and Derek Pomeroy, *Uganda's National Parks: Proceedings of the Fifth Conservation Forum* (n.p.: FAO/GEF and IUCN, 1993), 49, 54.
[12] Margaret Lwanga interview by author, Kampala, 10 February 2020.

by the NWCMP as Environment Officer in-charge of Education and Outreach. She coordinated the sites including demonstrations of alternative livelihoods and the "Demonstration Schools" program administered through the Wildlife Clubs of Uganda (WCU). In an interview, Lwanga explained why the NWCMP started the school program: "once you deal with children, they can help inform their parents. And when you target the children, you think that this information will stay around for a good time."[13]

Tindamanyire worked with the WCU to launch subsidiary groups called Wetland Clubs. Although each demonstration site started with five clubs, Tindamanyire said in an interview that eventually "around one dozen" schools near each of the three sites had a Wetland Club. These clubs coordinated activities including dramatizations and essay-writing contests at each site, exchange visits between sites, and radio lessons broadcast from Kampala. Furthermore, one club near each livelihood demonstration site also created an artificial wetland on the premises of its school. They did so by asking students and teachers to dig a wide hole, flood it with water, and add plants collected from wetlands nearby. Tindamanyire said that at the primary school in Masaka with an artificial wetland, "once the papyrus could grow, and even a few small fish came up, they were excited."[14] To evaluate the clubs' educational impact, Tindamanyire created a booklet called "Know Your Wetlands" which contained an exercise "that the children could go home and use in the neighbouring wetland, so that they could tell what we are looking at. [...] We'd want to see how students have done it, to be able to get the impact."[15] However, officials did not review these systematically and by 1997 conceded that "the short-term benefits of their

[13] Lwanga, interview by author, Kampala, 9 March 2020.
[14] "Radio Listeners' Column: Upper Primary Schools' Programmes Launched," *WetNews*, January-March 1995: 10-11. Iyango, interview by author, Kampala, 10 February 2020. Teddy Tindamanyire, interview by author, Kampalsa, 10 March 2020.
[15] Ibid.

involvement [in schools] were not established."[16] The impact of involving children in community-based conservation was unclear – although as Chapter Four shows, children and students have become vital supporters of conservationism.

Beyond questions about how to assess the impact of children's outreach, officials and the external consultants experienced challenges in achieving the economic objectives of the demonstration sites. NWCMP officials wanted the sites to demonstrate the viability of livelihoods based on the wise use of wetlands for communities and local officials to replicate nearby. However, community representatives and NWCMP officials sometimes disagreed regarding which wetland uses to promote – and where there were owners of wetlands, who usually were men, their interests took precedence. Furthermore, while NWCMP officials had made grass harvesting crucial to their approach, other central government officials did not consider the economic returns worthwhile. Because wetland ownership and handicrafting were usually the domains of men and women, respectively, economic and gendered tensions overlapped.

Kyojja: The Challenges of Marketing Grass Handicrafts

The demonstration site in central Uganda received considerable participation and a donation of land, but nonetheless encountered difficulties soliciting government support beyond the NWCMP. When wetlands officials contacted district governments in central Uganda, Masaka officials suggested Kyojja, a 74km stretch of wetland.[17] This was because "it was one of the wetlands that was not yet degraded [...] [a]nd [...] that community from within the Kyojja

[16] NWCMP, "Final Report for Phase II – 1 July 1992 to 31 August 1996" (Kampala, Uganda: Ministry of Natural Resources, 1997), 60
[17] "World Wetlands Day, 1997," *WetNews*, January-March 1997: 1.

wetland was doing mats, which the district thought would be turned into an economic activity," Tindamanyire said in an interview. NWCMP officials then met with communities around Kyojja to discuss the project.[18] The size of the site is unclear, although in an interview Iyango estimated that it was multiple hectares.[19] It opened in 1994, involving farmers from three villages, later expanding to six. That year these farmers formed an association which, by 1998, had 200 members including 150 women and 50 men.[20] NWCMP officials selected the Kyojja site based not only on its environmental condition, but also because the ongoing use of papyrus and other grasses by farmers nearby aligned with their conceptualization of wise use. The project generated considerable interest among people from villages near Kyojja, particularly women.

NWCMP officials turned their attention towards starting a handicraft centre. In 1995, a man *WetNews* identified as Hajji Isa Senyonga from Kyojja donated land along the highway for it.[21] In 1996, officials organized a tour of fifteen members of the association to tour other handicraft centres in Buganda "to review the range of products from wetlands" regarding training, marketing, and other issues.[22] By 1998 the NWCMP had contributed around 20 million shillings or 17,000 USD towards constructing the centre.[23] The project built on existing practices at Kyojja, facilitated exchanges of knowledge with other handicraft centres, and benefitted from donated land.

However, the economic and gender dynamics of grass harvesting under neoliberalization limited government support for the project. The external consultants reported that other national officials did not share the NWCMP's view of handicrafts: "[t]he Minister for Gender and

[18] Tindamanyire, interview by author, Kampala, 10 March 2020.
[19] Iyango, interview by author, Kampala, 10 February 2020.
[20] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 23.
[21] "Wetland Resource User Seminars," *WetNews*, January-March 1996: 8.
[22] NWCMP, "Final Report for Phase II," 18.
[23] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 23.

Community Development recently stated her Ministry will not market women's handicrafts like mats and baskets because they are unprofitable."[24] Conservationists responded by noting the interest of women around Uganda in this practice, such as the Jinja Urban Wetlands Women's Group.[25] To publicize the benefits of handicrafts, they emphasized the potential for men to do this work in three articles addressing one man in southeastern Uganda who "boast[ed] of a four-bedroomed house, a motorcycle, 40 heads of cattle and 10 employees" after selling papyrus mats.[26] Nonetheless, at Kyojja, NWCMP officials learned that there was little institutional support for marketing handicrafts made of wetland grasses as neoliberal decision-making characterized the central government's approach to gender and community development.

Kitanga: Testing the Ecology and Economics of Fish Farming

NWCMP officials also based the demonstration site in southwestern Uganda, at Kitanga wetland, on previous practices – yet the external consultants questioned not only the economic outcomes of the site, but also its environmental impact. NWCMP officials identified the site by 1993. Here, they built on decades of fish farming demonstrations, which they promoted as an example of the wise use of wetlands because artificial ponds retain a considerable amount of water and can be continually restocked with fish. Fish farming usually involved men's and women's labour, as men often farmed the fish, and women often fried or smoked it then sold it. Kigezi District officials started demonstration fish ponds in 1953.[27] By the late 1950s, missionaries were

[24] Ibid., 25.
[25] Vision Reporter, "Wetlands filter and purify water," *New Vision*, 30 November 1998: 33.
[26] *New Vision* first profiled Sula Mugoya on 12 January 2000. "Wetlands are very precious," *New Vision*, 2 February 2000: 25. Patrick Semwogerere and Reint Bakema, "Wetland wise use can earn you millions of U$!," *WetNews*, December 2001: 3.
[27] Game Warden to Acting Director of Medical Services, 22 July 1959, Kabale District Archives (KDA), Trade and Industry 20/K-M-1-60/11.

overseeing fish farming "on the edge" of the wetland at Kitanga.[28] In 1959, the Kigezi District Medical Officer indicated the extent of the practice when he complained that farmers across the district were constructing ponds by partly draining portions of wetland edges, "and I do not even know their whereabouts."[29] In the following years, officials in independent Uganda demonstrated fish farming at the church, where there were ten ponds by 1967. Fish farming continued to be widespread at least through the 1960s. Although officials' estimates of the number of ponds varied, they agreed there were many: 1000 in 1963, 1600 in 1967; and 600 in 1969.[30] However, much of the industry including the Kitanga site was defunct by the early 1980s, following instability under Idi Amin and during the civil war.[31] A 1996 survey found fewer than 250 ponds.[32] NWCMP officials planned to conserve Kitanga wetland by reinvolving the community in fish farming.

In 1993, the Catholic church at Kitanga lent the portion of the wetland on its grounds to the NWCMP for the demonstration site. Iyango said in an interview that, "the ownership d[id]n't change, but the use and access was given by the church. Because one of those areas was threatened by degradation," i.e., farmers expanding reclamation.[33] Church leaders may have thought that lending the wetland to the NWCMP to revive fish farming would be the best way to retain ownership of this large plot as reclamation expanded around their defunct ponds. Furthermore, NWCMP officials sponsored the removal of debris, silt, and vegetation from three

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[28] NWCMP, "Final Report for Phase II," 12.
[29] Kigezi District Fisheries Development Officer to Game Warden, 20 June 1959, KDA, Trade and Industry 20/K-M-1-60/1.
[30] P.B. Bahizi to Kabale District Commissioner, 22 February 1963, KDA, Trade and Industry 20/K-M-1-60/39: 2. M.E.A. Elessu, "Minutes of the Kigezi District Team Meeting Held on 8th May 1967," KDA, Administration 12/ADM 4viii/91: 6. Rwaributware Donat, "Kabale Pond Fish Farming (KAPOFIFA) Project for Alleviating Malnutrition Project Proposal," 1996, KDA, Lands 33/DEV 4-5 CAO-003-CP 5-3/71: 6.
[31] NWCMP, "Final Report for Phase II," 12.
[32] Rwaributware, "Kabale Pond Fish Farming (KAPOFIFA) Project for Alleviating Malnutrition Project Proposal," 1996, KDA, Lands 33/DEV 4-5 CAO-003-CP 5-3/71: 6.
[33] Iyango, interview by author, Kampala, 10 February 2020.

ponds to rehabilitate them. In January 1994 "[a] fourth, small pond was rehabilitated by local participants."[34] Iyango said in an interview that around "forty households" worked these ponds, each of which was "more than 100 by 50" metres.[35] According to an NWCMP report, by that point nearby farmers had rehabilitated thirteen more ponds there, "in the expectation of assistance from the Programme, following encouragement by the Parish priest who did not consult" officials. Fish farmers created management committees for each of these ponds, independent of the official site committee.[36] As at Kyojja, there was considerable enthusiasm for the project – although the landowner did not donate the land, but rather lent it to the NWCMP for rehabilitation.

However, the capacity of the site as a basis for livelihoods and the its application of the concept of wise use were debatable. Despite the apparent success of the project in decentralization, with farmers having rehabilitated ponds and formed management committees independently of the wetland office, the external consultants critiqued its ability to deliver on the promises of conservation and neoliberalization. They found that while rehabilitating the ponds had cost USD 25,000 thus far, the "[a]verage annual income generated [... was] less than US$6 per person," and asserted that, "community fish farming does not constitute a viable economic initiative."[37] This finding is difficult to reconcile not only with the widespread existence of ponds through the 1960s, but also with a NWCMP semiannual report the following year which noted that the community had "progressed well with minimal financial support" as fish farmers purchased about 500 fryers with proceeds from their sales.[38] The government officials may have

[34] NWCMP, "Kitanga Wise-Use Demonstration Site: Review of Activities," March 1994, KDA, Lands 33/DEV 4-5/28/enclosure: 1.
[35] Iyango, interview by author, Kampala, 10 February 2020.
[36] NWCMP, "Final Report for Phase II," 13-14.
[37] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 24.
[38] Wetlands Inspection Division, "Semi-annual Report July-December 1999" (Kampala, Uganda: IUCN and Ministry of Water, Lands, and Environment, 2000), 33

exaggerated their own impact, and/or the external consultants may have failed to appreciate the economic significance of the ponds. Further research is required to examine the economic significance of fish farming at Kitanga and throughout the region. Besides economic issues, the consultants critiqued the ecological significance of the site, writing that the use of fifteen ponds for fish farming "constitut[ed] a net loss of some 15ha of wetland area."[39] Wetland officials learned that differences between how they and their donors understood wise use could limit potential support.

Limoto: Debating Agroforestry and Land Ownership

Differences in the conceptualization of wise use between community leaders and NWCMP officials – and within the community – characterized the third site. NWCMP officials selected Limoto in 1994. The previous year they had approach officials of two rice growing districts, Iganga and Pallisa, and "the Pallisa authorities appeared more enthusiastic, proposing two possible sites. In addition there existed the Pallisa Community Development Trust (PACODET), with which the Programme could work." One of the possible sites was "intensively farmed for rice," the other "largely unmodified" by people although a drought had recently impacted it.[40] NWCMP officials picked the latter, indicating the preferability of trying to conserve a wetland where the presence of people was minimal.

Farmers at Limoto changed their practices in response to the drought, particularly papyrus harvesting. The NWCMP reported that after the drought, "the papyrus was burnt and the area is now dominated by perennial flooplain [sic] grasses such as wild rice [...] The area is used

[39] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 24.
[40] NWCMP, "Final Report for Phase II," 20, 23.

for a variety of reasons including dry season grazing, fishing and swamp edge cultivation."[41] Responding to the changing climate, unspecified people at Limoto burnt the papyrus after which people used the area for grazing, fishing, and swamp edge cultivation. Two of the latter three practices were men's work, while crafting with papyrus was usually women's work although men often harvested it. The environmental changes of the drought and the response of some local people prompted district officials to direct NWCMP officials towards Limoto. Yet, deciding what constituted wise use of wetlands was contentious within communities based on gendered questions about who would be using a wetland and who would not.

These disagreements became clear to officials when the NWCMP employed PACODET to ascertain the priorities of people at Limoto. From October 1994 to January 1995, PACODET surveyed people's observations of, and preferred practices in, Limoto wetland.[42] According to NWCMP officials, PACODET noted that, "wetlands have been fragemented [sic], owned and drained exclusively by men for [...] rice," "women can use but not own wetlands," "most wild mammals, birds and plants have vanished," and "weather is said to be becoming very unreliable, and most households have experienced frequent food shortages." Overall, they found that, "[t]he local people of Limoto are concerned about the changes and have the desire to be assisted but are suspicious of losing access to and use of the wetlands." PACODET listed the "priority activities" they heard: agroforestry, bee-keeping, cattle grazing, fish farming, and rice growing.[43] Officials learned that community-based conservation had broad appeal at Limoto – but planning the presence of people in the wetland became fraught because of gendered divisions within the community as well as apprehension about officials' intentions. Ultimately, tensions regarding

[41] Ibid., 20.
[42] Ibid., 23. ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 25.
[43] NWCMP, "Final Report for Phase II," 21-22.

men's claims to wetland ownership for rice farming shaped PACODET's approach.

NWCMP officials disagreed with the proposals they received from the Limoto community via PACODET and from district officials. They said that practices at the demonstration site must underpin "long-term improvements to existing wetland use" – although their report did not specify how these would be measured, nor why fish farming was an acceptable goal at Kitanga but not Limoto. In response, district officials conducted a study and made unspecified proposals.[44] In an interview, Tindamanyire said that interests in rice farming underpinned opposition to officials' proposals: "the reception was extremely good in Kabale and Masaka. In Pallisa […] they took our message with mixed feelings, because they basically do rice growing, and we were telling them we wanted to restore that wetland" by promoting alternative uses.[45] NWCMP officials reported that they met with the community and district officials in 1996 to review the proposals, and "[t]he community asked for time to consider its response."[46] The external consultants wrote that, "the community opted for a [tree] nursery," but worried that they were "coerced into [it], despite their eagerness to commence with a zero-grazing programme."[47] The tree nursery was to be a basis for generating cash, at least offering a way to meet the objective of the men who owned wetlands for rice farming and who, according to interviews with former NWCMP officials, were predominant as community representatives.[48] Furthermore, the NWCMP sponsored upland rice trials to promote cultivation outside wetlands.[49] Gendered tensions within communities over labour and land – as well as

[44] Ibid., 22.
[45] Tindamanyire, interview by author, Kampala, 10 March 2020.
[46] NWCMP, "Final Report for Phase II," 22.
[47] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 25.
[48] Lwanga, interview by author, Kampala, 9 March 2020. Tindamanyire, interview by author, Kampala, 10 March 2020.
[49] NWCMP, "Progress Report for the Period 1 September 1996 to 28 February 1997" (Kampala, Uganda: NEMA, n.d.), 16.

disagreements between community leaders, district officials, and NWCMP officials regarding what constituted wise use – shaped discussions about what to demonstrate at Limoto.

The consultants critiqued the ecological, economic, and intellectual results at Limoto. They noted that the tree species produced were not marketable therefore "the community are not benefiting in economic terms." Furthermore, "trees planted in 1997 have largely perished as a result of drought and floods." More fundamentally, they argued that people there "still lack[ed] knowledge about alternatives to their previous practices." To exemplify this point, they noted that children greeted them with a song called "*Muleke Entobazi*" ("leave or stop using wetlands, do not touch"), written by the schoolmaster.[50] However, community representatives had not promoted such a message; they were interested in maintaining and expanding wetland uses. The discrepancy between the song and the NWCMP's intended message reflected broader disagreements about what would constitute an economically- and ecologically-wise use of wetlands.

Reframing the Values of Wetlands

In 1999, the year after the consultants' report, to understand further how communities benefitted from wetlands and to promote their own conceptualization of wetland benefits, NWCMP officials piloted Environmental Economic Valuation techniques. They built on an understanding that was emerging within international conservationist networks, which framed wetlands and other ecological phenomena in monetary terms. To try valuing Ugandan wetlands, they conducted a multi-site study in Pallisa District. They invited a Kabale district official to bring knowledge about the process back to the southwest. Studying the ecological effects and

[50] ARCADIS-Euroconsult, "National Wetlands Conservation and Management Programme, Uganda," 25, 27.

economic outcomes of different practices would "enable estimates to be made of the monetary values associated with different uses of Pallisa wetlands."[51] Estimating monetary values often involved asking people to specify what "payment vehicles," such as bicycles or rice, they would require in order to stop using a particular wetland.[52] Mafabi said this was also part of propagating "the 'wetlands as supermarkets' ideology," i.e., the idea that people could use wetlands on an everyday basis to obtain needed goods.[53] Valuation studies aligned with the focus on cash of rice farmers and other men who owned wetlands, and attempted to quantify in monetary terms the significance of unpaid labour based upon wetlands, particularly water collecting and handicraft making by women. Facing the decentralization of their work, and misalignments between their understandings of wetland benefits with those of communities, NWCMP officials used the emerging concept of Environmental Economic Valuation to try creating common ground in their discussions with district officials and community members by identifying the economic significance of different wetland uses. Furthermore, valuation studies attempted to create equivalencies between men's and women's labour, although by defining their significance in monetary terms that indicated the predominance of men's labour and neoliberal thinking in decision-making in decision-making about wetlands, including conservationism.

NWCMP officials focused their messaging on the economic and social consequences of different wetland uses, with particular emphasis on changing men's practices. According to interviews with Iyango and Tindamanyire, when communicating with community members about the results of this exercise, officials made two points about rice farming. Because rice is a

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[51] Paul Mafabi to Kabale Chief Administrative Officer, 19 August 1999, KDA, Lands 33/DEV 4-5/108.
[52] Masaba Sowedi, "An Economic Valuation of Alternative Wetland Uses to the Local Community" (master's thesis, Makerere University, 2002). Beatrice Okello and Rita Laker-Ojok, "The Critical Triangle Relationship between the Diversity of Wetlands Utilization, the Enhancement of Agricultural Productivity and Food Security in Uganda," IFPRA Eastern Africa Food Policy Network Report 8 (Kampala, Uganda: IFPRI, 2004).
[53] Paul Mafabi to Kabale Chief Administrative Officer, 19 August 1999, KDA, Lands 33/DEV 4-5/108.

monoculture, it degrades wetland soils over time – as evidenced by declining yields in rice plots farmed for several years.[54] Furthermore, because it used labour from children as bird scarers, many were unable to attend school.[55] In an interview, Iyango lauded "testimonies" of individuals involved in the seedling program including "an ordinary man but very enthusiastic [… who] later became a merchant in his village and was even able to buy a car, which he had never been able to do with rice growing, build a nice house, and take his children to school."[56] NWCMP officials associated rice farming with soil degradation and a lack of education in children, and they identified alternative paths to buying cars and paying school fees. This was a way to address men who owned wetlands for rice farming or other uses, based on gendered ideas of responsibility and success under neoliberalization.

Through the demonstration sites, NWCMP officials began testing their approaches to community-based conservation. They realized that they needed to hone their messaging about conservation through the presence of people if more communities were to participate. They faced tensions between the entrenched interests of rice farmers and other men who owned wetlands for generating cash, and the uses of wetlands for collecting water and making handicrafts from which women derived little monetary benefit. Furthermore, NWCMP officials found that even with common ownership of land and enthusiasm from community members, the results could be undesirable as livelihoods stagnated and wetlands changed. The challenges included

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[54] Charles Kakaire, "The Factors Contributing to the Production of Rice within Kibimba Company in Bukholi County, Iganga District 1965-1993" (bachelor's thesis, Makerere University, 1995), 7, 28. David Kyaddondo, "'Rice is a Jealous Crop': Subsistence, Markets and Morality in a Changing Economy in Eastern Uganda" (PhD diss., University of Copenhagen, 2004), 28. Okello and Laker-Ojok, "The Critical Triangle Relationship between the Diversity of Wetlands Utilization, the Enhancement of Agricultural Productivity and Food Security in Uganda," 23. Iyango, interview by author, Kampala, 10 February 2020.

[55] Gariyo Zie, *Appropriate Technology, Productivity, and Employment in Agriculture in Uganda: The Case Study of the Kibimba and Doho Rice Schemes* (Kampala, Uganda: Centre for Basic Research, 1991), 7-8. Tindamanyire, interview by author, Kampala, 10 March 2020. Iyango, interview by author, Kampala, 10 February 2020.

[56] Ibid.

environmental considerations, such as designing projects that could continue despite flooding in wetlands. Furthermore, there were crucial economic concerns including the reliance of project participants upon products from which it was difficult to derive reliable livelihoods as fish and handicrafts, especially without government support beyond the NWCMP. Facing the challenges of decentralized, neoliberal conservation, in the twenty-first century wetlands officials worked increasingly to promote policy implementation based on the power of the central government. However, despite the shift from decentralization to recentralization, neoliberalization continued, particularly after NGO personnel gained roles in wetland policy implementation.

Placing Neoliberalization: Tourism and NGOs, 1994 to 2006

Officials not only tried expanding conservation beyond the PA system by promoting indigenous knowledges and practices (e.g., grass harvesting), they also tried bringing a practice at national parks (i.e., tourism) to wetlands across Uganda by building on indigenous knowledges about birds. However, the perimeters of tourism projects outside PAs lacked the institutional power – and financial responsibilities – of enforced boundaries. This lack of state power aligned wetland conservationism with the neoliberalization that was ongoing in Ugandan governance. In the late 1990s and early 2000s, international funding for the NWCMP phased out and NGOs became increasingly important in Ugandan wetland conservation. NatureUganda personnel helped create the IBA system, a basis for tourism outside the PA system, by identifying the importance of certain places to birds. In doing so, they depended upon the local knowledge of research assistants. NatureUganda offered bird guides networking and training, but little to defend their interests in a wetland against the power of a private company backed by more capital. Under the recentralization that the NRM began pursuing around the turn of the twenty-first century, the

prerogative of environmental law enforcement belonged to the newly-created NEMA (for whom wetlands officials were to act as technical advisers), who did not intervene materially to prevent a wealthy investor from appropriating a wetland that a community-based group was conserving.

District officials found that starting community-based projects was challenging because of some farmers' skepticism regarding what the conservationists had planned for them. Paul Sabiiti, who was the Natural Resources Officer in Kabale from 1995-2012, outlined this challenge in an interview. Prior to 1995, he worked for the Ministry of Natural Resources interviewing people around Uganda about "environmental degradation." When he became a Kabale official his work focused on meeting with communities across the district "to convince them of the benefits of conservation." He said that, "generally speaking, the people seem to be anti-conservation. They are apprehensive about government coming in to speak about wetlands. They suspect maybe government is going to chase them out. [...] You call a meeting, maybe you expect 30, 40 people, only 15 are turning up." His "worst experience" was organizing meeting to which "nobody came, then a message. Somebody told me that people were saying 'Maybe government is proposing to chase us away. Where will we be doing their cultivation? So it's better not to not to appear'. [...] Once in a while, somebody tells you, 'It seems you people want to chase us out of this wetland'."[57] Many farmers feared that if they worked with conservation officials, they would be forced out of wetlands.

