Human Migration and Ecosystems: Insights from the Great Lakes Region of East and Central Africa

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International Institute for Sustainable Development

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ACRONYMS

BFE	Bale Forest Enterprise
BMNP	Bale Mountains National Park
BMU	Beach Management Unit
CBO	Community-Based Organization
DFR	Department of Fisheries Resources, Ministry of Agriculture, Animal Industries and Fisheries, Uganda
DRC	Democratic Republic of Congo
ICCN	Institut Congolais pour la Conservation de la Nature
ICGLR	International Conference on the Great Lakes Region
IDMC	Internal Displacement Monitoring Centre
IDP	Internally Displaced Person
IISD	International Institute for Sustainable Development
ILO	International Labour Organization
IOM	International Organization for Migration
UNHCR	United Nations Refugee Agency
USDS	United States Department of State
WCS	Wildlife Conservation Society

1.0 INTRODUCTION

For centuries, people in east and central Africa have used migration as a strategy to respond to shocks, sustain livelihoods and adapt to changes in their environment. The drivers of migration are varied, ranging from the traditional seasonal migration practised by livestock herders to the crisis-driven migration of those fleeing political persecution and conflict. Environmental degradation is both a cause and a consequence of migration, making it difficult for people to sustain their livelihoods in their communities of origin and exacerbating natural resource management challenges at their destinations. In the Great Lakes region of Africa, these dynamics are increasingly complicated, with the drivers and impacts of migration increasing in both scale and complexity. Beyond the direct impacts of migration on the local environment, there is a risk that the growing socio-environmental impacts of migration may incubate or reinforce existing social tensions and institutional failures, in turn further threatening the region's critical ecosystems and the livelihoods these ecosystems support.

Conservation actors, including both policy-makers and practitioners, are not fully aware of the dynamics of migration and the potential impacts on ecosystems and biodiversity. The Migration and Conservation in the Great Lakes Region project attempted to address this gap by: (a) developing a methodology to better understand the drivers and impacts of migration on livelihoods, natural resources, ecosystems and biodiversity; (b) developing recommendations for policy-makers and practitioners working on these issues; and (c) developing a toolkit for conservation practitioners to help them design and implement conservation interventions that are sensitive to the existing and potential impacts of human migration on critical ecosystems.

To achieve these objectives, the project carried out research at three case study sites: the Bale Mountains ecosystem in southern Ethiopia,[1] the Misotshi–Kabogo ecosystem in the eastern Democratic Republic of Congo (DRC), and the Lake Albert ecosystem in Buliisa District in northwest Uganda. The research was carried out through a mix of desk research, site visits and on-the-ground surveys. The International Institute for Sustainable Development (IISD) conducted the research in partnership with the Conservation Development Centre, the Wildlife Conservation Society and the Frankfurt Zoological Society, with the generous support of the MacArthur Foundation.

The purpose of this document is to synthesize learning from the three case studies and provide analysis and recommendations for addressing the impacts of human migration on ecosystems. It is intended for conservation practitioners working in areas under pressure from migration, as well as development practitioners interested in gaining a better understanding of migration-conservation links.

[1] Although Ethiopia is not typically considered to be part of the Great Lakes region, the MacArthur Foundation's definition of the region includes the southern part of the country – see Section 3.

2.0 DRIVERS AND IMPACTS OF HUMAN MIGRATION

In December 2014, the International Organization for Migration (IOM) estimated that international migrants, those people who have left their home to settle in another country, represented 3.2 per cent of the world's population, or approximately 232 million people. In addition, there are an estimated 740 million internal migrants, who have moved within their own countries (IOM, 2014). Given the difficulties in accurately tracking migration, these numbers are likely underestimates. Among the international migrants, the number of South-South migrants slightly exceeds the number of people migrating from South to North. At the end of 2014, almost 60 million people had been forcibly displaced, including 19.5 million refugees (86 per cent of which were hosted in developing countries), 33 million internally displaced people and 1.8 million asylum seekers (UNHCR, 2015). Among the internally displaced, approximately 19 million were displaced by natural disasters, with 91 percent of them fleeing weather-related hazards (IDMC, 2015). Given the dynamic nature of disaster and conflict situations, these numbers can change quickly (IOM, 2014).