NWCMP officials knew that because the PA system had displaced countless people, many farmers in Uganda understood conservation negatively. In the 1990s some conservationists were trying to reform PAs through community participation, and by 1994 NWCMP officials were trying to incorporate this reformism into their own strategies. That year, officials arranged

[57] Paul Sabiiti, interview by author, Kabale, 27 February 2020.

for fourteen people from Kitanga to visit a community-based NGO facilitating tourism and other activities at Magombe Swamp in the recently-created Kibale National Park.[58] The park had been created four years prior manifesting "[a] new approach" to conservation, i.e., that people and the park would 'co exist', according to *WetNews*. Under this system the government encouraged people at Magombe to show Shoebill Storks and other birds to tourists, with funds for training from the United States Embassy.[59] (Environmental journalist Gerald Tenywa wrote that "[t]he shoebill is the most popular bird for watchers coming to Uganda."[60] This is because of its peculiar appearance and call.) NWCMP officials saw this as a form of conservation predicated on the presence of people and tried to use knowledge sharing to make the Kitanga site an extension of this reform in the park system. After people from Kitanga toured Magombe, in 1996 *WetNews* claimed that the community was trying "to develop Kitanga demonstration site and the entire Kashambya wetland into a tourist attraction site."[61] Ultimately, at Kitanga this amounted to little. Although NWCMP reports did not indicate why tourism did not become prominent there, this result attested to the difficulty of taking practices designed as part of the PA system to places beyond its boundaries.

Despite being unsuccessful at Kitanga, tourism soon became a focus of conservationist NGO personnel, who saw it as an opportunity apply their skills and networking. NatureUganda became one of the most active NGOs in environmental policy implementation via funding, researching, planning, and coordinating community-based conservation. As Chapter Four shows, Makerere University faculty and students revived and rebranded the Uganda branch of the East Africa Natural History Society as NatureUganda. From 1996-2001, they identified and compiled

[58] NWCMP, "Final Report for Phase II," 14.
[59] "Kibale Community Benefits From Wetland Eco-tourism," *WetNews*, July-September 1995: 12-13.
[60] Gerald Tenywa, "Poachers snatch shoebill," *New Vision*, 30 August 2007: 4.
[61] "Communities in Wetland Resource Management," *WetNews*, January-March 1996: 12.

information about thirty IBAs across the country.[62] Using their access to academic research about Uganda, as well as their connections to international conservationist networks which offered funding and facilitated exchanges of knowledge, they planned focal points for community-based projects.

In interviews, officials framed their relationships with NGOs in multiple ways. Wetlands Commissioner Oloya described the work of NGOs as auxiliary to that of the government: "[t]hey are just our supporters to see that the law actually works."[63] This contrasts with observations by Evas Asiimwe and Sabiiti based on their experiences in the position of Kabale District Environmental Officer. Asiimwe said that NatureUganda "make proposals [...] to those ones who fund them, then they come for implementation and we have to support them because they are doing that work on our behalf, which is supposed to be done by the government. But, because the government is constrained with funding, now, these NGOs help the government." Furthermore, she identified NatureUganda as crucial in facilitating communications between communities and the district government because "they have vehicles [...] and in case we meet people who can assist us in restoration, they are able to give them incentives, something to drink, small incentives [...] the Natural Resource Department has no vehicle. We hire vehicles from other departments, [but sometimes] you find that the vehicle is already occupied." Asiimwe's quarterly fuel budget has been insufficient to visit each project site, making these resources particularly valuable in communicating with community leaders.[64] According to Sabiiti, in 2005 "NatureUganda gave money to my office […] to do conservation […] I had to mobilize

[62] Achilles Byaruhanga, Pantaleon Kasoma, and Derek Pomeroy, *Important Bird Areas in Uganda* (Kampala, Uganda: East Africa Natural History Society, 2001). Edgar R. Batte, "Marabou storks set Byaruhanga on a journey to conserve nature," *Daily Monitor*, 21 February 2016, https://www.monitor.co.ug/Magazines/Life/Marabou-storks-set-Byaruhanga-on-a-journey-to-conserve--nature/689856-3085382-12xwcwq/index.html.
[63] Oloya, interview by author, Kampala, 9 March 2020.
[64] Evas Asiimwe, interview by author, Kabale, 27 February 2020.

communities, take them through the benefits of conservation."[65] The view from Kampala is that NGOs are the "supporters" of officials in implementing the policy nationwide, but in Sabiiti's experience this meant receiving funding from NatureUganda and trying to convince communities to participate in a project, and in Asiimwe's experience it has been officials who "have to support them." With neoliberalization, NatureUganda superseded officials in the role of starting discussions about which places should become focal points for community engagement.

NatureUganda has promoted tourism based on the IBA system, which highlights the ornithological value of places outside PAs. The NGO BirdLife International created the IBA approach, which NatureUganda applied by studying sites across the country. The approach lists several means by which a place could qualify as "important," for example whether it was a habitat for a certain number of individual birds or a certain percentage of the global population of a species (the threshold numbers vary between kinds of birds). As of 2006, the approach was "the most developed global system for identifying sites of conservation priority" according to an assessment published in a leading conservation journal. Nineteen of Uganda's thirty IBAs had some PA coverage. However, these only included three of the sixteen wetland IBAs.[66] NatureUganda personnel have used their knowledge about wetland IBAs to promote conservationism outside PAs.

To promote conservation at these wetlands, they offered training as bird guides to people there, often young and middle-aged men. NatureUganda's first model for doing so was the Site Support Group, which staff had been reviewing since 1997. Julius Arinaitwe, one of the first Executive Secretaries of the group, said in an interview that they learned this approach through

[65] Sabiiti, interview by author, Kabale, 27 February 2020.
[66] Herbert Tushabe et al, "A Nationwide Assessment of the Biodiversity Value of Uganda's Important Bird Areas Network," *Conservation Biology* 20, no. 1 (2006): 85, 88.

discussions with representatives of BirdLife (which had also created the IBA approach).[67] This training has enabled people in rural Uganda to capitalize on indigenous knowledge about birds – which NatureUganda personnel have shared to an extent based on their upbringings in rural Uganda, particularly the southwest. However, they have also relied on guides to conduct research there, indicating depth of local environmental knowledge there, and its importance to the identification of IBAs.[68] NatureUganda personnel used this approach to train bird guides at numerous wetland IBAs – one of the first and most contentious initiatives being Lutembe Bay in Wakiso District, sixteen kilometres west of Kampala.

At Lutembe, a conflict emerged between bird guides and a wealthy investor expanding a flower farm. NatureUganda had been doing monthly bird counts there since 1994.[69] In the late 1990s they sponsored the creation of a Site Support Group: the Lutembe Bay Wetland Users Association (LUBUWA).[70] Funding for training, guidebooks, and binoculars came from the United Nations (UN) Development Programme and the World Bank Global Environmental Facility. In 1998, NatureUganda conducted a study which argued that the four flower farms at Lutembe were "a potential threat that requires regular monitoring" because of pollution.[71] In 2001 the original owner of one farm, Rosebud, sank into receivership and the wealthiest person in Uganda, Sudhir Ruparelia, purchased it. In the following two years, Rosebud "expanded from one hectare of roses to now cover 28."[72] This concerned NatureUganda, who had recently ranked Lutemba second among IBAs in terms of value for focal species (along with Doho Rice Scheme

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[67] Julius Arinaitwe, interview by author, Kampala, 2 January 2020.
[68] Ibid. Achilles Byaruhanga, interview by author, Kampala, 29 January 2020. Jimmy Muheebwa, interview by author, Kampala, 29 January 2020.
[69] Dianah Nalwanga, "10 Years of Monitoring Birds at Lutembe Bay – 1994 to 2003" (unpublished draft, 2003), 1.
[70] Hajji Munyagwa, Robert Kifana, and Joanita Serunkama to NEMA, 7 May 2008 (accessed in the NatureUganda head office, Kampala, in a binder labeled "Lutembe").
[71] Achilles Byaruhanga and Vanice Mirembe, "Ornithological Importance and Potential Threats at Lutembe Bay" (unpublished draft, 2002), 8, 12.
[72] Mulinde Musoke, "Rosebud: Sudhir speaks out," *New Vision*, 27 November 2003: 22.

(DRS) and behind Uganda's first Ramsar site, Lake George).[73] They began working with LUBUWA to draw attention to the expansion of Rosebud.

By this point, Lutembe had become an increasingly popular tourist site. Tenywa wrote that it "earned global fame" because two million White-winged Black Terns migrate there from Europe and Siberia annually. (NatureUganda later claimed Lutembe hosted "the entire global population" of this bird.[74]) Tenywa quoted Achilles Byaruhanga, by then Executive Director of NatureUganda, saying that it 'ha[d] become the hottest bird watching spot for water birds in Uganda'.[75] Byaruhanga then wrote a letter to the editor, emphasizing that Lutembe "is the most important area for the conservation of water birds in Uganda. The survival of an entire population of one species depends on this bay," as did birds representing three globally threatened species, including two papyrus endemics and the shoebill.[76] Still, tourists in Uganda could marvel at shoebills in other wetlands.

People at Lutembe, however, could not work around the expansion of Rosebud as easily. They provided knowledge to NatureUganda about ongoing changes, which the NGO used to push for government intervention. NEMA, the primary ministry body responsible for overseeing environmental law enforcement, ordered Rosebud to remove the murram it had placed most recently.[77] Tenywa wrote that Rosebud "defied" this order, and the NEMA "agreed to negotiate with Rosebud and declined to take punitive action."[78] In November, the State Minister for Environment then "assured Parliament that there will be no further encroachment on Lake

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[73] Arinaitwe et al, "Key Sites for the Conservation of Waterbirds in Uganda," 104.
[74] Achilles Byaruhanga to the National Environmental Management Authority, 11 June 2007 (NatureUganda "Lutembe" binder).
[75] Gerald Tenywa, "Rose firm threatens Lutembe bird haven," *New Vision*, 21 April 2003: 3.
[76] Achilles Byaruhanga, "Lutembe Bay is being destroyed and nobody cares! Not even NEMA!," *New Vision*, 30 April 2003: 11.
[77] Tenywa, "Rose firm threatens Lutembe bird haven," 3. (Murram is lateritic gravel, a reddish composite used in infrastructure across East Africa.)
[78] Idem., "'Sudhir firm defying NEMA'," *New Vision*, 30 August 2003: 4.

Victoria by flower firms. She said Rosebud […] was specifically instructed not to proceed."[79] In December, *New Vision* reported that Vice President Gilbert Bukenya "mediated" the conflict.[80] The resultant arrangement was NEMA permitting Rosebud to keep the land it had reclaimed but not further expansion.[81] In 2005, the government designated Lutembe as a Ramsar site – which can draw international attention, but carries no legal significance.[82] The following season when terns were expected at Lutembe, *New Vision* reported that conservationists said it was "quiet," and quoted a member of the Uganda Bird Guides Association as saying, 'We have been taking there birdwatchers, but now Lutembe is no longer as interesting as it used to be'.[83] LUBUWA wrote to NEMA requesting it intervene because "[a]s we make this appeal there is steady disappearance of birds."[84] Rosebud continued expanding, and NEMA ordered them to demarcate their boundaries with trees.[85] Neither NGO personnel designating Lutembe as an IBA, nor wetlands officials getting the central government to identify it as a Ramsar site, offered the environmental protection of PA boundaries.

Without PA boundaries, bird guides needed another strategy. They responded to the expansion of Rosebud with their remaining recourse under neoliberalism: advocating for a European boycott of Ugandan flowers. *New Vision* quoted Johnnie Kamugisha, president of the Uganda Bird Guides Club, saying: 'We are on a campaign to ask the European markets to stop buying Ugandan flowers. That is the only way we can fight them. That is the way other

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[79] Cyprian Musoke, "Govt stops Lake Victoria encroachment," *New Vision*, 21 November 2003: 5.
[80] Simon Kaheru, "Prof Bukenya did not order NEMA," *New Vision*, 15 April 2005: 13.
[81] National Environmental Management Authority, "Certificate of Approval of Environmental Impact Assessment No. NEMA/EIA/402," article 5 (NatureUganda "Lutembe" binder).
[82] Gerald Tenywa, "Local green sites to get global status," *New Vision*, 3 May 2005: 18.
[83] Idem., "Birds desert Lutembe," *New Vision*, 22 January 2006: 12.
[84] Hajji Munyagwa, Robert Kifana, and Joanita Serunkama to NEMA, 7 May 2008: 2 (NatureUganda "Lutembe" binder).
[85] Henry Aryamanya-Mugisha to Rosebud General Manager, 17 October 2007: 2 (NatureUganda "Lutembe" binder).

European birders do'.[86] Yet Rosebud continued expanding. (In 2017 it accounted for about 40% of Uganda's flower exports and in 2019 about 35% of its rose exports.[87] In 2019 flowers were Uganda's sixth-largest export, worth 61 million USD.[88] Tourism also generated foreign exchange in Uganda, although less than flowers: Ministry of Tourism officials said that in 2013, it totaled $15 million including $6 million from birders.[89] By 2021, one journalist claimed Rosebud covered 60 hectares; another said 80.[90]) The neoliberalization of conservation underpinned the creation of tourism projects, but also left the access of communities to rural wetlands susceptible to the ecological and economic changes wrought by wealthy investors.

Neoliberalization and recentralization redefined the roles of wetland officials in conservation, as NGO personnel gained a place in policy implementation and the central government created NEMA to oversee environmental law enforcement. Through their networking with NGOs and NEMA regarding Lutembe, these conservationists learned more about limitations of community-based tourism outside the PA system when the bird guiding association lost ground to a project backed by more capital. Meanwhile, officials noted ongoing environmental degradation as communities making livelihoods based on wetland reclamation. They began revising their approach, soon enacting strategies predicated on the absence of people

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[86] Raphael Okello, "Birds that soar with my heart," *New Vision*, 19 March 2005: 21

[87] Godfrey Olukya, "Blooming Business," *ChinaAfrica*, 18 December 2019, http://www.chinafrica.cn/Homepage/201912/t20191218_800187819.html (accessed 15 July 2021). Muhereza Kyamutetera, "Spreading Ugandan fragrance worldwide: Uganda looks to China for new flower market," *CEO*, 26 July 2019, https://www.ceo.co.ug/spreading-ugandan-fragrance-worldwide-rosebud-looks-to-china-for-new-flower-market/ (accessed 15 July 2021).

[88] Ibid.

[89] Flavia Lanyero, "Uproar over killing of rare bird," *Monitor*, 25 July 2013, https://www.monitor.co.ug/News/National/Uproar-over-killing-of-rare-bird/688334-1925534-146xcdt/index.html (accessed 5 July 2021). Solomon Oleny, "Famous birdwatchers set foot in Uganda," *New Vision*, 5 December 2014, https://www.newvision.co.ug/new_vision/news/1316774/famous-birdwatchers-set-foot-uganda (accessed 18 July 2021).

[90] Olukya, "Blooming Business," http://www.chinafrica.cn/Homepage/201912/t20191218_800187819.html. Kyamutetera, "Spreading Ugandan fragrance worldwide," https://www.ceo.co.ug/spreading-ugandan-fragrance-worldwide-rosebud-looks-to-china-for-new-flower-market/.

from wetlands including efforts to convince communities to vacate wetlands as well as evictions by force.

Revaluing Exclusion: Birds, Rice, and Violence, 2004 to Present

As decentralization and neoliberalization proceeded, district officials and NGO personnel became increasingly involved in community-based management. However, the roles of national officials did not necessarily diminish – particularly after the NRM began recentralizing power. Despite NEMA's inaction at Lutembe in the early 2000s, in 2004 they conducted evictions that facilitated Museveni's political goals in Soroti District, in southeastern Uganda. Besides starting NEMA to oversee environmental law enforcement, the central government also gave a permanent institutional home to wetlands officials in 1998 – the Wetlands Inspection Division (WID) – as donor support for the NWCMP ended.[91] Furthermore, district officials experienced difficulties convincing communities to participate in their proposals and sometimes called in national authorities to conduct evictions – even in the southwest, where Kampala-based conservationists identified the most interest in community-based projects. Meanwhile, in the southeast, conservationists continued debating the relationships between birds and rice, and wetlands officials started initiatives predicated on the absence of people from wetlands – including in community-based projects.

Museveni and NEMA

In 1999, Museveni indicated to the Minister of Water, Lands and Environment that the central government should take an active role in wetland conservation – but he soon applied this

[91] Namakula Regina, "Wetlands Management Department Born," *WetNews*, January 2008: 4.

principle unequally. NWCMP officials quoted him as saying, '[o]f recent I have noticed that wetlands are still under threat of being drained through undisciplined agricultural practices. This process accelerates the flow of water and yet the slow flowing, wide papyrus swamps of Uganda were our water granary."[92] In 2001, the ministry said that Museveni called wetlands "the water granaries of the nation."[93] In 2003, while NEMA was issuing Rosebud with notices to stop expanding at Lutembe, they also issued a six-month ultimatum to pastoralists in Soroti, in southeastern Uganda, to leave three wetlands that they had recently begun occupying or face eviction.[94] Museveni backed the latter evictions as part of his promotion of developmentalism in the Soroti cattle industry, which he advocated in preparation for the 2006 national elections. During these elections, Museveni pursued a third presidential term, contrary to the two-term limit specified in the 1995 Constitution. Enforcing wetlands regulations at Soroti was part of Museveni's first extension of his rule past what the new constitution initially specified. However, Rosebud continued expanding at Lutembe while Museveni and NEMA evicted the pastoralists in Soroti.

In 2004, eighteen months after NEMA's six-month ultimatum, there were district and central government officials calling for action. The Soroti Resident District Commissioner "urged [NEMA] to enforce laws on wetlands" against the pastoralists for bringing 3000 cattle to graze there, and the parliamentary committee for natural resources worried that "civil revolt against" pastoralists would follow.[95] *New Vision* did not mention wetlands officials in the conflict, nor do the three wetlands figure prominently in wetlands officials' reports.

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[92] "His Excellency the President of Uganda Has Seen it Too!," *WetNews*, January-March 1999: 6.
[93] Uganda Ministry of Water, Lands and Environment, *Wetland Sector Strategic Plan, 2001-2010* (Kampala, Uganda: Ministry of Water, Lands and Environment, 2001), 15.
[94] Kenneth Otim, "Herdsmen get 6 months to quit wetlands in Teso," *New Vision*, 6 February 2003: 7.
[95] Richard Otim, "Enforce laws, RDC tells NEMA," *New Vision*, 5 August 2004: 9. Idem., "Wetland abuse in east irks MPs," *New Vision*, 10 August 2004: 8.

Nonetheless, there were central government officials interested in the conflict. Museveni soon made a spending announcement that indicated a basis of central government interest in the area: he visited Soroti to launch a 33.24 million USD project intended for "livestock productivity improvement." *New Vision* reported that at the launch, he issued a two-week ultimatum to the pastoralists, saying that they were "undisciplined" and "had sold their land elsewhere before moving." The newspaper quoted him as saying that, '[t]hey will have no alternative but to sell their cows in order to pay the punitive court fines so that they return empty handed'. They photographed him at the launch with a supporter gesturing in support of his bid for a third presidential term.[96] Through his focus on land ownership and fines, Museveni used neoliberalism justify and incentivize the removal of the pastoralists from the wetlands, thereby generating support for the NRM in Soroti.

After two weeks, most of the pastoralists left. NEMA, police, and a militia group coordinated by the Resident District Commissioner moved in to burn the 200 homes remaining. According to *New Vision*, "[t]here was no resistance, but some pleaded to be allowed more time before they could leave. A few families stayed around along the road, saying they were waiting for the Government to avail them transport to their next destination." One pastoralist identified cattle rustling by Karamojong further east as his reason for moving to Soroti.[97] Museveni showed that he could enforce laws regarding wetlands – when doing so supported a government livestock project displacing "undisciplined" pastoralists and facilitating his electoral objectives

Contesting Policy Implementation

In 1995, environmental law enforcement became the prerogative of NEMA and the work of

[96] Nathan Etengu and Richard Otim, "Museveni to jail Teso pastoralists," *New Vision*, 17 September 2004: 3.
[97] John Omoding, "Herdsmen evicted from Teso wetlands," *New Vision*, 29 September 2004: 1, 2.

NWCMP officials became increasingly oriented towards producing knowledge to support various district and central government officials in promoting the national policy. With the creation of the WID, as international funding for the NWCMP tapered off, wetlands officials soon gained a permanent institutional basis for this work. However, it had a small staff. In 2007, Mafabi told a student from Colorado College in an interview that, 'the WID has a low capacity for surveillance and monitoring due to a shortage of personnel and funds. At most, we have six employees responsible for this task. There are high costs for transporting them to various sites. Surveillance and monitoring requires money'. Therefore, WID officials made relatively few visits to rural wetlands.[98] They still needed to work with district officials and NGO personnel for policy implementation in rural areas.

When they visited rural areas for policy implementation, they faced pushback by private investors. Regarding central Uganda, *WetNews* published an account by a WID enforcement officer:

> I cannot trust clients to use their cars [to go to proposed project sites] lest they dump me in the field after assuring them that their developments cannot proceed. When the client leaves I consult the Regional Wetland Coordinator for the central region and he cautions me to be very careful in this area because army men are involved. He actually narrates that a few months ago they had been slapped and their equipment broken while on a field inspection. To make matters worse even the case they had reported to police was somehow lost under uncertain conditions. How demoralizing can it

[98] Sophie Glass, "Implementing Uganda's National Wetlands Policy: A Case Study of Kabale District" (*Independent Study Project (ISP) Collection* 101, https://digitalcollections.sit.edu/isp_collection/101, 2007), 20

> get? One asks, 'is it worth risking our lives?' [...] I reach home and I am looking forward to a quiet and peaceful evening, only to get threatening calls and messages that I actually don't own these wetlands and I should keep away.[99]

When this official informed people that their presence in a wetland would be impermissible, some responded by threatening that it was the official who should leave.

Even in southwestern Uganda, district officials experienced difficulties in convincing communities to participate in their proposals – and in obtaining support from police when people violated the national policy. In 2003, Mafabi noted that, "the implementation of the Wetlands Policy in the west and south-west faces stiff, although hidden, resistance, despite extensive consultation in those areas during the policy formulation process."[100] WID officials had conducted training seminars for police in districts across Uganda, starting in Bushenyi in southwestern Uganda – where 48 officers participated and "were amazed to learn that the police are partners in enforcing environmental law," according to *WetNews*.[101] In neighbouring Kabale District, a student who interviewed Sabiiti in 2007 reported that he "said that he cannot rely on local law enforcement agencies to persecute [sic] wetland encroachers. He confessed that he has to report violations to national authorities if he wants Kabale's police to take action because they will not listen to him. Sabiiti complained that the police have a negative attitude towards him and the wetland policy at large." Furthermore, Sabiiti "lamented that although community members attend workshops, seminars and planning meetings, 'their hearts are not in the program'. He

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[99] Carol Kagaba K., "A Day in the Life of a Monitoring Officer," *WetNews*, January 2008: 8.
[100] Reint J. Bakema and Paul Mafabi, "Towards Sustainable Wetlands Management: The Ugandan Experience," in *Wetlands of Ethiopia: Proceedings of a Seminar on the Resources and Status of Ethiopia's Wetlands*, edited by Yilma D. Adebe and Kim Geheb (Nairobi, Kenya: IUCN, 2003), 103.
[101] "Training and Law Enforcement," *WetNews*, January-June 2002: 8

confessed that the attitude of most locals is summed up in a common Rukiga expression: 'The white man's trap will only kill those who don't collaborate'. Sabiiti explained that most people 'collaborate' with [wetland officials] and other institutions during planning meetings because they fear the repercussions of their absenteeism."[102] In southwestern Uganda, the district official responsible for wetlands conservation during this time found few partners with whom to collaborate in communities, and that police were unwilling to prevent practices contrary to the wetlands policy.

Furthermore, when national authorities went to Kabale to remove people from wetlands, their power was temporary. Barugahare, who became a wetlands official in 1999, said in an interview that, "I have gone to Kabale and thrown people from the wetlands, and then I come back to Kampala, and another six months I see it. […] These are people who are living with the wetland every day. They go back."[103] Wetland officials found that the usefulness of evictions is temporary. However, they have kept it in their repertoire of strategies.

In the 2000s, the central government created new agencies to enhance enforcement and other management capacities. One was the expansion in 2007 of the WID into the Wetlands Management Department (WMD), enabling it to hire more technical staff (it had 35 by 2020, Iyango said in an interview).[104] And these technical officials gained partners focused on law enforcement in forests, wetlands, and other places: the Environmental Protection Police Unit, founded in 2011.[105] Oloya said the central government created this body "because of the increasing degradation, done at odd hours, maybe nine at night, and you will never see them. So

[102] Glass, "Implementing Uganda's National Wetlands Policy," 28.
[103] Barugahare, interview by author, Kampala, 10 March 2020.
[104] Iyango, interview by author, Kampala, 10 February 2020.
[105] Cissy Makumbi, Polycap Kalokwera, and Tobbias Jolly Owiny, "Environment police behind illegal logging, leaders say," *Monitor*, 23 September 2020, https://www.monitor.co.ug/uganda/news/national/environment-police-behind-illegal-logging-leaders-2305910

the police [...] we deploy them at night, and they go with some of my staff. Then when it comes to preparing charges for the court, it's police who prepare the charges. But my staff will provide evidence that this is wetland."[106] Further research is required to define the wetlands in which this body has operated. Particularly with the expanded capacity of the WMD, wetland officials have coordinated with law enforcement by providing technical data connecting particular places to the national conservation policy, to indicate whether or not there are regulations about the presence of people there.

Increasing law enforcement intensified tensions. In an interview, Oloya claimed that in 2014 when the Minister of Water and Environment toured Mbale District (southeastern Uganda) "raising awareness" about the upcoming demarcation of wetlands, at one point some people "broke the windstream [sic] of one of the envoys of the minister" and "almost beat the minister." Oloya also claimed that while in Wakiso District, the representative of a Chinese firm with whom he was discussing the construction of a warehouse "wanted to box [Oloya], then [Oloya] said 'Okay you box me, the police will finish you here, this is Uganda'."[107] Despite the bravado of the latter story, officials seem to have been more influenced by the kind of caution conveyed by the former.

The knowledge Asiimwe received from Sabiiti as the official responsible for policy implementation in Kabale reflects district officials' caution. In an interview in 2020, Asiimwe explained her approach to implementation by retelling a story from "a mentor," Sabiiti, about being threatened during a rally led by Vice President Bukenya in 2007.[108] When asked in an interview for his version of the story, Sabiiti said that Bukenya told people at Kashambya,

[106] Oloya, interview by author, Kampala, 9 March 2020.
[107] Ibid.
[108] Asiimwe, interview by author, Kabale, 27 February 2020.

"'These wetlands, please use them, they are here for you to use. Nobody should prevent you from using the wetland where you want to use it'. He was saying that kind of thing. That was a blanket statement, he's not supposed to be saying it that way." Sabiiti continued,

> when I arrived at the rally, before I even heard what the Vice President was saying, two young men recognized the government vehicle that I was travelling in. Then they walked to the vehicle to meet me. And one of them did this [gesture]. Here, if somebody despises you so much, he will pull your finger here like this on your cheek. So that's what one of the young men did. He asked, 'Haven't you heard for yourself?' Of course, I had heard nothing yet. He said, 'Now you have heard for yourself. We don't want to see you here again in the name of protecting any wetland. There are no wetlands here. There are our gardens'.

Sabiiti said that he left the rally soon after, and that he heard that once Bukenya left, "[t]he area M[ember of]P[arliament] told the community [...] that, 'I have done my work, these places are your fields to cultivate, if anyone wants to oppose you from your fields, you are not small kids, get to know what to do'. [...] That's an expression in my language. […] It is an extremely inciting thing. [...] What he's saying is, you remove completely whatever is inconveniencing you. [...] I am told that is what the area MP said."[109] In Sabiiti's telling, he faced violent threats based on tensions regarding where people would be allowed to go in wetlands under conservationist proposals.

[109] Sabiiti, interview by author, Kabale, 27 February 2020.

When Asiimwe retold the story, her description of the threats differed – she claimed they happened in front of Bukenya – but she also focused on the issue of whether or not people could be in wetlands:

> When Bukenya was addressing the community members, one of the community members raised and said 'This Environment Officer we have here is chasing us out of the wetlands, and yet we don't have somewhere to dig'. Then the Vice President said 'Where is he? Let him stop and not chase you out of the wetlands'. Then the community members started looking around, 'Where is he? We want to kill him now.' [...] So [Sabiiti] had also to explain that scenario to me that, when I am doing any implementation, any enforcement, I have to go slow. And I should use the community not to do it alone. [...] [Sabiiti] told me that 'You have to begin slowly by slowly, by mentioning what is in the wetland policy'.[110]

Through mentoring, questions about how to pursue conservation initiatives without encountering violent resistance remained a primary concern of the district officer in Kabale responsible for policy implementation. Even in southwestern Uganda, where Kampala-based officials identify comparatively widespread support for community-based conservation, questions about the places of people in these projects have led threats of violence against district and central government officials – one instance allegedly incited by an MP.

Experience also informed Asiimwe's perspective. Beyond conflicts associated with government proposals, in an interview she said that a community-initiated project resulted in

[110] Asiimwe, interview by author, Kabale, 27 February 2020.

violence, based on the absence of farmers from part of the thirty-hectare wetland adjacent to Kihorongwa village. She told the following narrative (which corresponds with, and provides more detail than, the letter mentioned near the end).[111] In late 2019, people from Kihorongwa visited her office to say "that they want[ed] to restore an area." She helped them demarcate part of the wetland for agricultural use, and part to be left for papyrus and high water levels to return. Two young men said that some of the land inside the part demarcated for restoration was their 'fathers' and grandfathers'' and that they would use pangas to defend themselves against those who tried to prevent them from farming there. Five other farmers confronted the two; they fought; the two went to the hospital for injuries, and "one almost died." While hospitalized, they made a report to the police. The District Police Commissioner pressed for compensation for the two. In a phone call with Asiimwe, "we started colliding. Now, this one was the District Police Commander. I said, 'This one wants to challenge me. Let me go to the Regional Police Commander'. I went up to defend the other community members as the environmental officer."[112] In earlier years, Sabiiti had found the district police unresponsive to requests for enforcement of the policy. Asiimwe found them actively siding with people violating the boundaries of a community-based conservation project.

According to Asiimwe, the regional commissioner agreed not to enforce compensation because both sides made mistakes and 'have all cut each other', and said the community should resolve the conflict. Yet, in early 2021, the two farmers "went back to dig. If anybody would start on them, they sharpened their pangas […] but the whole community was against the other two boys. When they saw that these people had gone back, they stood on the hill up. They

[111] Smith Rugyereka and Edward Basheija to Kabale District Environment Officer, 8 February 2020 (photographed by the author in Asiimwe's office, 27 February 2020).
[112] Asiimwe, interview by author, Kabale, 27 February 2020.

wanted to attack them. They started shouting. Then they ran to me. I told them 'Don't go back to fight'," suggesting instead that they write a letter that Asiimwe could give the District Community Liaison Officer to request conflict resolution. Asiimwe returned with the liaison officer to conduct an awareness seminar. She learned that "the boys had disappeared." She did not know what became of them.[113] The conflict ended when the two people who disagreed with the majority "disappeared" from the community. Beyond tensions between communities and officials, questions about the places of people in these projects have led to violence within communities – and the disappearance of certain people from their village, according to Asiimwe.

Inequalities in Rice Farming

In southeastern Uganda, conservationists have developed exclusionary strategies to remove small-scale farmers from wetlands – but not wealthier investors. While there has been considerable overlap between the work of government and NGOs, the power of the latter to evict people has distinguished some of their activities. However, officials have been unable to challenge the ownership of wetlands that wealthier investors asserted based on land titles registered with the central government. Interviews reflected the different approaches to rice farming taken by government officials and NGO personnel. Nora Namakambo, a wetland official from 1991-2015, said that, "rice is temporary conversion because you can switch back."[114] Conversely, Arinaitwe, whose experience has primarily been with NGOs, said that, "you can never […] restore habitat that has been destroyed into the original state. It can't happen. It will remain a converted area."[115] Namakambo's statement aligned with strategies for conservation

[113] Ibid.
[114] Nora Namakambo, interview by author, Kampala, 3 March 2020.
[115] Arinaitwe, interview by author, Kampala, 2 January 2020.

based on vacating and sometimes evicting people from wetlands. Arinaitwe's statement reflected the accommodationist approach that NGOs have taken to rice farming, which began when NatureUganda identified DRS and Kibimba Rice Scheme (KRS) as IBAs.[116] To justify evictions, officials have used the argument that the changes associated with rice farming can be reversed, while the converse argument – that these changes are permanent – underpins the ongoing ornithological work of NGOs at rice farms. This scientific disagreement aligns with the relative power levels of different conservationists over rice farming: wetlands officials can impel other state bodies to evict rice farmers without land titles, while NGO personnel have no such authority. The environmental changes associated with rice farming are (only) as permanent as the claims to land ownership that underpin them.

Relationships between conservation and rice farming became tense in 2013. The management at Kibimba, in conjunction with the Ministry of Agriculture, Animal Industry and Fisheries, dropped poison from aircraft to kill 1.8 million quelea birds, which had been eating fifteen tonnes of rice per day.[117] The fact that KRS remained a was a loss for conservationists: in 1994 the government was considering making it into a Wetlands Research Centre, but in 1996 they sold it to a multinational rice company, Tilda.[118] In 2013, Ministry of Tourism officials responded to the poisoning by saying it would negatively impact Uganda's economy and environment through inadvertent effects on other bird species. According to the newspaper *Monitor*, Byaruhanga "said [it] is an indication of poor planning […] and that it does not solve the problem."[119] Farid Mafudh, who completed a degree in fine arts at Makerere that year, started

[116] Arinaitwe et al, "Key Sites for the Conservation of Waterbirds in Uganda," 104.
[117] Lanyero, "Uproar over killing of rare bird," https://www.monitor.co.ug/News/National/Uproar-over-killing-of-rare-bird/688334-1925534-146xcdt/index.html.
[118] Namulonge Agricultural and Animal Production Research Institute to DRS, 14 October 1994, DIFACOS, DRS/13, folio 1. Edward Ojulu, "MPs wary of rice scheme," *New Vision*, 5 September 1996: 27.
[119] Lanyero, "Uproar over killing of rare bird," https://www.monitor.co.ug/News/National/Uproar-over-killing-of-rare-bird/688334-1925534-146xcdt/index.html.

work on a painting exhibition. He said in an interview that he visited family in the southeast to learn about rice farming and birds, and a range of other bird habitats in Uganda, before making a series of paintings of birds in different places to critique practices at Kibimba.[120] Tilda's use of the wetland prompted artistic, government, and NGO outcry.

However, when Mafudh's show debuted in 2020, he found himself on the opposite side from NGO personnel. Michael Kibuule, responsible for conducting bird counts for NatureUganda, said that, "Kibimba is fine because it is managed by a company [...] the managers understand these things about surveying the environment [...] so there is no tension [...] the times I've been there, I haven't seen any practices to kill birds," and that "there is no threat" to the quelea population.[121] William Olupot, ornithologist and founder of the NGO Nature and Livelihoods, said that the poisoning was a response to "pest populations getting out of hand."[122] As rice farming at Kibimba under a private firm continued, NGO personnel have found that coordinating with its management to be the most effective way of conserving birds despite critique by some other conservationists.

Meanwhile farmers continued expanding rice production across the wetlands of southeastern Uganda, and NGO personnel continued observing ornithological changes, including through local guides. By 2017, farmers were using three Ramsar sites in southeastern Uganda – Lake Nakuwa in Pallisa District, and Lakes Bisina and Opeta further north – for rice production.[123] Kibuule said in an interview that he visits Bisina and Opeta regularly to record ornithological data for NatureUganda, for which local contacts help him locate birds.[124]

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[120] Farid Mafudh, interview by author, Kampala, 31 January 2020.
[121] Michael Kibuule, interview by author, Kampala, 13 January 2020.
[122] William Olupot, interview by author, Kampala, 13 February 2020.
[123] Pascal Kwesiga, "Bird Songs Die Out as Nestlands Dry Up," *New Vision*, 1 February 2017: 30-31.
[124] Kibuule, interview by author, Kampala, 13 January 2020.

NatureUganda personnel would prefer not to see the work of their organization in helping identify these places as Ramsar sites be overtaken by rice farming, but, having little recourse they rely on cooperation with rice farmers to complete ornithological work.

To limit this expansion, officials have used both "the carrot and the stick" as Barugahare said in an interview, leading management planning meetings while involving police to push for community involvement in conservation. In 2019, along part of Mpologoma River (which is the eastern border of Busoga and adjacent to DRS), people began growing rice. Iyango described it in an interview: "[t]here was an invasion by some community members, we had to do a restoration [...] where we do wetland management planning, wetland gazettement, wetland demarcation, [and] wetland mapping."[125] According to Barugahare, "[w]e used police, [to] throw them out" and "about sixty people were imprisoned" for ten days, after which they were brought to court. He said that in in this and other court cases, "some accept that they have made a mistake, and an agreement is signed: don't go back. Some of them who become bigheaded are asked to go and restore. Of course they don't, but that one makes them fear to go back."[126] These efforts by environmental ministry officials to prevent the expansion of rice further along the Mpologoma underscore the limitations of community-based approaches to limiting the expansion of rice farming.

Promoting Alternative Livelihoods Outside Wetlands

Wetland officials have continued to prioritize practices other than rice farming in their community-based work. In 2017, they began piloting a new project at Limoto with funding through the Green Climate Fund, part of the UN. It was planned as the first of 24 across Uganda

[125] Iyango, interview by author, Kampala, 10 February 2020.
[126] Barugahare, interview by author, Kampala, 10 March 2020.

by 2024; in March 2020 officials predicted that six sites would be complete by the end of the year, according to an interview with Barugahare.[127] Mafabi said in an interview that whereas during the first Limoto project people continued to live in the wetland and practice agroforestry, for the second "we have encouraged them to move out. So we are now providing alternative livelihoods" through beekeeping, ecotourism, and fish farming.[128] In contrast to the 1990s, the new project places alternative livelihoods outside the wetland.

This is because the government started the project to get people out of wetlands rather than as a basis for livelihoods. In an interview, Barugahare said that the livelihood strategy was necessary to obtain funding:

> Originally, our concept was, and this was being moved by the President […] 'We compensate people, and they leave wetlands'. And he sent us out looking for people to help us do that. […] Donors told us 'No, there is no way, that is not sustainable. If you start paying people to leave wetlands then you will get more going in, because they will know it now as money generating'. So no donor was willing to do that. So we tried with the [UN Development Programme]. They told us if we could link wetland restoration with climate change, then there was a funding opportunity from the Green Climate Fund.

Therefore, officials designed the site to include an experiment to test the hypothesis that farmers were reclaiming wetlands because of climatic change, i.e., aridification associated with deforestation and drainage in nearby areas. If farmers continued reclaiming the wetland despite

[127] Ibid.
[128] Mafabi, interview by author, Kampala, 12 February 2020.

the existence of an irrigation system nearby, this could indicate that climatic change was not driving reclamation, as Barugahare explained.[129] Officials conceptualized the presence or absence of people in wetlands as an experimental variable to ascertain the significance of climatic change for reclamation. Donors changed the means by which people would leave wetlands – in pursuit of alternative livelihoods rather than payment, and as a test of the significance of climate – although the plan remained wetland conservation based on the absence of people.

Climate, livelihoods, and state power have shaped the place of people at the Limoto site. In an interview, Iyango said that 5000 farmers left the wetland "voluntarily." She explained this based largely on a recent drought.[130] The 1990s project at Limoto also followed a drought, although the first demonstration site involved agroforestry in the wetland – and floods soon impacted the trees. The environmental challenges of long-term wetland use may have prompted the Limoto community to withdraw from it. This decision could also have been influenced by news of the evictions that the Environmental Police had been conducting in districts across Uganda (evictions attested to in an interview with Collins).[131] Iyango said that "most" of the displaced people started farming at the irrigation project, while others have started fish farming at part of the wetland that officials demarcated for ponds. She said that farmers from the communities have not "encroached" on the sites because "they are very much aware about the penalties […] you can be made to pay a fine, and communities don't have that kind of money."[132] At Limoto, Ugandan wetland officials continue to design projects community-based

[129] Barugahare, interview by author, Kampala, 10 March 2020.
[130] Iyango, interview by author, Kampala, 10 February 2020.
[131] Oloya, interview by author, Kampala, 9 March 2020.
[132] Iyango, interview by author, Kampala, 10 February 2020.

conservation, but have moved away from their initial model of conservation through the ongoing presence of people towards finding ways for people to use wetlands without being in them.

Besides state power, pressure on farmers to participate in community-based projects can also follow the involvement of neighbours. In an interview, Asiimwe said that with funding from the Poverty Alleviation Fund (sponsored by the International Fund for Agricultural Development, a UN body) in March 2019 the Ministry of Water and Environment started compensating people to vacate wetlands. She explained how the environmental changes associated with participation can incentivize a literal cascade effect:

> If like five or ten people are compensated, the person who retains there will be washed away by water, and later won't be compensated. So they understand, if like ten or fifteen people are compensated and they get out, the one who remains there might not benefit. Because […] the grass and the shrubs in the wetland regenerate very fast and when it has regenerated it has its waters. So, if you are a neighbour and you refused to give out your title, when water comes […] it will invade you. […] So you will lose totally. So it is wiser giving the [land] title and they will compensate you for another livelihood.[133]

Despite the earlier inability of officials to convince UN donors of the soundness of compensating farmers to vacate wetlands, according to Asiimwe they were applying this strategy in Kabale by 2019.

[133] Asiimwe, interview by author, Kabale, 27 February 2020.

To change practices at wetlands outside the PA system in rural Uganda, conservationists continue to promote community-based projects predicated on the presence of people. However, while developing approaches that distinguish between the conservation value of different practices, they have also defined and acted upon bases upon which to remove people from wetlands. Through evictions along the Mpologoma, compensation to leave Kabale wetlands, or by trying to find ways for people to benefit from the Limoto wetland without being in it, in the twenty-first century conservationists have made increasing use of strategies predicated on the absence of people from wetlands compared with their initial projects in the 1990s.

Conclusion: Changing the Places of People in Community-based Conservation

Initially, Ugandan wetland conservationists focused on implementing the national policy in rural areas through community-based projects, not only because of the diffuse nature of wetlands in Uganda but also because these activities coincided with the period of decentralization and neoliberalization in governance. Government officials and NGO personnel have promoted projects predicated on indigenous knowledges and practices by sponsoring bird guides, farmers, fishers, grass harvesters, tree planters, and more. In some cases, this meant that conservationists encouraged communities to develop projects building on practices they already conducted, as at the Kitanga ponds or the Kyojja handicraft centre. In others, it meant that conservationists proposed imitating a key PA strategy, i.e., tourism, starting with the visit by people from Kyojja to Magombe in Kibale National Park. Through these processes, conservationists promoted practices that they argued would constitute the wise use of wetlands.

However, along with promoting wise use, conservationists also identified certain practices as unacceptable and increasingly acted to prevent these – simultaneous with, and

contributing to, the NRM's recentralization of power. Following the ecological and economic shortcomings of the demonstration sites, the inability of bird guides to conserve Lutembe, and the continued expansion of rice farming across southeastern Uganda, wetland conservationists have relied increasingly on strategies to exclude people from wetlands. At Limoto they oversaw the evacuation of a wetland by 5000 farmers; at Mpologoma they ordered the evictions of farmers; in Kabale they have been compensating people to renounce land titles. Beyond relationships between farmers and officials, conflicts within communities regarding conservation have emerged regarding the question of the presence of people, as at Limoto where men and women had different interests in what to do with the wetland after the recent drought, or at Kihorongwa where two people became absent from the village following their exclusion from a wetland through a community-based project. Officials no longer rely on community-based projects in which people continue living and/or working in wetlands. Instead, they have developed a repertoire of strategies to apply based on whether officials consider the absence or presence of people preferable at a particular wetland. Museveni applied this repertoire to have NEMA evict herders in Soroti, and to work through the wetlands office in obtaining funding for incentivizing the evacuation of wetlands. The 2007 expansion of the WID into the WMD, has also given the central government further power over wetlands. Nonetheless, conservation officials have been unable to evict small-scale rice farmers from many of the wetlands further from centres of government power, such as at Ramsar sites in southeastern Uganda – nor to challenge Tilda's practices at Kibimba. Rice farming has continued under Tilda and expanded under smallholders at Ramsar sites (which are not PAs), where NGO personnel record ornithological data with the help of local contacts, because this practice is the limit of non-governmental power there.

By analyzing Ugandan wetland conservationists' efforts to establish influence outside the PA system through community-based projects, this chapter contributes to the historiography of conservation in Africa. While the concept of community-based projects aligned with the trends of decentralization and neoliberalization in governance, as conservationists encountered the limitations of their approach they turned to strategies predicated on the absence of people from wetlands. Some of these strategies, such as police-backed evictions, have depended on the NRM's recentralization, while others, such as alternative livelihood projects, have built on the community-based models that characterized decentralization. However, because of the limited enforceability of the boundaries of community-based projects, people who started projects aligned with conservationists' proposals have not necessarily continued working in wetlands, as guides at Lutembe learned. Despite the presentation of community-based projects as a way to conserve wetlands through the presence of people, as wetland conservationists in rural Uganda experienced the limitations of this approach they have also developed strategies predicated on the absence of people.

Chapter 6 –

"There is nothing like 'community-based' here": Conservationists in Kampala, 1995 to Present

Land has become a contentious commodity in Kampala. By 2011, the message THIS PLOT IS NOT FOR SALE was "near-ubiquitous" on the walls of buildings and compounds.[1] Large, flat spaces with good drainage are rare in Kampala – which centered on one major hill before colonialism, expanded to seven under British rule, and spanned more than twenty by 2020. Drainage is crucial in hilly Kampala, which receives heavy rains in short amounts of time, being adjacent to Lake Victoria and within one degree of the equator. Investors have created large, flat spaces with drainage systems by infilling the wetlands between the hills using concrete and murram.[2] Since the National Resistance Movement (NRM) took power, the government has courted foreign investment through neoliberalization. Investors have expanded infilling, sidelining many poorer Kampalans and, often, conservationists. The NRM initially combined neoliberalization with decentralization, but in the mid-1990s began creating an institutional framework for recentralizing power using the creation of new government bodies and the sale of Ugandan assets. Neoliberalism and economic pressures on urban land have prompted conservationists to reconceptualize Kampala wetlands in monetary terms, to the benefit of wealthier Kampalans and outside investors while at the expense of poorer residents. This chapter argues that conservationists have contributed to the neoliberalization and recentralization of Kampala yet have been ineffective at opposing reclamation there.