Migration is an important factor influencing both demographic shifts (Skeldon, 2013), and economic growth and development (World Bank, 2014). The decision to migrate is typically driven by a combination of factors, which may be economic, social, political or ecological, and are often inter-related. "Push factors" drive people to leave their homes to settle elsewhere. Economic push factors may include poverty and a lack of employment opportunities (Oglethorpe, Ericson, Bilsborrow & Edmond, 2007); however, it has been noted that the poorest women and men generally lack the resources to migrate (Tapinos, 1990, cited in Van Hear, Bakewell & Long, 2012). The social and political issues pushing people to migrate may include discrimination on the basis of ethnicity or gender, violence and conflict, or resettlement policies pursued by government in the country or area of origin. Ecological push factors generally result from natural disasters, environmental degradation or the decreasing availability of important resources such as water and agricultural or grazing land (Oglethorpe et al., 2007). Migration decisions are also influenced by the agency of the individual or household, which is "shaped by people's social position in terms of gender, generation, class, ethnicity and other social cleavages" (Van Hear, Bakewell & Long, 2012, p. 11).

Where migrants settle is often determined by "pull factors" that make a particular country or community an attractive option for those seeking safety and security, new opportunities or a fresh start. The availability of resources such as land, water and forests, employment opportunities, and access to markets are often key factors, as these are critical for initiating and sustaining livelihoods in the destination community. Other factors include safety and security, access to services, and family or social connections. Depending on the context, migration may be temporary (for example, seasonal movements of pastoral communities to access water and pasture) or longer-term, generally defined as a change of residence for more than one year. The move may be planned or it may be forced by disaster, violence or conflict (Oglethorpe et al., 2007).

The literature on impacts of South-South migration on destination communities is limited (ILO, 2010); however, a few key themes emerge. The presence of migrants has both positive and negative impacts on the communities in which they choose to settle. On the positive side, migrants bring new knowledge and experiences—including in natural resource management—to host communities and contribute to the local and national economy (Oglethorpe, et al., 2007; World Bank, 2015; ILO, 2010). Potential negative impacts on host communities include increased competition for jobs and resources, the introduction of new human or livestock diseases and invasive species, and a reduction in social cohesion (Oglethorpe, et al., 2007).

The ability of migrants to positively contribute to the local economy often depends on whether they are based in settlements (and therefore have greater mobility and potential to access land and markets) or in camps. The length of time migrants spent in the host community and their degree of integration into local life (for example in local governance structures and social protection systems) will also influence the nature of the impacts (World Bank, 2015).

Human migration is also a concern for conservation areas. These ecosystems, typically rich in natural resources, can attract migrant populations, leading to local increases in population size and density, changes that can occur rapidly and unpredictably. With growing adjacent populations, critical ecosystems and biodiversity face direct threats such as habitat destruction, unsustainable use of natural resources and increased pollution. Climate change impacts at the local level may drive migration, while increased pressures on ecosystems may exacerbate vulnerability to climate risks and changes. The longer-term consequences of migration for ecosystems include the loss of species and genetic diversity, habitat fragmentation, and the disruption of ecological processes and functions. The ecosystem impacts tend to occur primarily in the host community; however, there may also be impacts in the community of origin (as traditional natural resource managers depart, for example) and along the migration route (Oglethorpe, et al., 2007). Changes in the status of ecosystems and biodiversity can in turn create feedback mechanisms, altering livelihoods, natural resource use practices and migration dynamics.

Photo credit: Alec Crawford
Misotshi-Kabogo ecosystem, DRC

3.0 MIGRATION IN THE GREAT LAKES REGION

The Great Lakes Region encompasses a series of Rift Valley lakes and their watersheds in east and central Africa, stretching from Ethiopia in the north to Malawi in the south (see Figure 1). The lakes that are designated as the Great Lakes are generally considered to include, from north to south, Lake Turkana, Lake Albert, Lake Victoria, Lake Edward, Lake Kivu, Lake Tanganyika and Lake Malawi. The region includes the world's second-largest freshwater lake by surface area (Victoria) and by volume (Tanganyika). Migration in the region is driven by a number of factors. Based on the case studies conducted for this research project, the search for livelihoods, typically natural resource-based, remains a common factor driving the movement of people; from fishers in the DRC and Uganda, to farmers in Ethiopia and the DRC, many individuals and families leave their homes in an effort to improve their economic circumstances through new work. This voluntary economic migration crucially depends on the ability of individuals to access and use natural resources (land, fish) in the host community. The migrants must then be able to make use of the resources: improved access to markets and transportation infrastructure are similarly key motivating factors when people are deciding if and where to move. Should individuals arrive alone, family members often follow, further expanding host communities.