In the 1990s, wetlands became particularly contentious as the amount of available land in

[1] "A city of two tales: The struggle for the soul of Kampala, first among African capitals," *The East African*, 13 November 2011, https://www.theeastafrican.co.ke/tea/oped/comment/a-city-of-two-tales-the-struggle-for-the-soul-of-kampala-first-among-african-capitals-1305830.
[2] Murram is lateritic gravel, a reddish composite used in infrastructure across East Africa.

Kampala was quickly declining, prompting an increasing number of people to turn to wetlands. Beyond competition for space, control of wetlands became contentious because the government created laws in 1995 regarding their conservation. The NRM used these laws to enhance their international reputation as a responsible and forward-thinking government, but corruption and neoliberalism have enabled investors and NRM personnel to circumvent the new regulations. Gerald Tenywa, Uganda's leading environmental journalist of the early twenty-first century, said in an interview that after he started investigating an infilling project owned by the wealthiest person in the country, Sudhir Ruparelia (a "city tycoon" in Ugandan newspaper vocabulary), he found money on his desk at the government newspaper *New Vision*. Tenywa said, "Sudhir sent here 30 million shillings. That's about nine, ten thousand dollars. Here, Gerald, don't report about that." He also said that after rejecting the money he received threatening phone calls, and that he has experienced such calls while investigating the construction of multiple projects in Kampala wetlands.[3] Neoliberalism has included attempts by investors to buy critics' silence.

Reclamation in Kampala expanded dramatically in the 1990s despite the creation of environmental laws. Infilling projects became particularly numerous in the 1990s with the end of the instability that marked the 1970s-80s (i.e., during Idi Amin's and Milton Obote's presidencies and the civil war). National Wetlands Conservation and Management Programme (NWCMP) officials estimated in their inventory of Kampala wetlands that, prior to reclamation, wetlands comprised about 32km^2, or 16%, of the city's total area (195km^2).[4] Nora Namakambo, a former wetlands Monitoring Officer, recalled in an interview that, "when I began to work [in 1991], we had a good coverage of natural wetlands, intact wetlands in Kampala. Of course, some had been really degraded where they couldn't bounce back and all this, but at least we had a

[3] Gerald Tenywa, interview by author, Kampala, 3 February 2020.
[4] Nora Namakambo, "Wetland Status Report: Kampala" (Kampala, Uganda: NWCMP, 2000), 8.

good coverage of wetlands which were intact. [...] The pressure suddenly rose from nowhere and every swamp around Kampala had pressure. People realized [...] when they saw one person filling, another one says 'I can do it'. Few, then others, and they become wildfire everywhere suddenly."[5] Officials' inventory of Kampala wetlands revealed that by 1993, about 25% of the wetland areas had been "converted."[6] NWCMP officials asserted that about 74% "ha[d] been encroached" by 1996.[7] In 1997, the writer of a letter to *New Vision* argued that despite the new laws for wetland conservation, "[i]f someone who was in Kampala three years ago came back today, he/she would think that it is the campaign of Ugandans to get rid of all the wetlands!"[8] Regarding Nakivubo wetland (the topic of two of this chapter's three narrative sections; see Figure 6.1), conservation officials reported that "the original area of intact wetland vegetation (mostly papyrus) of 4.4km^2 decreased to 2.8km^2 in 1991, 1.9km^2 in 1995, and 1.3km^2 in 2000."[9] Still, Nakivubo remains one of the largest wetlands in the city, reaching from Lake Victoria in the southeast up through central Kampala and with tributary wetlands extending in numerous directions.

[5] Idem., interview by author, Kampala, 3 March 2020.
[6] Namakambo, "Wetland Status Report," 8.
[7] Charles Wendo, "The lost battle on our wetlands," *New Vision*, 1 March 1999: 14. Idem., "IGG summons KCC on Bugolobi swamp," *New Vision*, 18 March 1999: 5.
[8] Siragi Ngobi, "Our environmentalists are just hypocrites!," *New Vision*, 10 January 1997: 5.
[9] NEMA, *State of the Environment Report for Uganda 2006/2007* (Kampala, Uganda: NEMA, 2006/07), 115. Estimates of the size of the wetland have varied, but show similar trends, e.g., a 1999 report estimated that the original area was 5.29km^2 of which 2.9km^2 remained in 1998 (Lucy Emerton, Lucy Iyango, Phoebe Luwum, and Andrew Malinga, "The Present Economic Value of Nakivubo Urban Wetland, Uganda" (n.p.: NWCMP and IUCN, 1999), 5).

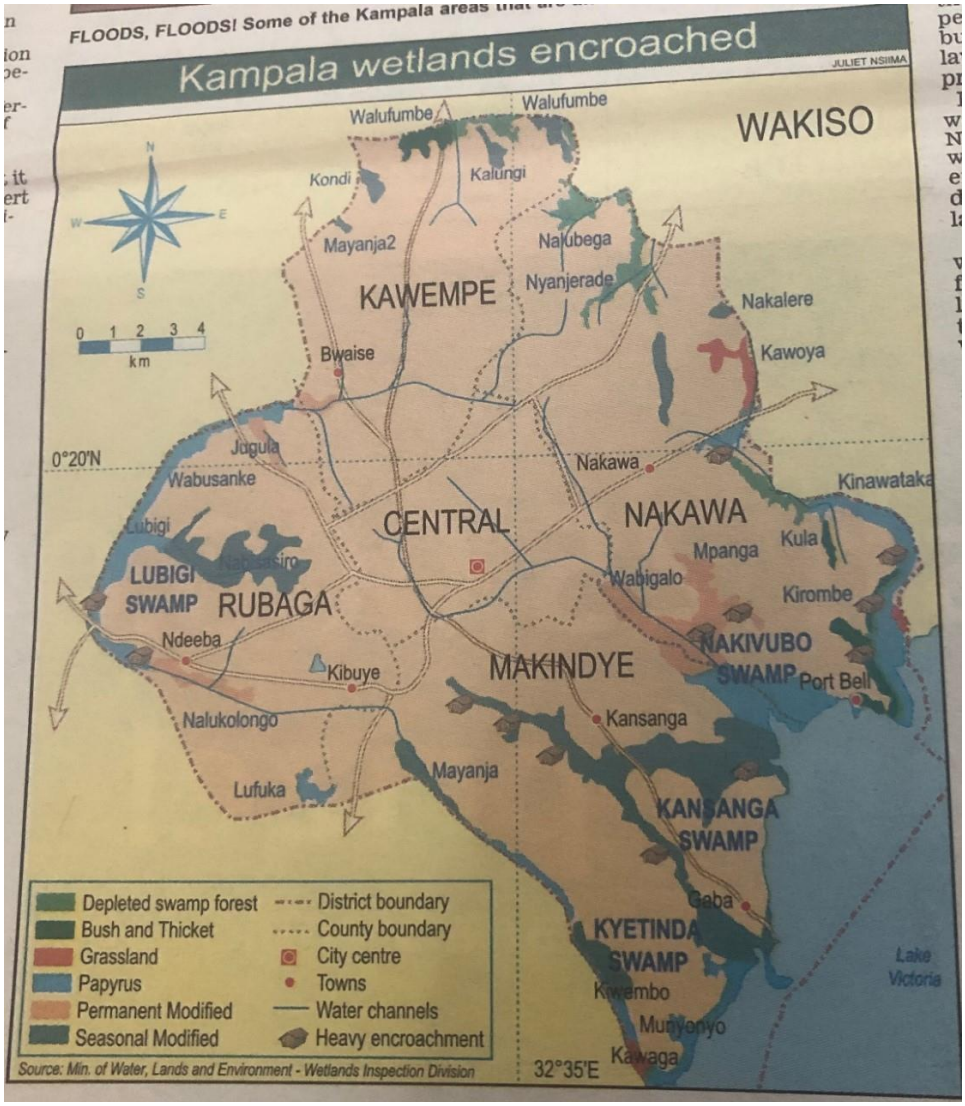

Figure 6.1: Map of major Kampala wetlands *(Gerald Tenywa, "Gov't to gazette Nakivubo swamp as a protected area," New Vision, 30 September 2003: 18)*.

Tensions between conservation officials and wetland users have characterized policy implementation in Kampala to a greater extent than in rural areas, where conservationists have focused on community-based livelihood programs. In an interview, long-time wetland official Vincent Barugahare said that in Kampala people have continued reclaiming wetlands because of constrained options: "these are educated people, they know what they are doing, they know they are doing wrong, but because they are squeezed by the situation, they do the wrong things. So

these ones, we are always fighting with them. There is nothing like 'community-based' here. It is enforcement."[10] Namakambo said in an interview that conservationists tried to stop Ruparelia's most prominent Kampala project – Speke Resort and Conference Centre – from expanding into a wetland between the city and Lake Victoria, but were unable because "those were heavyweights."[11] Wetland conservationists have often been unable to enforce laws against the interests of wealthier Kampalans vying for ownership of scarce land.

Since the colonial era, economic pressures on land in Kampala have prompted a distinct form of reclamation by wealthy wetland users: permanent infilling. This began with the creation of factories in the Industrial Area, part of Nakivubo wetland. In an interview, Namakambo said, "the real damage from permanent conversion is in urban areas. [...] Because that's where infilling is happening. The wetlands that are in the rural centres do not suffer infilling. Because people are working in their nature, growing crops. When the natural system overwhelms them, they abandon it, and regeneration continues. So the more threatened wetlands are in urban centres."[12] However, conservationists did not oppose permanent changes only. Their efforts to stop yam farming in Nakivubo show that their concerns have been broader.[13] They have opposed certain income-generating activities of poorer and wealthier Kampalans – but have been less effective in regulating the latter (see Figure 6.2). Under neoliberalization, conservationism has done less to prevent the permanent impacts of infilling than the more temporary effects of yam farming.

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[10] Vincent Barugahare, interview by author, Kampala, 10 March 2020.
[11] Nora Namakambo, interview by author, Kampala, 3 March 2020.
[12] Ibid.
[13] Yams are not the only food Kampalans have produced in Nakivubo: in 2001 *New Vision* interviewed fishers from the Namuwongo-Soweto slum who "said that they have been able to trap fish from Nakivubo wetland for over 15 years several times a week for their families, and to sell off some to earn a little living. 'Without this wetland, we do not think we could be able to get fish on the open market', they said" (John Kasozi and Jokonyogo Ngatya, "Wetlands a priceless resource," *New Vision*, 2 February 2001: 35). However, conservationists did not identify fishing as a threat to Nakivubo. Additionally, conservationists estimated the number of yam farmers – and the market value of their products – to be more than ten times those of fishers (Emerton et al, "The Present Economic Value of Nakivubo Urban Wetland, Uganda," 6, 9).

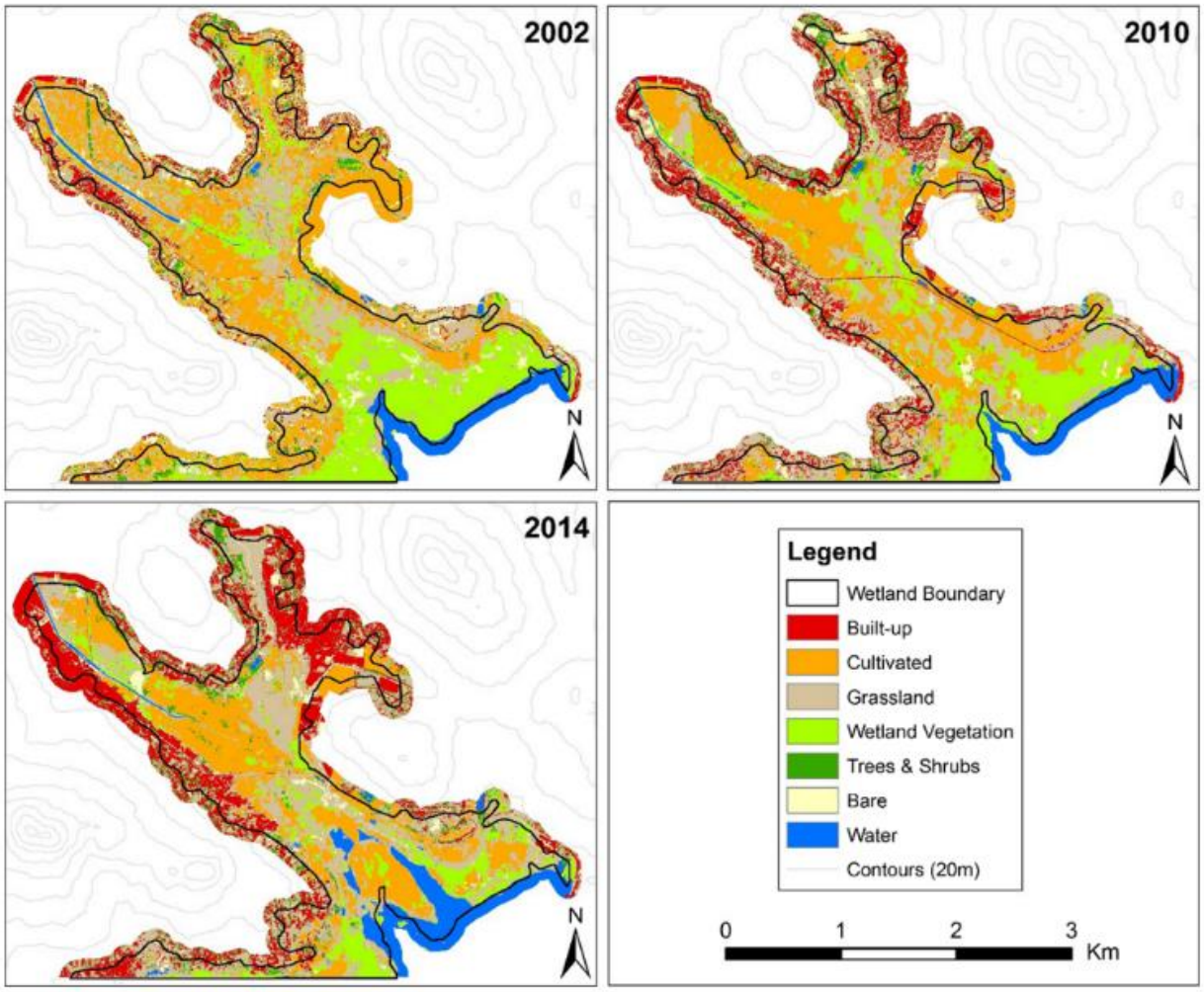

Figure 6.2: Changes in Nakivubo wetland *(John Bosco Isunju and Jaco Kemp, "Spatiotemporal Analysis of Encroachment on Wetlands: A Case of Nakivubo Wetland in Kampala, Uganda," Environmental Monitoring and Assessment 188, no. 4 (2016): 203).*

Neoliberalization also prompted conservation officials to define the value of Nakivubo in monetary terms. Environmental Economic Valuation (EEV), a set of tools for quantifying the value of "ecosystem services," offered a way to oppose infilling, yam farming, and other practices – particularly an overreliance dumping toxic effluents there, as most of the factories and sewerage infrastructures in Kampala discharge into Nakivubo. As papyrus grows there, it filters pollutants from the water before it enters Lake Victoria, from which the city obtains its

drinking water. *WetNews* called wetlands like Nakivubo 'the kidneys of the planet'.[14] As in rural areas, conservationists' emphasized the value of papyrus – however, in Kampala, their focus was not on the potential for papyrus to be the basis of community-based projects, but on its value to the government and to industrialists. They convinced the government to designate it Uganda's first wetland Protected Area (PA), to facilitate centralized policy enforcement there.

However, the challenges they faced in demarcating and enforcing the boundaries of Nakivubo as a PA revealed that the limitations of neoliberal conservationism continued with the recentralization of power. Conservation officials have evicted the owners of more yam plots than infilling projects, and have permitted the continued pollution of Nakivubo based on payments by factory owners – even while the government offloaded the increasing cost of treating household water for pollutants through user fees. As a result, conservation officials have been somewhat effective in preventing the relatively temporary environmental impacts of yam farming and small-scale housing, but less so regarding the more permanent environmental effects of infilling. Furthermore, they have obtained "Payment for Ecosystem Services," institutionalizing the ongoing pollution of Nakivubo, impacting people across the city. The neoliberalization of Kampala wetlands outside Nakivubo has also accelerated. The 1995 laws did not stop Speke resort and countless other projects from obtaining favourable Environmental Impact Assessments (EIAs) – or infilling at night to avoid enforcement. Conservationists have reconceptualized wetlands in monetary terms through multiple avenues, which wealthier Kampalans and outside investors have been more able to afford navigating and which have offered little benefit to poorer Kampalans.

Policy enforcement in Kampala has the domain of wetlands officials working with courts and police – almost everyone involved being answerable to the central government rather than to

[14] "Wetlands and Water," *WetNews*, March-June 1998: 3.

Kampala residents. Conservationists in Kampala have included officials representing multiple bodies within the Ministry of Water, Lands and Environment (after 2007, the Ministry of Water and Environment), newspapers, as well as Non-governmental Organization (NGO) personnel. Wetlands officials (representing the NWCMP and its successor bodies) were interested in Kampala almost from the start of the national program. In 1995, administering policy enforcement became the prerogative of the National Environment Management Authority (NEMA), who coordinated with regular police forces. NWCMP officials focused increasingly on knowledge production, advising NEMA and other government bodies regarding wetlands issues. Additionally, in 2011, the ministry established the Environmental Protection Police Unit, providing more staff for implementing enforcement. Newspaper reporters, particularly at *New Vision*, have promoted wetland conservationism – although they have sometimes questioned the incompleteness and unevenness of its implementations. The NGOs based in the city have not been particularly active in wetland conservation Kampala, seeing little prospect there for community-based land management, or for eco-tourism. Instead, they – like wetlands officials – have rented resorts on reclaimed Kampala wetlands for conferencing and fundraising.

This chapter begins by examining the legal and institutional bases of policy enforcement in Kampala including legislation, government bodies, and *New Vision* – which has had some editorial autonomy despite being a state-owned newspaper. Although many people since the colonial era have considered Kampala's wetlands to be the domains of the city's poorer residents, wealthier residents and foreign investors have been commodifying them in response to land scarcity, particularly since the 1990s. It then considers a series of themed case studies drawn from the dozens of Kampala wetlands that conservationists identified as having been partly or

fully infilled.[15] These cases include: factories and sewerage in Nakivubo wetland, which became conservationists' primary subject for EEV; resorts, which conservationists have rented to conference and fundraise; and housing in Nakivubo, which conservationists have zoned for demolition and eviction unequally by leaving the most expensive structures untouched. While conservationists primarily characterize urban wetland usage as the work of wealthy people building factories, resorts, and upscale housing, they have evicted poorer Kampalans from wetlands more often than they have wealthier Kampalans. Furthermore, following the demolitions of shacks and the evictions of their inhabitants, conservation officials have not always been able to prevent wealthier Kampalans from moving in and building larger houses. Conservation officials have come to understand Kampala wetlands in primarily monetary terms as they created or encountered fines, fees, bribes, EEV studies, fundraisers, and unequal wetland zoning. However, the area of Kampala wetlands continues to decline, and ordinary Kampalans have been paying increasing amounts to treat the pollutants in their water.

Historicizing wetland conservationism in Kampala advances scholarship critiquing neoliberalization in conservation. Historically-minded scholarship about urban environmental issues in postcolonial Africa usually focuses on infrastructure, rather than conservation.[16] However, some scholarship considers conservationist concerns in the creation of infrastructure, identifying continued socioeconomic inequalities since the colonial era.[17] Meanwhile, most

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[15] John Kasozi, "Swamps can fight poverty," *New Vision*, 6 March 2001: 27. Herbert Ssempogo, "Wetlands threatened," *New Vision*, 4 February 2003: 15. NEMA, *State of the Environment Report for Uganda 2006/2007*, 115.

[16] Jane Carruthers, "Dainfern and Diepsloot: Environmental Justice and Environmental History in Johannesburg, South Africa," *Environmental Justice* 1, no. 3 (2008): 121-126. Antina von Schnitzler, *Democracy's Infrastructure: Techno-Politics and Protest after Apartheid* (Princeton, NJ: Princeton University Press, 2016).

[17] Garth Myers, "The Past: The Urban Biogeography of (Post)Colonialism," in *Urban Environments in Africa: A Critical Analysis of Environmental Politics*, 59-82 (Bristol, UK: Policy Press, 2016). Caleb Edwin Owen, "Lands of Leisure: Recreation, Space, and the Struggle for Urban Identity, 1900-2000" (PhD diss., Michigan State University, 2016). Muchaparara Musemwa, "Urban Struggles Over Water Scarcity in Harare," *Dædalus* 150, no. 4 (2021): 27-47.

scholarship about conservation initiatives in urban postcolonial Africa says little about their historical trajectories.[18] This chapter contributes to the emerging intersection of these fields. It builds on Matthew Bender's analysis of the creation of private boreholes in Dar es Salaam by examining government officials' reconceptualizations of urban environments.[19] Incorporating a history of wetlands in Kampala into scholarship about postcolonial urban Africa reveals that the potential for neoliberalization to limit or appropriate conservationism is not limited to rural areas, but is instead amplified in cities by the greater socioeconomic inequalities and pressures on land there. Facing the neoliberal transformation of Kampala wetlands, Ugandan conservationists reconceptualized the significances of these places in monetary terms.

In Uganda, the intensification of these issues accelerated in the 1990s – in response to which Ugandan wetland conservationists became early practitioners of EEV and obtaining payment from industrial polluters for their use of ecosystem services. In 1991, federal officials in the United States created the concept of "wetland banking," one of the first instances of payments for ecosystem services.[20] In the late 1990s and early 2000s, municipal officials in the United States began implementing other payments for watershed use.[21] Ugandan wetlands officials also began pursuing EEV and watershed payments regarding Kampala in these years, i.e., during the early creation of "payment schemes" globally.[22] Their experiences indicate the limited potential for neoliberal conservationism to oppose the impacts of wealthy landowners

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[18] Sarel Cilliers et al, "Ecosystem Services of Urban Green Spaces in African Countries – Perspectives and Challenges," *Urban Ecosystems* 16, no. 4 (2013): 681-702. C.M. Shackleton et al, "How Important is Green Infrastructure in Small and Medium-sized Towns? Lessons from South Africa," *Landscape and Urban Planning* 180 (2018): 273-281. Nadia Wessels et al, "Understanding Community Perceptions of a Natural Open Space System for Urban Conservation and Stewardship in a Metropolitan City in Africa," *Environmental Conservation* (2021): 1-11.
[19] Matthew Bender, "Water for Bongo: Creative Adaptation, Resilience and Dar es Salaam's Water Supply," *Dædalus* 150, no. 4 (2021): 48-63.
[20] Erik Gómez-Baggethun et al, "The History of Ecosystem Services in Economic Theory and Practice: From Early Notions to Markets and Payment Schemes," *Ecological Economics* 69, no. 6 (2010): 1212.
[21] Travis Greenwalt and Deborah McGrath, "Protecting the City's Water: Designing a Payment for Ecosystem Services Program," *Natural Resources and Environment* 24, no. 1 (2009): 9-13.
[22] Gómez-Baggethun et al, "The History of Ecosystem Services in Economic Theory and Practice," 1213.

and other investors on urban environments.

Examining wetland conservationism also contributes to scholarship about recentralization in Kampala by pushing the timeline back, and by emphasizing the role of conservation officials in this process. It builds on studies of rural Uganda, which identify the significance of forestry officials in recentralizing control of far-flung parts of the country.[23] Scholarship about Kampala identifies the year 2010 as the turning point in the recentralization of power there, when the NRM created the Kampala Capital City Authority, giving it the ability to appoint a set of municipal officials directly rather than having to work with the elected representatives on Kampala City Council (KCC).[24] This chapter finds that wetland conservationism underpinned a push towards recentralizing control of Kampala even before 2010, through the NWCMP and its successor bodies. Following the creation of laws for wetland conservation in 1995, wetlands officials joined other national officials plus municipal officials in asserting control over places across the city through zoning for demolitions and evictions, which began around 2004-05. Demolitions and evictions have generally left the housing of wealthier Kampalans untouched, including that built on lands that poorer Kampalans reclaimed before being forced out. Furthermore, wetlands officials incorporated changes in scientific thinking into the recentralization of Kampala by using the concept of ecosystem services (which they initially pursued to promote decentralized community-based projects) to justify payment to the national government.

[23] Jesse C. Ribot, Arun Agrawal, and Anne M. Larson, "Recentralizing While Decentralizing: How National Governments Reappropriate Forest Resources," *World Development* 34, no. 11 (2006): 1864-86.
[24] Christopher D. Gore and Nansozi K. Muwanga, "Decentralization is Dead, Long Live Decentralization! Capital City Reform and Political Rights in Kampala, Uganda," *International Journal of Urban and Regional Research* 38, no. 6 (2014): 2201-16. Nabukeera Madinah et al, "Recentralization of Kampala City Administration in Uganda: Implications for Top and Bottom Accountability," *SAGE Open* 5, no. 3 (2015): 1-13.

Institutional Bases of Wetland Conservation in Kampala

Regardless of the colonial denigration of wetlands, as well as of the people who lived or worked there, by the 1990s land scarcity had become acute for many Kampalans. Because wetlands comprised much of the available land there, increasing numbers of people began using them for housing and enterprises – not only poorer Kampalans, including long-time city residents as well as recent rural-urban migrants, but also wealthy investors who had previously derided these places. The central government created a series of environmental laws in the 1990s, including provisions to enforce the new wetlands policy. However, conservationists have often been unable to enforce these, particularly against the interests of wealthier wetland users. Beyond law enforcement, conservation officials have also drawn public awareness to their efforts through newspaper coverage. A small number of journalists have been dedicated in supporting wetland conservationism, including by critiquing the shortcomings in officials' implementation of the policy. However, wealthy investors have also dedicated considerable resources to preventing publicization of their environmental impacts.

Ugandan novelists indicate the uniformly low social status of people who lived in Kampala wetlands before widespread reclamation in the 1990s. Jennifer Nansubuga Makumbi depicts stereotypes about hilltops and wetlands in the transition from colonial to postcolonial hierarchies: "[i]n colonial times, educated Ugandans had lived on the floodplains while Europeans lived up in the hills. When the Europeans left, educated Ugandans climbed out of the swamps, slaked off the mud, and took to the hills and raw Ugandans flooded the swamps. Up in the hills, educated Ugandans assumed the same contempt as Europeans had for them."[25] Moses Isegawa illustrates the contrast between hilltops and wetlands during Amin's rule. In *Abyssinian Chronicles*, a rural migrant arriving in Kampala at Owino Market senses "its eternal burden of

[25] Jennifer Nanusbuga Makumbi, *Kintu* (Oakland, CA: Transit Books, 2017), 2.

travellers, loafers, hawkers, snake charmers and all manner of other nebulous figures, calling to mind the bowl's early swampy days."[26] In *Snakepit,* a fictionalized army general arrives at his hilltop compound, "the place he loved most in the city. He loved hills in general. He never forgot that he had been born in a swamp and that [his rival] had been born in the embrace of a hill."[27] After Amin, as Makumbi's novel shows, the negative stereotyping of wetland residents continued even into the twenty-first century including the assumption that "all swamp dwellers were thieves."[28] Evidently, the residents of mansions built atop infilling escaped association with wetlands not only in municipal zoning, but also in social mores. The popular distinction between Kampala hilltops and wetlands continued even after wealthier Kampalans could no longer find space on hilltops and began using reclaimed wetlands. Meanwhile, investors have continued promoting their projects in wetlands by claiming that they will clear out undesirable people.

Reclamation in Kampala started during the colonial era, particularly in the Industrial Area, but began expanding dramatically in the 1990s. It depended largely on the influx of people and money that followed the end of the civil war (outside the north) as the NRM established control of Uganda. The city has sprawled across more hilltops, but its economic core remains the area immediately northwest of Murchison Bay, at the northern end of Lake Victoria. People who want to access it cannot live too far away. The barrier imposed by distance is defined by the challenges of mobility in Kampala, which people navigate by driving cars, trucks, motorcycle taxis called *boda boda,* and van taxis simply called taxis – although most walk. Gridlock often covers Kampala, especially with rains. This is part of why its air was the fifteenth-most polluted of cities worldwide between 2008-2017, the most recent years for which data is readily

[26] Moses Isegawa, *Abyssinian Chronicles* (New York, NY: Vintage International, 2000), 83.
[27] Idem., *Snakepit* (New York, NY: Vintage International, 2004), 101.
[28] Makumbi, *Kintu*, 2.

accessible.[29] To avoid basing their homes and enterprises too far from Kampala's centre of gravity, more and more people have been using lands further and further down the slopes of the urbanized hills.

However, people's experiences with reclamation – and their environment impacts through reclamation – have varied by wealth levels. Wealthier Kampalans and outside investors have infilled the wetlands between the hills, and installed drainage systems. Poorer Kampalans have often experienced flooding, with attendant medical problems (such as malaria) plus damage to housing and other belongings. Furthermore, conservation officials have subjected the latter to evictions with greater frequency the former. Under neoliberalism, wealthier Kampalans and outside investors have not only had more greater ability to afford drainage systems to handle the physical challenges of swamp reclamation, but also more means of circumventing conservationists' legal and institutional opposition to their activities. Through infilling projects and circumventing opposition, wealthier wetland users have had more permanent impacts.

Even before the 1995 laws, municipal officials conducted demolitions and evictions targeting Kampalans who lived and/or worked in wetlands. In 1992, citing structural concerns, KCC officials demolished what *New Vision* described as "a public show hall," prompting "violent clashes" between police and people nearby who "stoned [and] pelted [them] with stones, bottles, metals, rotten tomatoes." The newspaper quoted "an unnamed KCC official" saying the police 'sent our boys there [...] but unfortunately they were attacked by a mob before they completed demolishing the structure. And when we sent them back again last Friday, they were again seriously attacked'.[30] Conservationism was not the first justification for KCC evictions and

[29] "List of most-polluted cities by particulate matter concentration," *Wikipedia*, https://en.wikipedia.org/wiki/List_of_most-polluted_cities_by_particulate_matter_concentration (accessed 10 August 2021).
[30] Yunus Abbey, "Hall on swampy area – KCC," *New Vision*, 28 November 1992: 3.

demolitions in wetlands – which already targeted poorer rather than wealthier Kampalans – but NWCMP officials promoted a new impetus for these actions.

The expansion of reclamation in Kampala also attracted critiques of conservation officials for inconsistent messaging. In 1992 *New Vision* published a letter by a Makerere student arguing that it was unfair for conservationists to expect people in rural areas to conserve wetlands but not to address similar issues in Kampala. The student wrote that Nateete swamp in Kampala was

> being drained at an alarming rate and yet nobody seems to be bothered. What is even more surprising is its proximity to the highest seat of environmental policy-makers! How then would someone from Kampala Department of Environment Protection tell a guy in Kasese to protect the wetlands when the same guy has seen the Nateete swamp progressively drained on his constant trips in the train? Should he think that wetland protection is perhaps meant for the countryside, or that environmentalists are only doing things on paper?[31]

The formalization of a nation-wide legal framework in 1995 provided framework for a more consistent approach to conservation. NEMA officials have tried making examples of some prominent people (see the section on housing, below), but enforcement has remained inconsistent – often varying with the socioeconomic class of the people whose practices in wetlands have run contrary to conservationist proposals.

In 1995, the government passed two laws regulating wetlands: the Constitution 1995 and the National Environment Statute 1995. The constitution declared that, "[t]he State shall protect

[31] Silver B., "Nateete swamp in danger," *New Vision*, 21 August 1992: 5.

important natural resources, including […] wetlands" and empowered the government to hold any wetland "in trust."[32] The statute established the NEMA, which it gave legal control to regulate a range of practices in wetlands including reclamation and construction. It also authorized NEMA to work with other conservationist agencies to "declare any wetland to be a protected wetland thereby excluding or limiting human activities in that wetland."[33] In 1998 wetlands officials gained a permanent home, the Wetlands Inspection Division (WID), enabling long-term connections with NEMA. (In 2007, WID became the Wetlands Management Department (WMD), which by 2020 had 35 staff, according to an interview with WMD Assistant Commissioner Lucy Iyango – almost double that of the WID.[34]) The 1995 laws gave extensive authority over wetlands to conservation officials, who soon gained institutional bases for law enforcement.

The process of creating a system for – and starting firms to provide services regarding – legal fees and fines also prompted conservationists to reconceptualize wetlands in monetary terms. A person convicted of violating the statute was liable to pay a fine of up to eighteen million shillings and/or to be imprisoned up to eighteen months for most offences, although the maximum penalties for failure to properly manage hazardous waste were double.[35] The government clarified the process by which NEMA would regulate wetlands (and other places) through the Environmental Impact Assessment Regulations, 1998. All activities mentioned in the environment statute were forbidden, unless approved by NEMA based on submission of a satisfactory EIA.[36] Uganda's first prominent environmental journalist – Ndyakira Amooti –

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[32] 1995 Constitution of the Republic of Uganda, articles XIII and 237.
[33] sections 37-38.
[34] NWCMP, "Final Report for Phase II – 1 July 1992 to 31 August 1996" (Kampala, Uganda: Ministry of Natural Resources, 1997), *iii*. Namakula Regina, "Wetlands Management Department Born," *WetNews*, January 2008: 4. Lucy Iyango, interview by author, Kampala, 10 February 2020.
[35] The National Environment Statute, 1995, sections 96-102.
[36] The Environmental Impact Assessment Regulations, S.I. No. 13/1998.

wrote that, "[d]evelopers can only hire consultants from a pool of firms recommended by NEMA," that "according to developers, the EIA consultants whom NEMA often recommends to them often ask for unrealistic and prohibitive fees," and that, "[t]here are unconfirmed reports that some of these expensive consultant firms belong to some persons within NEMA, a situation that breeds conflict of interest."[37] Through the creation of mechanisms for law enforcement – including fees, fines, and firms offering EIAs – conservationists defined monetary values associated with a range of practices in wetlands.

Soon after the government enacted laws for wetland conservation, authorities in Kampala touted their enforcement abilities. *New Vision* reported that the Mayor of Kampala "warned that [KCC] will pull down without compensation structures erected in wetlands."[38] Orders for environmental law enforcement in Kampala could come from KCC or NEMA, whom NWCMP officials could advise. In an interview, Namakambo said of her time as a Monitoring Officer,

> I had a team I was working with, who were very vigilant. Another team we collaborated with was NEMA [...] And we fought developers. We said no to developers. We wrote reports and stood ground. [...] I was very good at telling off any developer. I had a language that I would use to developers who come. I would stop them, I would tell them, 'Why do you want to live in sewage?' [...] I tell them that, 'All the rubbish coming from uphill, the cost of maintaining your house where you want to put it is very high, why don't you find an alternative?' So, that's how I do my politics. Stop people and they stop being interested. And we were vigilant

[37] Ndyakira Amooti, "1998: Year for declaration of war against wetlands?," *New Vision*, 15 December 1998: 18.
[38] Florence Alaro, "Wetland structures condemned," *New Vision*, 6 May 1995: 24.

at enforcing. [...] We even took many to court.

Despite these successes, the power of conservationists in Kampala has often been limited, particularly in relation to wealthy wetland users. Namakambo said that, "my colleagues went into the field and were beaten. And one of the reasons for me to retire was lack of job satisfaction, when that pressure was high." Even when officials were overseeing arrests rather than being beaten, results were limited: "You ably arrest truck drivers who acquire murram, you bring ten of them [to court], [but] somewhere somehow in the network," more come. Furthermore, "they started to fill at night. You wake up in the morning, the whole place is full of murram."[39] The legal framework was one tool that conservationists used to try stopping infilling in Kampala wetlands – along with efforts to convince developers that their investments were unsound – but its effectiveness has been limited as investors changed employment practices in response to the new restrictions.

These conflicts made law enforcement in Kampala a learning process for conservationists. For example, in 2002 the mayor refused to evict people from wetlands, saying 'I agree entirely that people should not grow anything in the swamps, but our powers are limited. There is a whole ministry for the environment'. However, WID Commissioner Paul Mafabi replied, '[a]ctual management is the responsibility of the local government, which is KCC [i.e., the mayor's jurisdiction]'.[40] Using institutions to operationalize the new laws generated procedural confusion.

As conservationists navigated the procedural confusion of creating systems for law enforcement, infilling continued. Conservationists started a court case against a car importing business called COIN Limited that had infilled a wetland for a parking lot. In an interview,

[39] Namakambo, interview by author, Kampala, 3 March 2020.
[40] Charles Wendo, "Cost of Kampala water will rise," *New Vision*, 2 October 2002: 33.

Namakambo said that instead of taking the business COIN Limited to court, they filed a case against Rogers Ddungu, its owner.[41] The magistrate cleared Ddungu of liability and ordered COIN to "restore" the area.[42] However, as NWCMP officials have often said of infilling, the change was permanent.

The Ministry of Water and Environment contributed additional staff to law enforcement with the creation of the Environmental Protection Police Unit in 2011.[43] In an interview, WMD Commissioner Collins Oloya outlined the new division of labour: "the police [...] we deploy them at night, and they go with some of my staff. Then when it comes to preparing charges for the court, it's police who prepare the charges. But my staff will provide evidence that this is wetland, because of the following characteristics."[44] Institutional representatives have learned to operate the new legal framework by refining the responsibilities of different conservation officials.

When law enforcement failed, conservationists used newspapers – especially *New Vision* – to draw the attention of the public and of ministry officials to illegal wetland usage. The production and consumption of Ugandan newspapers have primarily been in Kampala (by 2005 *New Vision* boasted that sales outside the city had risen to 49% of their total), which is also where most ministry officials have been based.[45] In interviews, wetlands officials recalled their relationships with the media in positive terms. Iyango said, "the media is very quick to respond when called upon to do reporting about wetlands."[46] Namakambo emphasized the work of

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[41] Namakambo, interview by author, Kampala, 3 March 2020.
[42] Jude Etyang and Maurice Okore, "Vacate wetland, court orders COIN car depot," *New Vision*, 29 August 2003: 23.
[43] Cissy Makumbi, Polycap Kalokwera, and Tobbias Jolly Owiny, "Environment police behind illegal logging, leaders say," *Monitor*, 23 September 2020, https://www.monitor.co.ug/uganda/news/national/environment-police-behind-illegal-logging-leaders-2305910
[44] Collins Oloya, interview by author, Kampala, 9 March 2020.
[45] Emily Olaki, "Vision sales pass 60,000," *New Vision*, 20 January 2005: 1-2.
[46] Iyango, interview by author, Kampala, 10 February 2020.

Amooti and Tenywa, saying that, "when they are on the editorial, they will make sure we appear on the first pages, the critical pages of the print media."[47] As shown in Chapter Three, the government-owned *New Vision* often afforded favourable coverage to official initiatives, including conservationist activity regarding multiple environmental issues (which the NRM had used to distinguish its image from those of previous administrations), although it also began publishing critiques of the implementation of conservationist initiatives after hiring Amooti. Overall, relationships between wetlands officials and *New Vision* personnel have been cooperative because of a combination of institutional and personal politics – and sometimes, money.

Beyond institutional alignment and journalistic enthusiasm, payment also facilitated newspaper coverage. In an interview, Namakambo said that wetlands officials often sponsored the production of articles about their work, which "was not cheap. I think this would be like three million [shillings] when I was there [1991-2015], it would be more now. Not a full page [...] for half a page, a quarter page. [...] The best you can go is really maybe a full page, that is very expensive. I think the most we have had is half a page. It was in the range of three to five million then." However, according to Namakambo, the environmentalist journalists Amooti and Tenywa approached their coverage of wetlands issues with obvious "personal interest" rather than simply as a job. She said that in contrast, "I'm yet to see another journalist in that category, when you go to the media to cover you, for them it's money."[48] It is possible Namakambo was referring only to *New Vision*'s explicitly-identified externally-sponsored articles, which wetlands officials often obtained around World Wetlands Day (February 2nd). For conservationists to draw attention to

[47] Namakambo, interview by author, Kampala, 3 March 2020.
[48] Ibid. In 1991, the UGX:USD exchange rate was 586.8:1, making three million shillings worth around $5100 (United States Department of the Treasury, "Treasury Reporting Rates of Exchange as of March 31, 1991," 4). In 2015 the rate was 3378:1, making three million shillings worth around 900 USD (idem., "Treasury Reporting Rates of Exchange as of December 31, 2015," 5).

wetland issues via newspaper articles – as in many of the sources that this chapter (and dissertation) uses – often required payment.

Meanwhile, as conservationists paid to obtain newspaper coverage, investors tried paying to prevent it. Tenywa said in an interview that after rejecting the money he found on his desk, he rejected offers to meet with Ruparelia and then experienced threatening phone calls. However, it is unclear when this happened. I asked Tenywa about his experiences investigating "city tycoons." Tenywa talked about a conflict relating to the demolition of a KCC councillor's house (see the section on housing below) before shifting immediately into discussing Ruparelia. Ultimately, my interview with Tenywa associated this account with Speke resort:

> JDR: "This was so that you wouldn't report on the Speke resort?"
>
> GT: "Yes. And the stories continued."[49]

However, the construction of the resort happened before Tenywa began working at *New Vision* in 2001 and does not seem to have published an article about it. Asking, "[w]hat project was this about?" without mentioning Speke resort, would have avoided this degree of uncertainty. Nonetheless, the story bears consideration because of how many articles Tenywa has written about Ruparelia's investment portfolio, and because Tenywa is a journalist with decades of expertise who knew he was being recorded when he made a potentially volatile claim about the wealthiest person in the country. I think the most likely explanation is that Ruparelia sent money to Tenywa in relation to a project, but Tenywa misremembered which one during the interview or misheard my question (for example, thinking it was in reference to his being barred from Speke resort).

Tenywa said that upon seeing the money he brought it to the Editor-in-Chief, who said,

> 'No, that's dirty money. Never touch that money'. [...] He said,

[49] Tenywa, interview by author, Kampala, 3 February 2020.

> ‘That money, if you take it, you will be destroyed for good [...] even more money is going to come in the future. Don’t touch it’. [...] We didn’t touch his money. The stories continued to flow. [Ruparelia] tried so much to meet with me. Maybe he wanted to blackmail me, because he wanted me to go to the office, maybe he had cameras in there and wanted to say, ‘This man had come for money and was trying to get a bribe from me’. Some friends called me and said, ‘Please don’t go’. They tried to call me on the phone, anonymous callers. Sometimes they would spend three weeks calling you, and they don’t talk. At the moment you put down your phone, they call. You pick, nobody’s speaking. Put it down. Another time they said ‘Who do you think you are? We know where you stay’, things like this. But I was also very tricky. Sometimes I would sleep here when I had a very big story. Because in many cases, it’s very dangerous when the story is not yet out. But the moment it gets out, it’s okay. So sometimes I would sleep here [at *New Vision*], like for two or three days. Until there is no big deal about it, the dust has settled. Sometimes I would sleep at my [relative]’s place for several days. Sometimes I would walk, jump on a *boda boda* [motorcycle taxi], jump on a [van] taxi, walk again, until I get there. Sometimes it appears as if I’ve gone off on an assignment, like lunchtime and I don’t return.[50]

Because of the economic pressures on land in Kampala combined with the existence of laws

[50] Ibid.

against infilling, some investors have devoted considerable resources to limiting the circulation of knowledge about their practices. For approximate reference, the thirty-million-shilling package that Tenywa described would have been around fifty times larger than the annual expenditure of an average Kampala household in the 2010s (a few years after the incident).[51] The attempted bribery and coordinated intimidation that Tenywa narrated indicate the importance of wealthy investors in driving conservationists' reconceptualization of Kampala wetlands in monetary terms.

Amooti – Tenywa's mentor, and predecessor at *New Vision* – started print discussion about corruption and wetlands in Kampala. Beyond his career at *New Vision* (where he first gained attention analyzing corruption in the international animal trade), in 1998 he released a collection of children's books that promote conservation through conversations between a grandfather, Buhano, and grandson, Kazoora. In *What a County Without Wetlands!*, Buhano said,

> "Locating the factories in swamps is a bad decision by people who administer the towns. [...] Town and government officials also get bribes from people to allow them to build in the swamps. These corrupt officials ignore the dangers posed by buildings that are being put up in the swamps." [Kazoora replied,] "I thought there was some scientific reason for building industries in the swamps. It cannot be just because of corruption, grandfather. I shall ask my teacher for an explanation. He might have a better answer." [...] Buhano shook his head as he continued to tell the story about what

[51] Uganda Bureau of Statistics, *Uganda National Household Survey 2016/2017* (Kampala, Uganda: UBOS, 2018), 84.

happened after the swamps were destroyed.[52]

Amooti conveyed his knowledge of infilling in Kampala by emphasizing financial corruption. In an interview, Tenywa said that when police are "supposed to evict another person, they will talk in their own language, money exchanges hands. You keep on reporting, the policeman will not care what goes on" – and that politicians "can't really reign over [investors]" because of their needs for campaign funding.[53] In the 1990s, conservationists developed legal and institutional bases for law enforcement in Kampala, but had limited effectiveness as the construction of factories, resorts, housing, and more expanded under neoliberalism – especially when those buildings were the property of wealthy investors.

Factories and Sewerage: The Industrialization of Nakivubo Wetland, 1990s to 2008

The infilling of Kampala wetlands began with the construction of factories in the Industrial Area, which started in the 1950s and accelerated in the 1990s. Constructing factories there meant infilling the northwest end of Nakivubo wetland. Despite building atop Nakivubo, factory owners have also depended on its continued existence as a place to discharge waste. Most of the city's sewerage system, administered by the National Water and Sewerage Corporation (NWSC), also discharges into Nakivubo. The papyrus in Nakivubo serves as a filter between the city and the lake. However, the proliferation of factories and infilling of wetlands has meant more effluents and less papyrus. Furthering the decline of Nakivubo papyrus since the 1990s, Kampalans with few other options have reclaimed portions of the wetland to grow yams despite the increasing levels of toxins in the water, and harassment from police. Wetlands officials responded to these changes by using EEV to quantify the monetary value of Nakivubo. The

[52] Ndyakira Amooti, *What a County Without Wetlands!* (Kampala, Uganda: Fountain Publishers, 1998), 14.
[53] Tenywa, interview by author, Kampala, 3 February 2020.

government soon started a World Bank-funded project to improve drainage by rehabilitating Nakivubo Channel, and began adding increased amounts of aluminum sulphate to treat the water supply – passing the cost to consumers. They also worked with wetlands officials to gazette Nakivubo as a PA. However, they have been more effective at evicting yam growers than at preventing pollution or reclamation by wealthier wetland users.