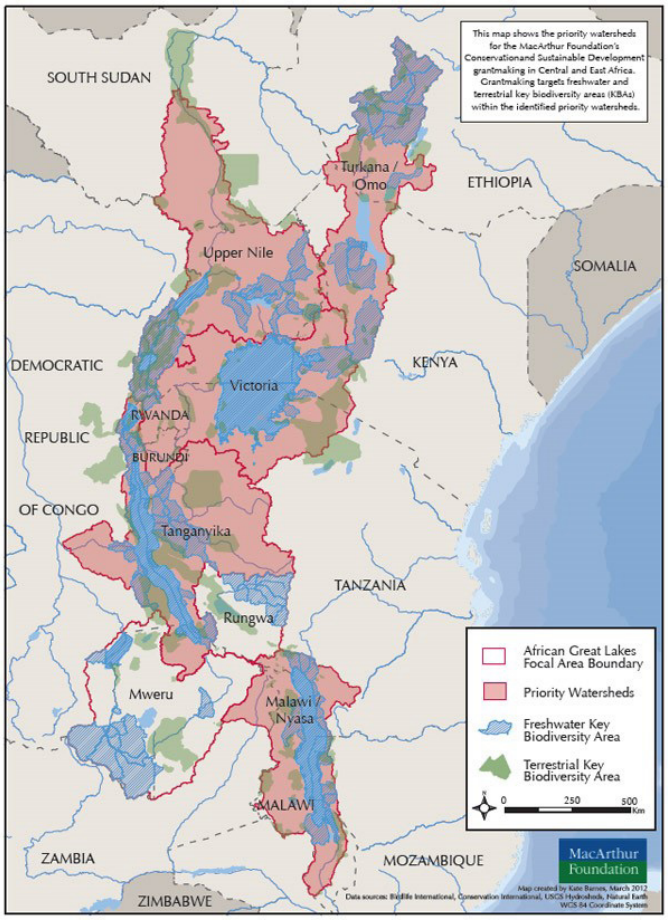

FIGURE 1. GREAT LAKES REGION AS DEFINED BY THE MACARTHUR FOUNDATION

Source: Mac Arthur Foundation (n.d.)

Beyond voluntary decisions to migrate, patterns of forced migration in the Great Lakes region have been significantly influenced over the last few decades by armed conflicts and periods of violence in Rwanda, Burundi and the DRC. Recent analysis by the World Bank found that there were approximately 3.3 million people forcibly displaced in the Great Lakes Region[2] at the end of 2013. Of these, 18 per cent have crossed borders as refugees, and the remainder are internally displaced persons (IDPs).[3] The majority of the refugees and IDPs are Congolese: refugees from ongoing insecurity in the DRC have settled in Uganda, Tanzania, Burundi and Rwanda, with the largest number hosted in Uganda (World Bank, 2015). While conflict is a major driver of migration in this region, these numbers exclude people who have decided to migrate based on other factors, such as

[2] In the referenced report, the World Bank defines the Great Lakes Region as comprising Burundi, DRC, Rwanda, Tanzania, Uganda and Zambia.
[3] These numbers were calculated by the World Bank based on data from UNHCR and the Internal Displacement Monitoring Centre. They represent estimates only – the report acknowledges the difficulties in capturing accurate information for people on the move.

employment opportunities, education or family reunification (Bakewell & Bonfiglio, 2013). One of the key characteristics of migration in the Great Lakes region is the rapid speed with which movements have occurred, particularly during the Rwandan genocide in 1994 and during the First (1996–1997) and Second (1998–2003) Congo Wars in DRC. Also unique to this region is the fact that the majority of displaced people are located in rural areas, in contrast with the global trend of settlement in urban centres (World Bank, 2015). This increases the likelihood of ecosystem and biodiversity impacts (Oglethorpe et al., 2007).

At the policy level, key initiatives include the Peace, Security and Cooperation Framework for the DRC and the Region, which was signed in early 2013. Signatories include the DRC, Angola, Tanzania, Uganda and Rwanda (African Union Peace and Security, 2013). The framework aims to support decentralization, economic development, structural reform and reconciliation, and, while displacement is not directly addressed, it is recognized as a consequence of conflict, and actions to promote peace and security will relieve some of the drivers of migration in the region. The International Conference on the Great Lakes Region (ICGLR) provides for its members a platform for dialogue on peace and security; democracy and good governance; economic development and regional integration; and humanitarian and social issues (ICGLR, n.d.a). In 2006, ICGLR members signed a Pact on Security, Stability and Development in the Great Lakes Region, which entered into force in 2008 and was amended in 2012. The Pact includes a protocol addressing protection and assistance for IDPs (ICGLR, n.d.b). Capacity challenges for each of these initiatives have impeded progress on implementation (World Bank, 2015).