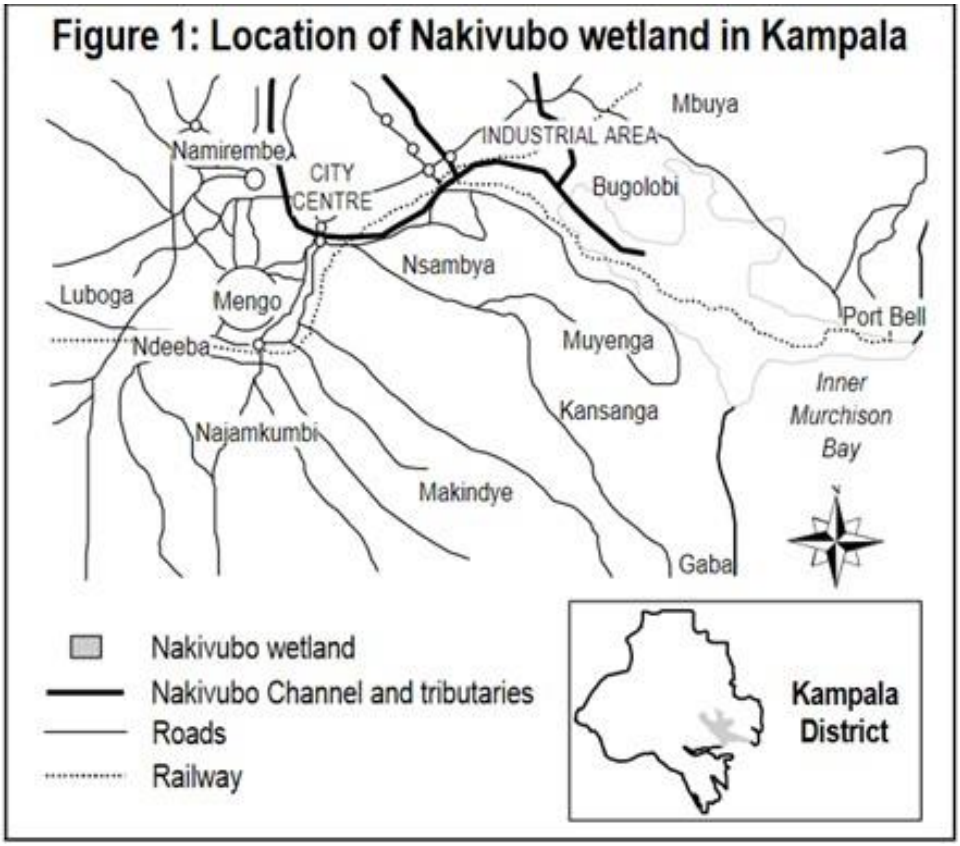

Figure 6.3: Nakivubo Channel and wetland *(Lucy Emerton, Lucy Iyango, Phoebe Luwum, and Andrew Malinga, "The Present Economic Value of Nakivubo Urban Wetland, Uganda" (n.p.: NWCMP and IUCN, 1999), 2).*

Investors had owned factories built atop infilled Kampala wetlands since the colonial era, but the 1990s saw a major expansion in industrialization. The construction of factories in Kampala depended largely on the completion of the Owen Falls Dam in 1954, prior to which there was no source of electricity reliable and sizable enough to power much industrialization.

New Vision reported that a KCC Chief Town Planner said that building factories atop Kampala wetlands began in 1952.[54] In the 1980s, chemists at Makerere University analyzed the expansion of factories and argued that industrial and organic pollution was entering Murchison Bay.[55] In 1994, according to Mafabi, KCC rezoned several 'urban and peri-urban wetlands [as] industrial plots'.[56] In 1996, the Minister of Natural Resources "said over 500 factories in Kampala [were] discharg[ing] their waste water into public sewers or into the Nakivubo Channel system, and both lead into Murchison Bay" at the southeastern side of the city.[57] Of these, 15 larger factories and plants plus "more than 190 smaller-scale enterprises" were in the Industrial Area according to a 1999 review.[58] Despite the creation of laws for wetland conservation in 1995, infilling continued. NEMA reported in 2006/07 that the area of papyrus in Nakivubo had declined from 4.4km^2 to 1.3km^2 by 2000.[59] The unfilled area of Nakivubo decreased by about 1.6km^2 (or one third) between the mid-twentieth century and 1991, and by about the same amount again during the 1990s.

However, conservationists argued that the decrease in papyrus in Nakivubo was not due to factories alone. In the 1990s a growing number of Kampalans began farming yams in Nakivubo, which conservationists noted involved removing papyrus to clear plots. Makerere professor emeritus and long-time Kampala resident William Banage said in an interview that growing yams in urban wetlands started recently: "They never did that before. They grew

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[54] Wasiko, "Save Nakivubo Channel, stop Kampala floods," 5.
[55] Y.S. Kizito, "The evaluation of pollution levels of Nakivubo Channel, Uganda" (master's thesis, Makerere University, 1986). Night Loy, "The Legal Framework for the Management of Wetlands in Uganda" (bachelor's thesis, Makerere University, 1999), 75.
[56] John Kasozi, "Kampala wetlands under threat," *New Vision*, 15 May 2001: 28.
[57] Vision Reporter, "Nakivubo swamps not filters," *New Vision*, 26 March 1996: 19.
[58] Emerton et al, "The Present Economic Value of Nakivubo Urban Wetland, Uganda," 3.
[59] NEMA, *State of the Environment Report for Uganda 2006/2007*, 115. Estimates of the size of the wetland have varied, but show similar trends, e.g., a 1999 report estimated that the original area was 5.29km^2 of which 2.9km^2 remained in 1998 (Emerton et al, "The Present Economic Value of Nakivubo Urban Wetland, Uganda," 5).

mayuni under the banana plantations" on hills.[60] Evidence of official interest in Nakivubo yams dates to 1996, when *New Vision* reported on a study by Makerere chemists by asserting they were "loaded with heavy metals."[61] *WetNews* noted the dilemma that toxic effluents posed, being "rich in nutrients that make the yams grow fatter […] This means […] more money for the traders and growers."[62] The expansion of yam farming in Nakivubo was a response by Kampalans to economic pressures and environmental changes – and as conservationists analyzed the flows of effluents, they reconceptualized Kampala wetlands in monetary terms.

Conservationists opposed this trend because it lessened the capacity of Nakivubo to remove effluents from Kampala's water. In 1998, an NWSC chemist informed a conservationist publication that, '[y]ams are not a good water purifier because their roots do not interlink and make a fine sieve, like reeds and papyrus'.[63] That year, NWCMP officials held their World Wetlands Day celebrations near Luzira Prison, at the eastern end of Nakivubo. Amooti reported that "[t]he mockery, however, was that the party converged on the edge of Inner Murchison Bay swamp whose backdrop was nothing but gardens of yams that have replaced the swampy vegetation. This was tangible evidence that [NWCMP officials were] not marking success in educating the people about the value of this ecological resource."[64] Amooti's critique reflected the assumption among conservationists that the continued use of wetlands was because of a lack of education (rather than a lack of options). Today, this assumption has weakened somewhat, although conservationists still sometimes voiced it in interviews. Different Kampalans – including conservationists – have used wetlands for monetary and professional gain because of constrained options, stemming from economic pressures on land.

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[60] William Banage, interview by author, Kampala, 14 February 2020.
[61] Ndyakira Amooti, "Possible killer in Kampala's environs," *New Vision*, 26 March 1996: 19.
[62] Regina Ceali Namakula, "Poisoning Food Through Wetland Degradation," *WetNews*, June 2004: 6.
[63] Edna Epelu, "Nakivubo: Urban Wetlands in Danger," *Naturewatch*, 27 February 1998: 1.
[64] Ndyakira Amooti, "Kampala wetlands sacrificed," *New Vision*, 3 March 1998: 14.

In the late 1990s, NWCMP officials began noting information that ran contrary to their assumption about the knowledge of Kampala yam farmers. At the Luzira celebrations in 1998, Amooti said that the Minister of Natural Resources told the yam farmers "to quit immediately or face the legal music. But in the yam gardens, cultivators, including Luzira Women's Prison staff, carried on. [...] Growing of *mayuni* crop [...] has become so lucrative that it may be next to impossible to flush 'urban peasants' out of the Nakivubo Wetland. Currently a continuous stretch of *mayuni* gardens stretch from Fifth Street to the bay."[65] The prison staff responded by inviting NWCMP officials to host a seminar. An NWSC official spoke about the health risks of Nakivubo yams, and the benefits of papyrus. NWCMP officials heard that yam farmers were aware of the ecological impact of their work, but lacked certain knowledge about ecosystem services and had few alternatives for generating livelihoods. *WetNews* reported that, "[m]any participants were able to name the socio economic wetland values and functions but little was known about the intrinsic values [...] The women claim that they depend on yams because of lack of alternatives. They claim that growing yam is their sole source of income. This is in appreciation of the fact that they are destroying a wetland by planting yams."[66] The seminar reinforced NWCMP officials' assumption that most people knew little about the ecosystem services of wetlands – although they also learned that yam farming was mainly the result of constrained economic options. Conservationists opposed yam farming nonetheless.

However, a speech by a minister was not (yet) an eviction order. At the end of 1998 Amooti wrote, "[n]one of those yam (mayuni) cultivators have budged an inch."[67] The authors of a 1999 study claimed there were "between 450-500 farmers in Nakivubo" using 0.25-0.5

[65] Ibid.
[66] "Luzira women ready to jelously [sic] guard Nakivubo Wetland," *WetNews*, March-June 1998: 13.
[67] Amooti, "1998," 18.

hectares each.[68] In 2000, *New Vision* reported that the mayor "was shocked to find that the papyrus vegetation had been replaced with yams" around NWSC infrastructure in Nakivubo.[69] In 2002, Tenywa reported that there were around 7000 yam farmers in Nakivubo "com[ing] from the slums, as far away as [...] 10 kms [...] They earn as much as sh10,000 a day."[70] (At this time, one could purchase a yam plot for 30,000 shillings.[71]) Tenywa's estimate of the number of farmers exceeded the estimate three years prior more than tenfold; it is unclear to what extent this difference was due to population growth (which has been high in Kampala) versus methodological issues in one or both sources. Regardless of the exact number of yam farmers, the State Minister for the Environment told Tenywa they would not be allowed to remain: 'the yam growers have to do without any compromise'. Namakambo told Tenywa that yam farmers 'have left the wetlands in ruins', contributing to 10 million USD in extra annual expenses for the NWSC. Meanwhile, the KCC City Planner hinted to Tenywa that the government would not remove factories: '[w]hat are we going to do about those individuals who own land in the wetlands? Are we going to break down the buildings housing factories?'[72] Despite critique by conservationists, they made little effort towards any evictions by this point. As shown below, these began around 2004-05.

Journalists and researchers continued investigating the spread of yam farming, finding that most of its practitioners were rural-urban migrants. *New Vision* profiled one farmer: "[h]e won't reveal his name as he knows he is doing something bad. But he doesn't know how bad. As

[68] Emerton et al, "The Present Economic Value of Nakivubo Urban Wetland, Uganda," 10.
[69] Charles Ariko, "Ssebana asks govt to save swamp," *New Vision*, 6 November 2000: 7.
[70] Gerald Tenywa, "Wetlands to be gazetted," *New Vision*, 5 June 2002: 23. In 2002, the UGX:USD exchange rate was 1740:1, making 10,000 shillings worth around $6 (United States Department of the Treasury, "Treasury Reporting Rates of Exchange as of March 31, 2002," 4).
[71] Wendo, "Cost of Kampala water will rise," 33. In 2002, the UGX:USD exchange rate was 1740:1, making 30,000 shillings worth around $17 (United States Department of the Treasury, "Treasury Reporting Rates of Exchange as of March 31, 2002," 4).
[72] Tenywa, "Wetlands to be gazetted," 23.

he sinks his hoe into the earth, poverty written all over his face, all he cares is that the harvests will earn him some money."[73] A Makerere student surveyed farmers and found that, "55% of the respondents had settled in the study area for 6-20 years, 25% had been in the area for less than 5 years. Only 20% [...] had been in the area for more than 21 years."[74] *New Vision* also found long residential ties between the yam farmers and the area, reporting that, "[m]ost of the cultivators […] are rural-urban migrants who have lived in Kampala for over 30 years."[75] In 2004, *WetNews* reported that a Swedish researcher had found crops grown in Kampala wetlands that contained concentrations of heavy metals above levels designated safe by the World Health Organization.[76] *WetNews* reported that these yams were being eaten by the workers of factories in the area, who live in Nakivubo slums.[77] The economic and environmental significances of Nakivubo for a wide range of Kampalans were changing because of factories, sewerage, and the yams grown in water containing effluent from these infrastructures.

Conservationists identified changes in Nakivubo as a threat to the city's water supply because "[c]lose to the point where this swamp kisses the lake is Kampala's Gaba Water Works."[78] A 1996 analysis of chemicals in Nakivubo waters found that the papyrus was only filtering organic matter from effluents, not heavy metals and other. Its author found that, at the time, Nakivubo papyrus was filtering 50-70% of this material from the waters.[79] In 1998, the NWSC received a report commissioned via the European Development Fund, finding that much of the sewerage effluent was "from about 100,000 residents in Kampala who lack[ed] proper

[73] Wendo, "Cost of Kampala water will rise," 33.
[74] Loy, "The Legal Framework for the Management of Wetlands in Uganda," 35.
[75] John Kasozi, "Nakivubo, the most encroached on wetland," *New Vision*, 2 February 2008: 29.
[76] The researcher was studying water quality in three Ugandan urban centres (Karin Ljung, "Heavy Metal Discharge into Lake Victoria – A Study of the Ugandan Cities of Kampala, Jinja and Entebbe" (master's thesis, Swedish University of Agricultural Sciences, 2001)).
[77] Namakula, "Poisoning Food Through Wetland Degradation," 6.
[78] Ndyakira Amooti, "Why we should save our wetlands," *New Vision*, 9 August 1994: 14.
[79] Idem., "Murchison Bay choked," *New Vision*, 7 May 1996: 21.

sanitation."[80] NWSC officials estimated that Nakivubo was processing 80% of Kampala's waste, and that about 90% of the effluents in Nakivubo were otherwise untreated.[81] By 1999, Nakivubo was the source of almost all the runoff in Murchison Bay (including over 800kg daily or 85% of its total Nitrogen content and around 150kg daily or 86% of its total Phosphorus). At this point, residential waste accounted for around 75% of the nutrient load in Nakivubo (see the section below about housing).[82] That year, *New Vision* published an account of Nakivubo indicating its changed significance for many residents: "on any sunny afternoon groups of men would descend to bathe in its still clean waters […] however […] No man bathes there anymore."[83] The water quality in Nakivubo had declined considerably by the late 1990s, following the expansion of factories and housing earlier in the decade.

In response, conservationists and other Ugandans challenged reclamation by rethinking the concept of waste. Instead of referring to swamps as wastelands, people began arguing that wetlands need protection from pollution by outside waste. There were laws against polluting water in Uganda by the 1950s, but these did not refer to "waste." Starting in the early 2000s, Makerere students offered a revisionist view in which people who saw swamps as "wastelands" were being wasteful. One student decried the "'[w]aste land mentality' [… of] depositing garbage and other wastes onto wetlands."[84] Students cited research by Ugandan ecologists demonstrating that papyrus wetlands filter pollutants and other wastes out of water supplies.[85] Conservationists emphasized the economic value of wetlands to critique the practice of discharging effluent into urban wetlands.

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[80] Geoffrey Kamali, "Nakivubo channel carries sewerage," *New Vision*, 29 September 1998: 7.
[81] Ibid. John Kasozi, "No peace for wetland abusers," *New Vision*, 24 September 2002: 15.
[82] Emerton et al, "The Present Economic Value of Nakivubo Urban Wetland, Uganda," 3.
[83] D.K. Mayanja, "Kampala's river between," *New Vision*, 25 June 1999: 23-24.
[84] Joseph Andrew Koluo, "The Impact of Recreation to Wetlands: Case Study of Munyonyo" (bachelor's thesis: Makerere University, 2001), 24.
[85] James Kazaarwa, "The Causes and Effects of Wetland Degradation: A Case Study of the Nakivubo Wetland in Nakawa and Makindye Division, Kampala District" (bachelor's thesis: Makerere University: 2008), 45.

Conservationists decided to define the monetary value of Nakivubo. They did so through an International Union for the Conservation of Nature-funded three-week study in 1999 based on the concept of EEV. A team of four researchers including senior WID official (and present Assistant Commissioner of the wetlands office) Iyango ascribed economic values to ecosystem services by quantifying the costs that wetland users would have to pay to replace Nakivubo. They monetized the wetland through "economic instruments," including projections for government expenses and proposals for new taxes.[86] Ugandan conservationists also applied EEV to rural areas. For rural EEVs in southeastern Uganda, they used "payment vehicles" other than money – including bicycles and rice – by asking farmers what they would require in order to stop using a particular wetland.[87] The Nakivubo EEV enabled conservationists to communicate their claims to politicians in monetary terms, in an attempt to compete with "city tycoons" – whereas researchers in rural Uganda assumed, perhaps erroneously, that goods would be more effective than money as a basis of measurement. The contrast between EEV methodologies in rural and urban Uganda shows that conservationists not only defined the value of Kampala wetlands in monetary terms, but even conducted more of that quantifying process through money than they did upcountry.

The authors of the study acknowledged that EEV would not always produce information that conservationists could use to support their proposals. They quantified the monetary value of multiple practices, such as yam farming and papyrus harvesting. They claimed yam farming was worth around 200 million shillings annually yet critiqued the practice, arguing that, "the major issue is the health implications […] rather than their interference with wetland ecosystem

[86] Emerton et al, "The Present Economic Value of Nakivubo Urban Wetland, Uganda," 1, 17-18, 20.
[87] Masaba Sowedi, "An Economic Valuation of Alternative Wetland Uses to the Local Community" (master's thesis, Makerere University, 2002). Beatrice Okello and Rita Laker-Ojok, "The Critical Triangle Relationship between the Diversity of Wetlands Utilization, the Enhancement of Agricultural Productivity and Food Security in Uganda," IFPRA Eastern Africa Food Policy Network Report 8 (Kampala, Uganda: IFPRI, 2004).

functions." Nonetheless, they identified the expansion of small-scale cultivation among the "[t]hreats to Nakivubo wetlands." They also found that there were "[u]p to 50 people […] involved in harvesting papyrus" from nine hectares of Nakivubo; they valued this work at 17.5 million shillings annually and did not identify it as an environmental threat. Of the harvesters, "at least 30" were "organized into a loose association."[88] This organization contravened the claim that there is no community-based wetland conservation in Kampala, albeit in small numbers and with little political power.[89] NWCMP officials' partners for wetland conservation in Nakivubo were law enforcement agencies like NEMA and the police, using the EEV as evidence supporting conservation officials' proposals regarding the wetland.

The EEV's authors noted that it was "impossible to argue, on the basis of this study, that the conservation of Nakivubo makes more economic sense than wetland reclamation and modification." However, they claimed that using Nakivubo "for waste treatment and water purification is likely to be far more cost effective than" alternatives. They estimated the annual value of water purification via Nakivubo at 1.3-2.3 billion shillings, or around 1.7 million USD.[90] *New Vision* began repeating this argumentation, although sometimes with new figures: a 2002 editorial claimed that unless Nakivubo were made a PA it would disappear entirely and the NSWC would need to spend an additional 10 million USD annually on water purification chemicals; and in 2006, an editorial claimed "[e]xperts put its filtration role at" 3.5 billion shillings annually.[91] Wetland conservationists had defined the value of Nakivubo in monetary

[88] Emerton et al, "The Present Economic Value of Nakivubo Urban Wetland, Uganda," 4, 6-7, 19.
[89] Conservationists occasionally noted other examples of community-based action in Kampala. In 2003, *WetNews* reported that, "[a]bout a year ago local wanainchi [citizens] stopped a petrol station project which had started filling part of Lubigi wetland preparing to deny them of their highly treasured 'fresh' water source" (Patrick Semwogere, "Wetland Management: More work still needs to be done," *WetNews*, January-June 2001: 4). However, wetland conservationists did (or could) not organize these localized affiliations into a city-wide movement.
[90] Emerton et al, "The Present Economic Value of Nakivubo Urban Wetland, Uganda," 14, 16-17.
[91] Editorial, "Gazette Nakivubo swamp," *New Vision*, 7 May 2002: 10. Editorial, "Please rescue Nakivubo wetlands," *New Vision*, 23 April 2006: 10.

terms, particularly in relation to its water purifying functions.

The years following the EEV saw the start of a World Bank-funded project to "rehabilitate" the ability of the channel infrastructure in the northern end of the wetland to handle floods. Kampalans had noted an increase in floods starting in the mid-1990s and debated the cause before identifying reclamation by the end of the decade. In 1994, a city engineer said that Nakivubo "lack[ed] sufficient capacity to deal with all the new non-absorbent surfaces like houses and tarmac roads" spreading across Kampala.[92] The author of a letter to *New Vision* replied that recent repairs to Kampala roads had removed all the potholes where water used to collect.[93] Yet, by the end of the decade, *New Vision* connected the flooding to reclamation without referencing alternative explanations.[94] The government began pursuing the Nakivubo Channel Rehabilitation Project to ameliorate flooding.

The project received funding in 2000, primarily through a 32 billion shilling (around 25 million USD) loan from the World Bank.[95] Almost the entirety paid for a contract awarded to Chinese Civil Engineering Corporation. They began excavating murram and soil from the channel infrastructure – and dumping it in adjacent wetlands.[96] Following conservationists' outcry, they started dumping it in Wankoko wetland – which was owned by KCC and, according to Mafabi, a tributary of Nakivubo.[97] However, even if the material were dumped elsewhere, WID officials would have been critical of the project. They said that it was "not an appropriate solution to the flooding," which Mafabi argued was caused by infilling of wetlands rather than

[92] Teopista Agutu, "City floods explained," *New Vision*, 19 August 1994: 8.
[93] Neko Muduse-Ojala, "Kampala floods a nuisance," *New Vision*, 6 October 1994: 5.
[94] Charles Wendo, "The lost battle on our wetlands," *New Vision*, 1 March 1999: 14. Alfred Wasiko, "Save Nakivubo Channel, stop Kampala floods," *New Vision*, 28 November 1999: 5.
[95] Paul Ocen, "World Bank okays sh32b for Nakivubo Channel," *New Vision*, 28 April 2000: 7.
[96] Kasozi, "Kampala wetlands under threat," 28.
[97] Hamis Kaheru, "Firm resumes soil dumping in wetland," *New Vision*, 7 June 2001: 7.

insufficient channel space in Nakivubo.[98] Furthermore, the project "created a channel through the remaining patch of the wetland, pushing waste directly into the lake."[99] Nonetheless, the engineering corporation completed the contract in 2003.[100] Even if the channel were to compensate for the loss of the wetland as a buffer against flooding, bypassing its papyrus increased pollution in the lake, contributing to the need for municipal water treatment.

Around the same time as the World Bank project, the central government began making Nakivubo into Uganda's first wetland PA. In 2002, KCC officials began working with WID officials to determine its boundaries. This would make it "the first wetland in Uganda outside a […] National Park, to be officially gazetted for a particular use" – in this case, "the filtering and purification of 80% of Kampala's sewage and surface water run off."[101] Following the EEV study, and the subsequent the World Bank-funded rehabilitation of the channel, the central government agreed to expand the PA system to a place that did not offer forestry and/or tourism revenue, based on the concept of wetland ecosystem services.

In 2004, after a three-year delay in organizing the project, KCC and WID officials began the process of demarcating a twenty-kilometre boundary around Nakivubo.[102] Tenywa claimed this would lead to the eviction of "10,000" yam farmers. This was a much higher number than reported in previous years, and he gave it without explanation – although Kampala's population growth rate has been high.[103] Regardless of the impact evictions would have on them, he reported WID officials' claim that the delay in implementation had "proved disastrous for the swamp [because] wastes are getting […] closer to the Gaba Water Works."[104] KCC and WID

[98] Gerald Tenywa, "NEMA gives damning report," *New Vision*, 22 January 2000: 24.
[99] Idem., "Wetland destruction will push up water prices," *New Vision*, 12 November 2006: 12.
[100] Catherine Ntabadde, "Nakivubo Channel complete," *New Vision*, 23 August 2003: 3.
[101] "Gazetting Nakivubo," *WetNews*, January-June 2002: 6.
[102] Gerald Tenywa, "Nakivubo wetlands reserve work begins," *New Vision*, 28 August 2004: 4.
[103] Idem., "Gov't to gazette Nakivubo as a protected area," *New Vision*, 30 September 2003: 18.
[104] Idem., "Nakivubo shrinks as Government looks on," *New Vision*, 31 October 2004: 34.

officials planned to evict yam farmers from Nakivubo to regenerate papyrus, which would filter some of the organic material from the increased volumes of effluent coming from the factories and sewerage.