Ethiopian wolf, Bale Mountains National Park
Photo credit: Alec Crawford

4.0 THE CASE STUDIES

To better understand the drivers of human migration and the corresponding impacts on ecosystems, IISD conducted case study research in three important ecosystems in Africa where these processes are underway:

- The Lake Albert ecosystem in Buliisa District in northwest Uganda
- The Bale Mountains ecosystem in southern Ethiopia
- The Misotshi–Kabogo ecosystem in the eastern Democratic Republic of Congo (DRC).

The key features of the three case study sites are presented in Table 1, while the following subsections summarize the findings of each of the case studies. Full case study reports and policy briefs can be found at: https://www.iisd.org/resilience/environment-conflict-and-peacebuilding.

TABLE 1: KEY FEATURES OF THE CASE STUDY SITES

COUNTRY	UGANDA	ETHIOPIA	DRC
Case study site	Buliisa District	Harenna Buluk Woreda	Misotshi–Kabogo
Ecosystem	Lake Albert	Bale Mountains	Misotshi–Kabogo
Origin(s) of migrants	Mostly DRC, also other parts of Uganda, Sudan, Rwanda and Kenya	Other parts of Ethiopia, notably East and West Haraghe and Arsi zones in Oromia	Other provinces, particularly South Kivu; returning refugees
Push factors	Armed conflict Political instability High unemployment	Food insecurity Land scarcity Population pressures Climatic shocks and stresses	Armed conflict Lack of arable land
Pull factors	Employment opportunities in fisheries Family reunification and social ties Access to markets Comparatively better state of fisheries on Ugandan side of Lake Albert	Former military facility Favourable climate Lush vegetation Allocation/sale of public land to migrants by local political elites Success of earlier migrants	Perceived availability of arable land Family reunification Regional stability Market access Transportation network
Migrant livelihood strategies at destination	Employment on fishing boats Fishing-related activities such as fish-mongering	Agro-pastoralism Harvest of forest resources (coffee)	Slash-and-burn farming Hunting Livestock
Conservation issues	Overfishing in Lake Albert	Deforestation in Harenna Forest	Deforestation
Migration-conservation linkages	Availability of cheap labour has increased the number of fishing boats	Demand for agricultural land is higher due to presence of migrants	Increasing populations and the expansion of slash-and-burn agriculture
Longer-term consequences for ecosystems	Fisheries collapse	Loss of habitat for endangered and threatened species Watershed issues Loss of coffee-related livelihood opportunities with deforestation	Loss of habitat for wildlife Changes to the local climate brought on by deforestation Loss of forest-related livelihood opportunities

UGANDA: THE LAKE ALBERT ECOSYSTEM

Lake Albert straddles the border between Uganda and DRC, with approximately half of its area in each country. It is Africa's seventh-largest lake, forming part of the Upper Nile system and fed by the Victoria Nile and the Semliki River. The case study area, Buliisa District, is located on the eastern shore of the lake, on the Ugandan side. It is one of the poorest districts in the country, with 90 per cent of the population living below the poverty line according to the Uganda Bureau of Statistics. Fisheries are a key source of employment, income and food security in the district, with local fishers catching approximately USD 5.5 million worth of fish per year. Households that have the resources, notably land, are also engaged in rain-fed crop agriculture and livestock rearing. The relatively high level of livelihood diversification has likely evolved as a means of building resilience to stresses, particularly climatic ones, which have been intensifying over recent decades.

The lake is home to at least 55 species of fish, at least 10 of which are endemic to Lake Albert, including the endangered Nile perch. It contributes significantly to fish production in Uganda; however, the lake is heavily overfished. Regulation of fishing in Lake Albert is the responsibility of the Department of Fisheries Resources (DFR) under the Ministry of Agriculture, Animal Industries and Fisheries, and at the local level, a fisheries co-management model has been established called the Beach Management Units (BMUs). BMUs are the key community institutions working in partnership with the district DFR office to register fishers, enforce fisheries regulations, develop fisheries management plans and collect data on fish catches. However, they have proven to be largely ineffective, with a lack of transparency and rigour on the part of the BMUs and limited resources and capacity within the local-level DFR structure.