In 2004, the WID also entered into an agreement with Uganda Breweries Limited that was one of the first payments for watershed services in Africa. The company is a subsidiary of Diageo, a United Kingdom-based conglomerate that in 2005 had the highest global revenue of any alcohol corporation.[105] They paid 25,000 USD in recognition of their impact on Nakivubo wetland.[106] In 2005, a study by Lake Victoria Environmental Management Project, another World Bank-sponsored project, showed that this brewery contributed between 60-93% of the total mass in various categories of pollutants entering Lake Victoria from factories in Uganda.[107] A 2009 review of Payment for Watershed Services projects in Sub-Saharan Africa asserted that, "as a payment initiative for water services […] the company installed technology to reduce its wetlands pollution and funded the government's public education efforts about wetlands." This was one of twelve payments that the review identified from hydro-electric power suppliers, industrial users (like the brewery), municipal water suppliers, irrigation water users, and general tax revenues; in 2009, there were two such arrangements ongoing, both in South Africa.[108] It is unclear if the 25,000 USD included the costs of the technology and education, or only the latter. However, the effectiveness of the 25,000 USD payment in conserving Nakivubo was limited – the EEV identified its value for water purification alone as 1.7 million USD annually.

With the stalled gazettement of Nakivubo and the continued discharges of effluents,

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[105] David H. Jernigan, "The Global Alcohol Industry: An Overview," *Addiction* 104, Supplement 1 (2009): 7.
[106] Alice Ruhweza, Byamukama Biryahwaho, and Charlotte Kalanzi, "An Inventory of PES Schemes in Uganda" (Washington, DC: Forest Trends, 2008), 18.
[107] L. Okwerede et al, "Industrial and Municipal Effluents Management in the Riparian Region of the Ugandan Portion of Lake Victoria," in *Final Report on Water Quality Synthesis for LVEMP I*, eds. Fredrick J. Muyodi and Robert E. Hecky, 73-99 (n.p.: Ministry of Water, Lands and Environment, 2005), 82, 83, 95.
[108] Paul J. Ferraro, "Regional Review of Payments for Watershed Services: Sub-Saharan Africa," *Journal of Sustainable Forestry* 28, nos. 3-5 (2009): 526, 529.

water quality worsened further. In 2006, *New Vision* found that water treatment costs had "more than tripled in the last 10 years" and argued that Kampalans "should brace themselves for harder times as water prices are likely to shoot up following the rampant destruction of wetlands."[109] As increasing amounts of effluent had passed through decreasing amounts of papyrus, water purification costs rose. Whereas NWSC did not add aluminum sulphate to purify water in 1992, they added 22 milligrams per litre in 1993, 31mg/L by 2000, and 55mg/L by 2006.[110] A 2008 *New Vision* editorial lamented the fact that the gazettement remained incomplete, and declared that, "[i]t is absurd that over a million consumers of piped water in and around Kampala have to pay the price because of some 200 encroachers."[111] In an interview, Banage summarized changes in Kampala wetlands by saying that, "the biological conflicts are becoming very evident. In terms of water supply in Lake Victoria, for instance, my water bill keeps on going up simply because of the cost of purifying water, because of the pollution."[112] With rising economic pressures and ongoing environmental change particularly since the 1990s, conservationists have defined the value of Nakivubo in monetary terms.

Resorts: Conferencing and Fundraising in Reclaimed Wetlands, 1998 to 2016

After industrial infilling and waste disposal, the next issue that conservationists targeted for regulation was the construction of resorts. Factories have depended on the continued presence of water and papyrus in adjacent wetlands, but resorts promise their absence (besides swimming pools) because conference-goers and golfers want clear, dry environs. This leaves resorts without incentive to promote wetland conservationism – except when conservationists rent their

[109] Tenywa, "Wetland destruction will push up water prices," *New Vision*, 12 November 2006: 12.
[110] Loy, "The Legal Framework for the Management of Wetlands in Uganda," 49.
[111] Editorial, "Gazette Nakivubo wetland now," *New Vision*, 2 February 2008: 8.
[112] Banage, interview by author, Kampala, 14 February 2020.

facilities. Constructing Speke resort meant infilling more than 36 hectares of the wetland that defined the boundary between the city and the lake.[113] Yet, in 2005, when Uganda hosted wetland conservationists from around the world for the Ninth Conference of Parties to the Ramsar Convention (COP9), they used Speke resort because of the rareness of its facilities. Meanwhile, the construction of a hotel by the Uganda Golf Club became the first major conflict in Kampala for which Ugandan wetland conservationists found government support outside their ministry – but NatureUganda, the leading NGO active in bird and wetland conservation in the country, later hosted a fundraiser there. Facing constrained options for space in Kampala, conservationists have rented these places to develop their international reputations and to fundraise.

The construction of Speke resort was the first project in Kampala to receive sustained conservationist critique after the enactment of the 1995 environmental laws. The name of the corporation holding the resort – Speke Hotels 1996 Ltd – indicates that it came into existence shortly after their creation. It became one of the most popular resorts for foreign tourists and a place for wealthy Ugandan families to meet, relax, exercise, and eat. Ruparelia's wealth and connections also drew the attention of conservationists eager to set an example. WID officials tried to limit the expansion of the resort. In an interview Namakambo said,

> I watched Munyonyo Resort grow.[114] They started from a small dryland area, and then they kept filling in until they reached the shoreline. We had battles with the owners at some point when we were doing monitoring, but of course we were overwhelmed, and they went on. [...] They say 'We have stopped', but before you

[113] "FAQs," Speke Resort, https://www.spekeresort.com/faqs/ (accessed 10 August 2021).
[114] It is often called Speke Resort Munyonyo or Munyonyo Resort, because of its neighhourhood.

> know it, they continue. […] We tried to put, like I told you, the case [to court]. Then it died somewhere in the middle. Then you're discouraged. Before you know it, they have filled the whole wetland with murram. You can't regrow it. We don't have the ability to regrow it. If our department had the kind of machinery to remove murram from places – but we didn't have it. It's already dumped there, you can't remove it. [...] By the time they report they are filling in, they have actually gone into another area [...] or they have even put a structure.[115]

WID officials and Ruparelia's firm communicated back and forth about legal and institutional issues because the former lacked the resources to act materially. Meanwhile infilling expanded, which conservation officials have been unable to reverse.

The back-and-forth began in 1998. Amooti reported that conservationists realized that Speke resort "was busy filling Munyonyo swamp with murram" for facilities including a merry-go-round, six squash courts, six tennis courts, an equestrian club with a show jumping ring, a clubhouse with a restaurant, luxury cottages, and a marina with 20-30 rental boats.[116] Member of Parliament (and future Vice President) Gilbert Bukenya complained in Parliament that NEMA "abruptly stop[ped]" the work after approving it.[117] In response, the NEMA Executive Director sent a letter to *New Vision* asserting that Speke resort never received approval, nor did NEMA "stop the entire Munyonyo Project. NEMA's primary concern was the lake edge wetlands which the developer had started to fill."[118] Later, Amooti reported that, "NEMA itself has never gone

[115] Namakambo, interview by author, Kampala, 3 March 2020.
[116] Ndyakira Amooti, "Kampala wetlands sacrificed," *New Vision*, 3 March 1998: 14.
[117] Jennifer Bakwaya and Katriona Gillespie, "NEMA attacked over Sudhir project," *New Vision*, 4 March 1998: 36.
[118] Emmanuel Mukanga, "Here's why NEMA stopped Sudhir at Munyonyo," *New Vision*, 10 March 1998: 5.

back to check on the development. […] Nevertheless, while NEMA has been playing tough with the Munyonyo development, other wealth hunters in wetlands are reclaiming the wetlands with impunity."[119] Yet, conservationists also failed to limit the expansion of Speke resort. In 1999, *New Vision* reported that the resort "and several other developers […] are reclaiming the central permanent wetland [there]. Neighbours are bitter. This area has been their source of livelihood […] Behind the structures, women can be seen harvesting the reeds. In the past, this green corridor […] was covered with tall papyrus."[120] In 2000, NEMA ordered Speke resort to stop reclaiming the wetland.[121] However, conservationists lacked the resources needed to prevent its investors from expanding their control of the wetland.

Despite the construction of Speke resort contradicting with wetland conservationists' proposals, they used it to host COP9. Mafabi said in an interview that this was "very controversial [...] the hosting of the meeting in Munyonyo was really a fallback position. The choice we had then was to move the meeting to another country." There was another place with facilities sufficient for the conference – the International Conference Centre, later renamed the Kampala Serena Hotel – but it was blocked off in preparation for the 2007 Commonwealth Heads of Government Meeting.[122] Heads of Government outranked conservationists, leaving WID officials with the option of hosting the meeting on a paved wetland or giving up the opportunity. They chose the first option. The combination of their international ambitions plus economic pressures on land in Kampala prompted them to reconceptualize the reclamation of Munyonyo wetland in terms of its utilitarian value.

COP9 also attracted controversy regarding restrictions on journalism. The Kampala-

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[119] Amooti, "1998," 18.
[120] Robert Kasozi, "Developers encroaching on Kampala's wetlands," *New Vision*, 16 November 1999: 21.
[121] Charles Wendo, "NEMA blocks Sudhir," *New Vision*, 22 June 2000: 4.
[122] Paul Mafabi, interview by author, Kampala, 12 February 2020.

based author of a letter to the *New Vision* editor asserted that, "[b]anning Tenywa from Munyonyo during the Ramsar summit is very telling indeed" of the propensity for wealthy Kampalans to limit the circulation of knowledge about their practices.[123] Yet, conservationists have remembered COP9 – hosted atop an infilled wetland – mainly as the time when Uganda made its mark on the international wetlands community.

COP9 followed another controversy that had begun after the start of construction on Speke resort, yet concluded before 2005. Rather than being on the edge of Kampala, this was in the centre: it concerned the construction of a hotel by the Uganda Golf Club on almost three hectares of wetland in Centenary Park. This project marked the first instance when several politicians joined wetland conservationists in voicing critique. The golf course dated to the early colonial era, although almost no archival records substantiate its history. In 1931, golfers complained to the Chief Secretary of the colonial government about birds taking their balls; he issued permission to shoot them.[124] However, the location of the course – nestled at the bottom of a central Kampala valley and adjacent to a wetland – hints that its creation required draining the area and replacing papyrus with grasses more conducive to golfing. Yet, even after shooting the birds and removing the papyrus, the golf club posed a challenge to wetland conservationists.

In the late 1990s, the golf club proposed replacing the adjacent wetland with a hotel. People had contested ownership of this wetland for decades. *New Vision* reported that was allocated to the Uganda Muslim Supreme Council who were "deprived of it without compensation" (but without specifying who performed the allocation and deprivation, or when), and that Amin later gave it to the Libyan government to develop an Islamic cultural centre.[125] However, construction never started. The government later designated the place Centenary Park.

[123] Fred Mukasa, "Tenywa, expose more culprits!," *New Vision*, 22 April 2006: 9.
[124] Uganda National Archives, Secretariat Topical – Agriculture, Forestry, Game and Veterinary, 3/H. 087-004/1-2.
[125] Emmanuel Mulondo, "Golf Course plot belonged to UMSC – Nsambu," *New Vision*, 19 April 2000: 5.

A 1995 *New Vision* editorial claimed that various developers had "been struggling since 1986 to take over the land […] for construction of offices, hotels and showrooms" – and that the golf club had recently purchased it from the government for 500 million shillings.[126] The value of the investment went on to total 2 million USD.[127] The struggle to control this wetland changed from a conflict between investors to one between conservationists and its owners.

In 1999, Golf Course Holdings submitted a proposal to NEMA for the hotel. WID officials advised against it. In January 2000, NEMA officials said that their EIA and blueprints were inconsistent and requested a new EIA. In February, NEMA approved the new EIA.[128] In March, the club began fencing the wetland.[129] There was "a public outcry" and "MPs on the natural resources committee […] called for" its stoppage because "there will be flooding in the city," according to *New Vision*.[130] *WetNews* reported that NEMA replied that 'at the time the [EIA] was carried out, the existence of a wetland portion within the plot could not be discerned as the area by then was occupied by a settlement of destitute street children' – although the Minister of State for Environment found it 'difficult to believe that […] highly trained technical officers […] could have missed […] the presence of a wetland'.[131] NEMA officials used the presence of impoverished Kampalans in a wetland to justify inaction against the construction of a hotel that would displace those same people. Adding to the controversy, *New Vision* reported that "a group of Kenyan based Asians" owned Golf Course Holdings and that Member of Parliament John Ken Lukyamuzi alleged "an employee in the President's Office was fronting for [the]

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[126] Editorial, "Keep the park!," *New Vision*, 18 October 1995: 4. In 1995, the UGX:USD exchange rate was 923:1, making 500 million shillings worth around $542,000 (United States Department of the Treasury, "Treasury Reporting Rates of Exchange as of March 31, 1995," 4).
[127] Reint J. Bakema and Paul Mafabi, "Towards Sustainable Wetlands Management: The Ugandan Experience," in *Wetlands of Ethiopia: Proceedings of a Seminar on the Resources and Status of Ethiopia's Wetlands*, edited by Yilma D. Adebe and Kim Geheb (Nairobi, Kenya: IUCN, 2003), 97.
[128] "Environment in Peril from Golf Course Hotel Development," *WetNews*, March 2000: 7-8.
[129] Bakema and Mafabi, "Towards Sustainable Wetlands Management," 97.
[130] Betty Kagoro, "House opposes Kitante golf course hotel," *New Vision*, 6 April 2000: 5.
[131] "Environment in Peril from Golf Course Hotel Development," 7.

Kenyan investors."[132] WID officials found some support within Parliament.

Yet, other central government officials including MPs advocated for it. After the State Minister for the Environment intervened against the hotel, the Minister of Water, Lands and Environment intervened on its behalf (indicating the challenges of decentralization). Parliament approved the hotel soon afterwards.[133] Lukyamuzi organized a protest – which he cancelled after police forbade it.[134] Ugandan NGOs Green Watch and the Advocates Coalition for Development and Environment made an application for a temporary injunction against the hotel, but a High Court judge dismissed it.[135] A range of officials supported the investors in completing the project.

In 2003, when WID officials attended a workshop in Ethiopia to share the Ugandan experience with wetland conservation, they opened with an account of this conflict. They identified it as the first major public mobilization in Uganda around wetlands, and claimed that it showed that, "wetland issues […] are in the public domain, and if not handled properly, can do tremendous damage to one's image and professional or political future. For many Ugandans concerned about the environmental future of their country, this should be a heartening realisation."[136] Mafabi said in an interview that this conflict "put a test to the government [...] Of course, the developers took the day. But that's how it is. […] It still did not diminish the government wetland conservation program."[137] This conflict marked the start of collaborative relationships between wetlands officials and certain politicians. However, it also revealed the extent to which the government could bend neoliberal law enforcement mechanisms to suit monied interests.

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[132] Margaret Muhanga, "State House linked to Golf Course saga," *New Vision*, 20 April 2000: 5.
[133] Betty Kagoro, "MPs clear Golf hotel," *New Vision*, 26 April 2000: 5.
[134] Emmanuel Mulondo, "Police block Lukyamuzi demonstration," *New Vision*, 29 April 2000: 3.
[135] Yunusu Abbey, "Court clears Golf Course hotel," *New Vision*, 24 March 2001: 4.
[136] Bakema and Mafabi, "Towards Sustainable Wetlands Management," 97.
[137] Mafabi, interview by author, Kampala, 12 February 2020.

Yet, conservationists have also made use of the club. In 2016, NatureUganda hosted a fundraising tournament at the Kampala Golf Club: "Save the Last Crane. Plant the Next Tree." Their newsletter claimed that,

> Golfing is linked with conservation with most of the golf courses/clubs boasting of lush green and cool environments dominated by trees which are a habitat to many bird species. [...] At the same time golfers and the golf game are historically closely linked with conservation of birds including scoring of points in the game. For example a score will be called a birdie, an Eagle, an Albatross or a Condor. These are all names of birds.[138]

The Acting Commissioner of the Ministry of Tourism, Wildlife and Antiquities repeated this claim almost verbatim to *New Vision*.[139] Yet, the course's location in a Kampala valley, the hazard posed by the club to ball-seeking birds since its early years, and the recent controversy regarding the hotel undermine the idea that golf is linked with conservation. Nonetheless, following the economic pressure put on this wetland by investors, conservationists have rethought its value to emphasize their own monetary interests.

The conflict regarding Speke resort preceded that regarding the golf club, although wetlands officials found that broader government support only became forthcoming during the latter. While this chapter cannot explain the absence of a controversy, it can compare and contextualize these histories. Speke resort is on the edge of Kampala, whereas the golf club is in the city centre, increasing the visibility of the latter. Additionally, Ruparelia is Ugandan whereas

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[138] "NU moves to save the Grey Crowned Crane," *The Naturalist* 20 (2016): 6.
[139] Michael Nsubuga, "Golfers to play to conserve the Crested Crane," *New Vision*, 3 May 2016, https://www.newvision.co.ug/new_vision/news/1423716/golfers-play-conserve-crested-crane (accessed 3 March 2019).

the golf club investors were Kenyan, which may have made the latter project less appealing. However, anti-Indian sentiment in Uganda has often excluded Ruparelia and other "city tycoons" from popular conceptualizations of citizenship.[140] Although racial politics did not manifest explicitly in print discourse during the controversies regarding Kampala wetlands, they soon came to define Uganda's first environmental protest, when "members from every corner of civil society arrived in Kampala for what was supposed to be a peaceful demonstration" against the degazettement of a Forest Reserve. At this 2007 rally, signs proclaiming 'For one tree cut, five Indians dead' and 'Uganda for Ugandans' indicated the intentions of some participants, who eventually rioted leading to five deaths including the stoning of "an Asian of Indian descent." This was the largest protest in Ugandan history until at least 2009 – the protests of 2016, 2020, and 2021, regarding elections and a change to the constitution allowing President Yoweri Museveni to continue ruling, likely surpassed it.[141] Despite the political promises of national independence for race relations, and rationalist promises of neoliberalism for conservation, tensions over wetland degradation have continued to unfold along racial and socioeconomic lines in Kampala – becoming explicit and violent in 2007. However, regardless of their earlier opposition to the Kampala resorts, conservationists facing limited options later used one to develop their international reputation via conferencing, and the other to fundraise.

Housing: Demolitions and Evictions in Nakivubo, 2003 to Present

Although poorer Kampalans have built houses in wetlands since the twentieth century, wealthier residents and outside investors began building houses there at the turn of the twenty-first. They

[140] Anneeth Kaur Hundle, "The Politics of (In)security: Reconstructing African-Asian Relations, Citizenship and Community in Post-Expulsion Uganda" (PhD diss., University of Michigan, 2013).
[141] Keith Child, "Civil Society in Uganda: The Struggle to Save the Mabira Forest Reserve," *Journal of Eastern African Studies* 3, no. 2 (2009): 50, 65.

have experienced floods with increasing frequency – and people living in shacks have faced more problems than have those in apartments, bungalows, and mansions. Furthermore, when they leave home each morning and return each evening, they traverse the inclines bordering Kampala wetlands differently: some drive cars, more take taxis, but most walk. During floods, pedestrians in poorer neighbourhoods often go single file on the small walls of sandbags that communities have placed to control water in reclaimed wetlands. Conservation officials have demolished structures and evicted people, although poorer Kampalans have been the majority of those affected. This trend marked the gazettement of Nakivubo, which ultimately distinguished between, on one hand, the slum housing that characterized the neighbourhood of Namuwongo on one bank of the wetland plus some of the housing in the neighbourhood of Bugolobi on the opposite bank, and on the other, Bugolobi's most expensive structures. This inconsistency came after the owners of much of the wealthier housing built atop reclaimed lands from which poorer Kampalans had been evicted.[142] Conservationists have been largely unable to undo this movement, as KCC continued issuing land titles to the owners of these investments against the wishes of wetlands officials, according to Banage in an interview and *New Vision*.[143] Under neoliberalism, conservation officials have applied environmental laws unequally.

The greater ability of wealthier Kampalans to procure land titles and development plans complements their greater capacity to reclaim large areas of wetland within short spans of time. In an interview, Namakambo said that NEMA has evicted poor and wealthy people from Kampala wetlands, "but most of them are the low-income earners who are doing cultivation, their shack buildings, they are the ones who first go in. They begin to nibble it and they are

[142] Wendo, "Cost of Kampala water will rise," 33. Ogwal Joseph, "Gazetment of Nakivubo Wetlands Reserve, Kampala: The first experience!," *WetNews*, July 2005: 7.
[143] Banage, interview by author, Kampala, 14 February 2020. Catherine Kigozi, "K'la destroys wetlands," *New Vision*, 29 May 2001: 7. Charles Wendo, "100 encroach on city vital wetland," *New Vision*, 13 January 2003: 3.

many. So there are many affected parties, compared to one developer who comes. The impact of the one developer who brings murram does more damage, but you're dealing with one individual, who can cover a very big area again, in one day. On a Sunday, while you're not working."[144] Conservation officials have been somewhat effective in conducting demolitions and evictions affecting poorer Kampalans in Nakivubo, but less so regarding the structures of wealthier Kampalans and outside investors. This is because wealthier Kampalans have reclaimed wetlands faster than conservation officials have intervened, because of the difficulties of removing murram and concrete, and because of the possibilities created by corruption and neoliberalization for buying desirable outcomes.

Even before gazetting Nakivubo, WID officials were initiating evictions there. In August 2003, Tenywa reported that KCC demolished a house at a plot in Bugolobi – for the third time. They also arrested the site engineer. The KCC environment officer told *New Vision* this happened "without her endorsement […] because it did not provide for compensation of the land and house owners. Paul Mafabi […] blamed KCC for laxity in enforcing the law [and] continu[ing] to approve building plans in the wetlands. 'We will break down more houses. But we have to begin by discouraging new encroachment on the swamp', Mafabi said." The footprint of the rubble that *New Vision* photographed was smaller than that of the average Bugolobi house (in my estimation, see Figure 6.4).[145] While conservation officials demolished some housing in Bugolobi, overall demolitions and evictions affected poorer residents more than wealthier ones.

[144] Namakambo, interview by author, Kampala, 3 March 2020.
[145] Gerald Tenywa, "KCC razes house built in wetland," *New Vision*, 28 August 2003: 3.

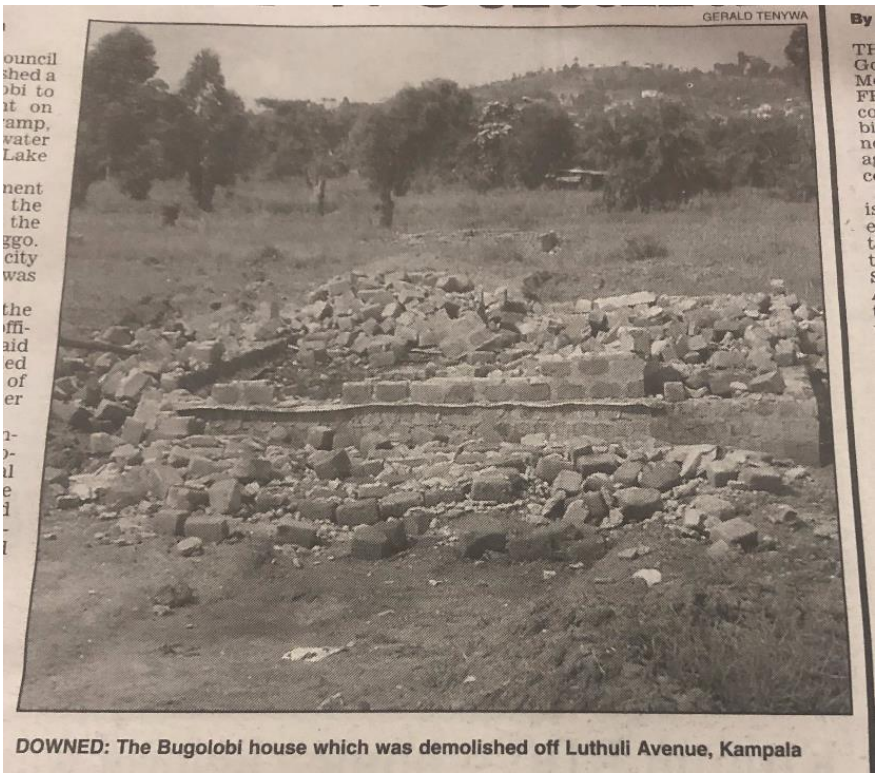

Figure 6.4: Demolished house in Bugolobi *(Gerald Tenywa, "KCC razes house built in wetland," New Vision, 28 August 2003: 3)*.