Migration has been a key feature of life in Buliisa District since the 1960s, when migrants began arriving from neighbouring parts of DRC, escaping the conflict and political instability in their home country. Since then, there has been a continuous flow of migrants into the district, primarily from DRC but also from other parts of Uganda and neighbouring countries such as Sudan, Rwanda and Kenya. Although no official statistics on the origin of Buliisa residents are available, it is believed that up to half of the district's current inhabitants are migrants, or descendants of migrants. Most people have come to the area to access economic opportunities in fisheries, farming and livestock, drawn by the productivity of the lake and the perceived availability of unclaimed land. Initially, migrants were able to access land under customary land tenure arrangements. Now, however, most land has now been claimed, so more recent migrants are settling on government land along the lake, which is technically not allowed but is tolerated by local officials due to the important role played by the migrants in the fisheries sector.

The most significant indicator of a link between the migration into Buliisa District and overfishing in Lake Albert is the number of fishing boats in the district. This number has increased at a much faster rate than would have been predicted based on Uganda's natural population growth rate, with the rapid increase attributed to the availability of cheap labour provided by the migrants, as well as the weak enforcement of regulations that would limit the number of boats and reduce the use of illegal fishing gear. As a result, stakeholders report that the size of fish caught has steadily decreased over the last five years, across all species, but particularly for Nile perch. Responding to declining fish catches, fishers are increasingly encroaching on breeding rounds, using illegal fishing methods and targeting smaller and less desirable species such as mukene. Unless action is taken to address these issues, there is a risk that continued migration and overfishing will lead to the collapse of the Lake Albert fishery and the local economy that depends on it.

ETHIOPIA: THE BALE MOUNTAINS ECOSYSTEM

The Bale Mountains ecosystem is regarded as one of the most important conservation areas in Ethiopia. In addition to Bale Mountains National Park (BMNP), an important habitat for endangered species such as the Ethiopian wolf and the Mountain nyala (Frankfurt Zoological Society, 2007), the ecosystem comprises Harenna Forest, one of the largest remaining stands of moist tropical forest in the country. The Bale Mountains area includes the broad, flat Gaysay Valley in the north, a plateau at an altitude of over 4,000 metres in the centre, and an escarpment that gradually transitions to Harenna Forest in the south. The dramatic change in elevation creates a unique succession of distinctive vegetation zones, which include many threatened plant species as well as important stocks of wild genetic material, including coffee and medicinal plants (Wakjira, Gashaw & Pinard, 2011). The ecosystem is critical for the regional hydrological system, feeding major rivers and providing water for approximately 12 million downstream users, including many in the arid and semi-arid lowlands of southeastern Ethiopia and Somalia (Frankfurt Zoological Society, 2007).

BMNP was created in 1971, covering an area of 2,200 km2. The Ethiopian Wildlife Conservation Authority, under the Ministry of Culture and Tourism, manages the park. Since 2005, the Bale Mountains Conservation Project of the Frankfurt Zoological Society has been supporting the government in park management, including operations, ecological management and ecotourism development. The portion of Harenna Forest that falls outside the park is managed by the Bale Forest Enterprise (BFE), one of a network of branch offices of the Oromia Forest and Wildlife Enterprise. BFE seeks to implement sustainable forest management in partnership with forest-adjacent communities, including programs on participatory forest management (PFM). PFM pilot projects have aimed to protect Harenna Forest while enhancing the livelihoods of communities who use and benefit from forest resources. Community-based organizations (CBOs) have been established to plan and implement forest management strategies, and agreements have been signed with BFE to jointly manage forest resources. According to key stakeholders, this has already led to a significant decrease in unsustainable resource exploitation in recent years.

A portion of Harenna Forest lies in Harenna Buluk, a woreda (district) southwest of the ecosystem with a total population of over 94,000 that covers almost 2,000km^2. The woreda has experienced significant in-migration since the mid-1990s, when—due to low population numbers and for administrative purposes—it was merged with Delo Mena, a neighbouring woreda. To regain power and access to services for their constituents, the population would have to rise, and local political elites in Harenna Buluk responded by actively promoting migration into the area by informally allocating public land to migrants wishing to settle. After years of migration, Harenna Buluk was successfully re-established as a separate woreda in 2005. Migration has continued, albeit at a slower rate. Consequently, Harenna Buluk's population density is now more than double that of neighbouring Delo Mena.