On a larger scale, however, gazettement excluded much of Bugolobi from the official boundaries of Nakivubo. Tenywa wrote that, "swamp boundaries have been adjusted to favour rich property owners who have encroached on the natural boundaries of the swamp at Bugolobi."[146] He and a *New Vision* colleague wrote that the adjustment would "accommodate tens of encroachers in Bugolobi while hundreds of poor ones on the Namuwongo side will be thrown out" because "environment authorities could not evict heavy-weight encroachers in Bugolobi." They reported that Mafabi indicated this was because KCC, NEMA, and WID officials "agreed that due to socio-economic reasons, they could not evict long-established encroachers who had erected expensive structures." However, they also reported his assertion that "the decision was [not] made to favour powerful people. 'We don't know them. We don't

[146] Ibid.

know who is big. But our understanding is that nobody is above the law', he said."[147] Mafabi's contradictory remarks argued that conservation officials were not favouring one group of wetland users – but did not dispute the journalists' assertion that they had applied the law unequally to the benefit of wealthy investors, whose "expensive structures" have greater environmental impacts than those of poorer wetland users' structures. Under neoliberalism, attempts at law enforcement have failed to overcome the ability of moneyed interests to prevent actions that would be contrary to their claims to property.

Only some owners of housing slated for demolition were to receive compensation. The Deputy Executive Director of NEMA told *New Vision* that the requirements for being compensated included having a land title and an approved plan for the demolished structure.[148] The residents of shacks could not meet these criteria, although they were attainable for some residents of small multi-room houses. Questions about compensation for demolitions deepened conservationists' reconceptualization of wetlands in monetary terms – and wetlands officials answered them in a way that favoured people with enough money to navigate the Kampalan bureaucracy.

Conservation officials faced institutional limits and localized opposition in pursuing these evictions. Due to a lack of funds, they did not proceed with the eviction orders immediately. Then in 2005, NEMA announced their intent to proceed with evictions in Bugolobi, Namuwongo, and other parts of Nakivubo.[149] *WetNews* reported that as they continued their gazettement in the lower- and middle-income neighbourhood of Kitintale, residents "were outraged [… and] castigated the Government for having an agenda to sell 'their land' to

[147] Charles Wendo and Gerald Tenywa, "Bugolobi swamp encroached upon," *New Vision*, 25 April 2003: 2.
[148] Gerald Tenywa, "No pay for encroachers," *New Vision*, 29 July 2004: 4.
[149] Anne Mugisa, "NEMA to evict Kampala wetland encroachers," *New Vision*, 4 March 2005: 4.

investors!"[150] The use of scare quotations reinforced the fact that while WID officials did not plan for investors to take these lands, they also disagreed with the idea that they belonged to the people who had reclaimed them. However, facing legal complications following the high-profile demolition of a house in 2005 (see next paragraph), they backed off Kitintale. In 2009 Tenywa reported that the remaining wetland between the "plush houses" of Bugolobi and the "slum" housing in Kitintale and Namuwongo were disappearing.[151] With few alternatives, poorer and wealthier Kampalans have continued reclaiming Nakivubo for housing – and conservationists have faced the financial challenges of legal battles associated with demolishing the house of a prominent person.

The 2005 incident was the highest-profile demolition by conservationists in Kampala wetlands. It targeted the Kitintale house of KCC councilor – and former professional boxer – Godfrey Nyakaana. His athletic and political careers made him prominent enough to draw regulatory attention, but not powerful enough to protect his investment. Namakambo said in an interview that, "[i]t was tough" and recalled "sleepless nights" coordinating between KCC, NEMA, and WID officials – but that Nyakaana's visibility would draw attention to conservationist opposition to housing in Kampala wetlands.[152] As they conducted the demolition, police arrested Nyakaana for punching an officer.[153] Tenywa said in an interview that, "at one point Nyakaana mistook me for a NEMA official and wanted to take me on, but by the time he reorganized, I had slipped through the crowds." Yet Tenywa also expressed a degree of regret: "[i]t's good to expose these fellows, and for government to come to act. […] But then, there's some bit of injustice. If you go where Nyakaana's house was, all over people have constructed.

[150] Joseph, "Gazetment of Nakivubo Wetlands Reserve, Kampala," 7.
[151] Gerald Tenywa, "Bugolobi-Kitintale swamp in danger of extinction," *New Vision*, 6 July 2009: 20.
[152] Namakambo, interview by author, Kampala, 3 March 2020.
[153] Steven Candia and Gerald Tenywa, "Police quiz Nyakaana," *New Vision*, 11 January 2005: 1.

Some of them are permanent. You end up questioning yourself. Why was Nyakaana's house not? So sad. In some cases, government is not consistent. […] Someone's house will not be broken down because he is related to so-and-so, he has talked to so-and-so, so-and-so has called."[154] Nyakaana started a lawsuit against NEMA, which in 2009 the Constitutional Court dismissed.[155] He was a KCC councilor and a fly- and lightweight boxer, but could not muster the power of the financial and political "heavyweights" who have continued to infill Kampala wetlands.

Soon after the demolition, *New Vision* published a photograph of Kampala Mayor John Ssebaana Kizito's house. The caption identified it as "in Bugolobi wetland."[156] The newspaper had drawn attention to Kizito's house previously, when NEMA declared it outside Nakivubo.[157] An editorial cartoon critiqued the decision by depicting a NEMA official squinting at a metre stick amidst papyrus and frogs.[158] Mayor Kizito was able to obtain government permission for his housing whereas Councilor Nyakaana was not, which the newspaper identified as evidence of the malleability of laws based on individual power.

Even before gazetting Nakivubo, conservationists had understood reclamation by poorer and wealthier Kampalans differently: as a gradual process involving many people without much power, and a sudden process sponsored by a few powerful people, respectively. They concentrated their enforcement efforts on the former. Gazettement entrenched this inconsistency as people with sufficiently large structures circumvented sanctions. In many cases, the owners of these structures built them on land that poorer Kampalans had reclaimed for their own structures – prior to demolition and eviction by officials representing a complex and seemingly ever-expanding bureaucracy whose capacity for environmental law enforcement ends somewhere

[154] Tenywa, interview by author, Kampala, 3 February 2020.
[155] Edward Anyoli, "Nyakaana loses case against NEMA," *New Vision*, 10 October 2009: 4.
[156] Andrew Ndawula Kalema, "The wetland battle rages," *New Vision*, 16 January 2005: 12, 17.
[157] Gerald Tenywa, "Ssebaana cleared, Nyakana [sic] loses home," *New Vision*, 14 July 2004: 1.
[158] Mr. Ras, Untitled, *New Vision*, 15 July 2004: 11.

between shacks and mansions.

Conclusion: Neoliberalizing and Recentralizing Wetlands in Kampala

Since the colonial era, private investors and government officials in Kampala have marginalized the people who live and/or work in wetlands. However, as land has become increasingly scarce there, reclamation has been the only way for people of all socioeconomic statuses to gain space in Kampala for their housing and/or enterprises. In a city where not-for-sale signs are "near-ubiquitous," places characterized by papyrus and toxic effluents have become increasingly compelling. The infrastructure that Kampalans have built in wetlands now represents a wide range of society: factories, sewerage, yam plots, resorts, mansions, shacks, walls of sandbags, and more. Yet, conservation officials in Kampala have done little to work with community-based groups to manage these environments, despite having noted the existence of a group harvesting grasses in Nakivubo.

People seeking land in Kampala have not been the only ones to reconsider the value of wetlands there. Conservationists have identified the significance of Kampala wetlands in purifying the city's drinking water, as well as providing protection against floods. To maintain these functions, wetlands officials initiated one of the first payments for watershed services in Africa. However, the amount of the payment that they were able to obtain paled in comparison with the value of the water purification services they identified. Conservation officials have also overseen evictions of poorer and wealthier Kampalans from wetlands – but these orders have primarily targeted the former. This inconsistency has been compounded by the fact that evictions of yam farmers and shack owners were often followed by wealthier Kampalans moving in. If the next users of a space are wealthy enough to build structures that have institutional and/or

physical defenses against demolition, conservation officials are unlikely to evict them. And when these structures have had facilities without accessible equivalents in Kampala, conservationists have rented them for conferencing and fundraising.

Through their engagements with law enforcement, *New Vision*, and a range of donors, conservationists have reconceptualized Kampala wetlands in monetary terms. When law enforcement failed to deliver results, conservation officials went to *New Vision* and found that often this required money. Meanwhile, conservationist journalists faced bribery and intimidation sponsored by wealthy investors. Aside from conservationists, poorer and wealthier Kampalans have also understood Nakivubo in monetary terms: as land that can be used with low economic barriers, either to yield a profit (via factories, resorts, yams, and more) or to build housing. In response, conservationists quantified the monetary value of water purification via Nakivubo. However, conservationists' reconceptualization of Kampala wetlands has led to them renting resorts they had once fought against, as well as to selective demolitions and evictions facilitating the displacement of shacks by mansions. Neoliberalism in Kampala has offered different opportunities to poorer and wealthier Kampalans, and these differences have both caused and been caused by conservationists reconceptualizing wetlands in monetary terms. Despite having initially promoted the concept of ecosystem services to analyze rural communities' wetland usage, conservationists applied this concept to obtain payment for the industrial use of a Kampala wetland – incorporating changes in scientific knowledge into the recentralization of power in Uganda.

Ultimately, rain may impel what conservationists have not, especially with global climate change. A Makerere student observed that many structures in Kampala wetlands lack proper

drainage, as "proved by floods, which time and again try to reconquer their lost territories."[159] Pantaleon Kasoma, emeritus Makerere ornithologist, said in an interview that "even the big resorts […] are getting flooded, basically because they removed wetlands."[160] Mafabi said in an interview that, "the water has now started coming back" at Speke resort.[161] Flooding may displace wealthier Kampalans from infilled wetlands, but will impact poorer Kampalans to a greater extent.

[159] Loy, "The Legal Framework for the Management of Wetlands in Uganda," 76.
[160] Pantaleon Kasoma, interview by author, Kampala, 13 February 2020.
[161] Mafabi, interview by author, Kampala, 12 February 2020.

Conclusion:

Historicizing the Gaps between Policy Creation and Implementation

Wetland reclamation and conservation have transformed Uganda. Since the early twentieth century, farmers with varying levels of wealth have drained and claimed areas in wetlands – and have since expanded reclamation across the country to produce foods such as dairy, potatoes, and rice. Furthermore, investors have infilled wetlands to construct factories, resorts, and more. In response, conservationists created a national wetlands policy – the first in Africa and the third worldwide. To implement the policy, the national wetlands office has depended upon community-based groups, because under neoliberalism the number of wetlands officials has remained small in comparison with the number of wetlands. There were two officials from 1989 until 1991, when they increased to four.[1] By 2003, they were fifteen, and in 2020 they were 35.[2] Yet, at the end of the twentieth century, officials found that there were about 700 wetlands in Uganda.[3] Given the institutional limitations of Ugandan wetland conservationism, reclamation has continued expanding across the country. Furthermore, conservationism has done little to challenge the neoliberalization that underpins this continued expansion. Analyzing the history of Uganda – which has become one of the most prominent examples worldwide of neoliberalization and decentralization, as well as subsequent recentralization – demonstrates how changes in wetland usage under successive regimes have entrenched and expanded socioeconomic inequalities.

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[1] Paul Mafabi, interview by author, Kampala, 3 March 2020.
[2] Reint J. Bakema and Paul Mafabi, "Towards Sustainable Wetlands Management: The Ugandan Experience," in *Wetlands of Ethiopia: Proceedings of a Seminar on the Resources and Status of Ethiopia's Wetlands*, edited by Yilma D. Adebe and Kim Geheb (Nairobi, Kenya: IUCN, 2003), 106. Lucy Iyango, interview by author, Kampala, 10 February 2020.
[3] Ibid.

Consideration of wetland usage was foundational to the state of Uganda almost from its inception. The Uganda Agreement, which Britain and Buganda signed in 1900 specifying governmental rights and responsibilities, asserted that swamps were "waste lands" yet property of the state nonetheless, should practices they considered worthwhile be possible there.[4] In other words, the government defaulted control of wetlands to people's autonomous uses while reserving the right to assert ownership. The government began increasing its support for reclamation in the late 1940s, when its administrators worried about rising nationalist mobilization and pursued large-scale developmentalism in response, including drainage projects in southwestern Uganda. Early independent governments expanded reclamation, particularly to increase rice production in southeastern Uganda, which accounted for the majority of reclaimed wetland area in the country by the end of the twentieth century.

Ugandan wetland conservationism emerged in response to these changes. In the early 1980s, conservationist officials began opposing reclamation based on its climatological, hydrological, and zoological effects. These included rising temperatures, dried-up wetlands where rural communities could not collect water or harvest grasses, the decline in southwestern Uganda of the morning mists that characterize the region, and the reduction in Grey Crowned Crane populations. In 1984, before the National Resistance Movement (NRM) took power, the Uganda Land Commission banned drainage in much of the rural southwest. The NRM expanded the ban country-wide and approved the creation of a national policy promoting alternative practices.

The creators of the policy focused on community-based conservation projects, which aligned with the dispersed nature of Ugandan wetlands as well as with the NRM's directives for decentralization and neoliberalization. Most Ugandan wetlands are not in Protected Areas,

[4] Uganda Agreement, Britain-Buganda, 10 March 1900, article 15.

meaning that government officials enforcing legal boundaries would be ineffective. The principles of decentralization and neoliberalization further prompted conservationists to promote solutions based on local decision-making and involving minimal government spending. Contributing to an emerging global shift in conservationism, Ugandan government officials and Non-governmental Organization (NGO) personnel began promoting projects based on wetland governance by communities outside Protected Areas. They incorporated changes in environmental thinking into the emerging trend in developmentalism globally towards small-scale community-based projects.

To design and solicit funding for these projects, conservationists developed interdisciplinary knowledges to conceptualize wetlands as dispersed ecosystems from which discrete communities had long derived multiple benefits. The viability of this model depended on the knowledge and participation of communities local to rural wetlands. By reframing the benefits of indigenous knowledges and practices relating to wetlands as ecosystem services, conservationists incorporated their concerns into broader governmental discussions about environmental issues under neoliberalization. In this process, they developed interdisciplinary knowledges yet favoured economic analyses of wetlands. From the late 1990s to early 2000s, wetlands officials applied this thinking to Nakivubo wetland in Kampala and obtained payment from a corporation for its ecosystem services – although the amount was incommensurate with conservationists' valuation of Nakivubo. By repurposing the concept of ecosystem services, conservation officials made changes in scientific thinking part of the recentralization of Uganda. During these years, wetland conservationism also facilitated recentralization through the expansion of the authority of national officials over places outside PAs, manifesting in the evictions of rice farmers and other wetland users.

When Ugandan conservationists promoted community-based projects predicated upon ecosystem services accessed through indigenous knowledges and practices, they did so relatively early in the global history of this approach. Through travel abroad, hosting exchanges of knowledge, contributing to publications, as well as leadership in the Ramsar Convention and other conservationist networks, Ugandans have made their experiences internationally influential since the 1990s. Citizen science in crane counting – which made Uganda the sixth country in the world with such a project, and the third with a project incorporating multiple regions – further enabled conservationists to pursue their aims in a context of limited funding and widespread knowledge about wetlands.

Despite the international influence of Ugandan crane and wetland conservationists, they have had limited capacity to implement environmental change in the country – and instead have focused on the potential for communities to do so. Paul Mafabi explained the Ugandan approach by saying that they "concentrate[d] on the generation of systems, procedures, tools and information for the community management of wetlands."[5] Across rural Uganda, government officials and NGO personnel have advocated decentralized, community-based wetland conservation. Communities in the southwest have embraced their proposals to a greater degree than have those in the southeast, but nonetheless there is considerable opposition there. Unlike in rural areas, in Kampala conservationists have worked primarily through policing and the expansion of central state bodies. It is here that the mutual exclusivity of community-based wetland usage with neoliberalization and recentralization is clearest.

In interviews, Ugandan conservationists assessed the challenges of implementing the national wetlands policy. Adalbert Aine-Omucunguzi, East Africa Regional Manager of the International Crane Foundation, said that, "[t]he budgets given to departments that are supposed

[5] Bakema and Mafabi, "Towards Sustainable Wetlands Management," 106.

to be conservation, are just for them to just operate, minimal operation. So they find no money to go out and do implementation and do sensitization and enforce the law. That is the biggest problem. […] The government has what it calls its priorities. And conservation has not been one of them for a long time."[6] Collins Oloya, Commissioner of the Wetlands Management Department, noted that conservation officials have had limited resources with which to enforce regulations, and that "[t]he rate of wetlands degradation is far surpassing the rate of restoration."[7] Top officials in the central government have not prioritized conservation in their budgeting.

Conservationists have found that inconsistent support from the government has often led to their efforts becoming undone. Paul Sabiiti, former Kabale District Environment Officer, said that the inconsistency of politicians limits policy implementation:

> our policies are on paper, but they are really not on the ground. And there is a lot militating against these policies. Including even people like MPs, who are supposed to be the defenders of these policies. […] Some countries have started later, and they have moved further on than Uganda. I'm told Kenya is ahead. Rwanda is ahead. […] For us here, it is always one step forward and two steps backwards. And then keep rotating around that. So we don't have success stories on the ground. […] I think there's a lot to do with politics.[8]

Teddy Tindamanyire, a former wetlands official, identified election periods as critical in these reversals of conservationist initiatives:

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[6] Adalbert Aine-Omucunguzi, interview by author, Kampala, 30 January 2020.
[7] Collins Oloya, interview by author, Kampala, 9 March 2020.
[8] Paul Sabiiti, interview by author, Kabale, 27 February 2020.

> I remember for instance we had secured, we restored part of Nakivubo […] in Kampala. But in a few months during one of the election periods, I think in 2005, a lot was undone, and the whole wetland almost disappeared, because of one proclamation, a decision made in the political arenas. And that's our basic challenge for now. I see a lot of frustrations especially in many of these restored areas, that once politics gets in, then it's all undone. I remember also the wetland in Lukyekya, which is in Mbarara, we conserved that and then it almost disappeared during the campaigns. Somebody just says "No you go and use it," and it just disappears.[9]

Evas Asiimwe, Kabale District Environmental Officer, and Gerald Tenywa, environmental journalist, also identified elections as crucial periods in the expansion of reclamation.[10] Despite the national policy for wetland conservation, politicians and other central government officials have continued to promote reclamation for political and often financial gain.

Government officials have been particularly inactive in enforcing environmental regulations against the interests of wealthy wetland users. Tenywa said that while some communities have been conserving wetlands, overall "it's a mixture of success and terrible failure, especially in the cities. And one of the drivers of destruction is impunity. The rich people in urban areas don't care."[11] William Banage, emeritus professor and former minister, echoed this assessment of socioeconomic inequality in policy implementation: "[i]f you have a policy

[9] Teddy Tindamanyire, interview by author, Kampala, 10 March 2020.
[10] Gerald Tenywa, interview by author, Kampala, 3 February 2020. Evas Asiimwe, interview by author, Kabale, 27 February 2020.
[11] Tenywa, interview by author, Kampala, 3 February 2020.

you must enforce it. What is the enforcement? They find a poor man, they will break down his house. But what about rich people, building these hotels and so on in wetlands? They haven't been pulled down."[12] When conservation officials have been able to enforce environmental regulations, they have impacted poorer wetland users disproportionately.

Militarized and unequal legal dispossessions in wetlands have reflected a pattern of abuses of land and environmental policies that the central government has perpetrated across Uganda. From 2016-20, Justice of the Court of Appeal Catherine Bamugemereire led the Uganda Land Commission that identified this pattern. According to the national media centre, "[t]he Commission recommended among other issues, the enactment of a distinct wetland law to reverse the tempo at which wetlands are reclaimed in Uganda and to restore degraded wetlands, amend the law to curtail the excessive powers of the chief government valuer and the commissioner for land registration."[13] The creation of a distinct wetland law would give conservationist officials additional grounds for intervening in reclamation, promoting communities' access to wetlands; the latter recommendations would facilitate decentralization in control over land, by empowering local decision-makers to manage land usage. Yet, further change is needed to reverse the neoliberalization that in recent decades has undermined communities' efforts to improve environments and livelihoods and has enabled wealthy wetland users to circumvent environmental regulations.

NatureUganda's Crane and Wetland Program personnel explained in interviews how the neoliberalization of wetlands has limited the potential of community-based projects. While promoting the formation of these groups throughout southwestern Uganda, Jimmy Muheebwa, Project Manager, reflected: "I had two groups of people. Those who didn't own wetlands, and

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[12] William Banage, interview by author, Kampala, 14 February 2020.
[13] "President Museveni receives Bamugemereire Land Commission Report," 29 July 2020, *Uganda Media Centre*, https://www.mediacentre.go.ug/media/president-museveni-receives-bamugemereire-land-commission-report.

those who owned wetlands because they had land titles in the wetland. And it was easier to talk to people who didn't own wetlands, who didn't have titles, because they didn't have any right to use the wetland. But when it came to the rich ones, with the money, with the authority, who had land titles in the wetland, it was very hard to speak to them. They wouldn't like to attend my meetings."[14] This distinction is often gendered, as men own most land in Uganda. Furthermore, Fiona Orishaba, Assistant in-charge of Community Education, found that most participants are women because the potential to obtain cash through the projects is limited.[15] Class and gender divisions within communities have shaped engagement with conservation projects, particularly under the neoliberalization of labour and land.

Beyond generating tensions within communities, neoliberalization has weakened the ability of communities to challenge outsiders pursuing reclamation. The World Bank and associated organizations linked the increased influence of international donors and investors in Uganda with the declining control of the central government and the rise of community-based conservation during the early years of NRM rule. They presented the neoliberalization of the country as a story of democratization and environmental protection, contrasting with abuses of people and environments under previous administrations.

However, neoliberalization has meant ceding ownership of wetlands to wealthy investors against the interests of communities. Furthermore, the NRM has been recentralizing power, including through control of wetlands. As a result, community-based groups have been losing the access to key decision-makers that decentralization afforded while remaining marginalized under neoliberalism. Small-scale farmers have increasingly been reclaiming places for themselves because wetlands available for cropping, fishing, grazing, harvesting materials for buildings and

[14] Jimmy Muheebwa, interview by author, Kampala, 29 January 2020.
[15] Fiona Orishaba, interview by author, Kabale, 28 February 2020.

handicrafts, and water collection have become fewer, smaller, and more fragmented. Nonetheless, Ugandan wetland conservationists continue pursuing community-based conservation in consideration of the economic constraints of neoliberalism, and their successes at wetlands where groups of farmers have been implementing “wetland restoration” by managing areas for growing crops alongside areas for harvesting grasses.

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