The main impact of migration on the local ecosystem of Harenna Buluk is land-use change in terms of conversion of forests and grasslands to farmland. The main livelihood strategy in the area is subsistence agro-pastoralism, which requires land for both crop production and grazing of livestock. As land becomes increasingly scarce, locals are clearing forested land, farming it for a brief period of time and then selling it to migrants, who also facilitate deforestation and land conversion by providing cheap labour. Land cover maps show that the area of land used for agriculture or settlements increased by 385 per cent between 1995 and 2011. When compared with neighbouring Delo Mena, a woreda that has not seen comparable levels of migration, the rate of conversion of grazing lands and woodlands

has been significantly higher in Harenna Buluk (although the rate of encroachment into the forest itself has been similar across the two districts). This can be attributed in part to the increasing population density resulting from the migration. The result is that the forest in Harenna Buluk has become increasingly fragmented since the migration began. At present, the landscape-scale forest connectivity has been retained; however, continued encroachment will have serious impacts on the forest as a habitat for threatened plants and animals.

DRC: THE MISOTSHI–KABOGO ECOSYSTEM

The Misotshi–Kabogo ecosystem is located in eastern DRC, straddling the border of South Kivu and Katanga provinces. It is found along the shore of Lake Tanganyika, in the lower portion of the Albertine Rift, which is one of the most species-rich regions in Africa, home to more threatened and endemic vertebrates than anywhere else on the continent (Ayebare et al., 2013). The ecosystem surrounds Mount Kabobo, and covers an altitude range of 770m to over 2700m (Plumptre, Kujirakwinja, Bamba, & Shamavu, 2010). It comprises a number of different habitats, including miombo woodland, highland savannah and medium altitude and montane rainforest, and is home to a wide variety of species, including bongo and colobus monkeys, as well as one of the largest chimpanzee populations in Katanga province. It also provides habitat for over 300 bird species, 26 reptiles and 14 amphibians. Despite its importance for the survival of local species, the ecosystem does not yet have formal protection; however, national park designation is being pursued for the ecosystem by the *Institut Congolais pour la Conservation de la Nature* (ICCN), with the support of the Wildlife Conservation Society.

The Misotshi–Kabogo ecosystem was for many years the site of protracted civil conflict. Consequently, population densities remained low until recently, when migrants began to arrive in the region following the return of stability. Currently, the area is home to approximately 7,000 households, most of whom live in villages along the shores of Lake Tanganyika and along the road between the cities of Kalemie and Fizi; the proposed protected area lies between these two populated strips of land (WCS, 2011). The main local livelihood strategies are fishing in the lakeside villages and agriculture and livestock in the villages along the road. In both areas, forest resources provide supplementary income (approximately 4 to 7 per cent of household income, on average), with 95 per cent of households using these resources on a regular basis (Plumptre, Bamba, Shamavu, Kujirakwinja, & Matunguru, 2009). By restricting resource access, the eventual creation of a protected area for the ecosystem could potentially have a negative impact on local incomes and livelihoods. This has led to calls that the protected area comprise a core conservation area in which no resource access is permitted, surrounded by a faunal reserve buffer area in which community members can continue to access forest resources.

As security has improved in the area, an increasing number of migrants have settled in the Misotshi–Kabogo area, drawn by its productive fisheries, fertile soils and extensive pasturelands, as well as better access to markets and transport, which supports livelihood opportunities. Many of the migrants have arrived from neighbouring South Kivu province, which is more heavily populated. Family reunification and off-farm economic opportunities such as artisanal gold mining represent additional pull factors. Conflict is another key driver of migration: a number of those moving to the area are Congolese refugees returning from Tanzania in search of livelihood opportunities. The migrants are primarily farmers and pastoralists, with greater ecosystem impacts tied to the farmers. Migrants are perceived to have a better standard of living than the host community, which has been a source of tension between the two groups. A lack of formal protection for widely exercised customary land rights in the region has meant that it is easy for local chiefs to allocate lands to those migrants willing and able to pay, another potential source

of tension in an area with a history of resource-, land- and identity-based conflicts.

With increased population density has come increased deforestation: rates of forest loss in Misotshi–Kabogo tripled between 2006 and 2011, and the losses continue. Migrants have brought slash-and-burn agriculture with them, clearing land for crops and livestock and for better access to artisanal mine sites. The harvesting of forest resources, including for wood for charcoal and building materials, has increased. Local communities have observed a reduction in wildlife as a result of both deforestation and increased hunting.

Stakeholders link these impacts to population growth driven by migration. As stakeholders believe that these impacts will worsen with increasing migration, urgent action is needed to protect the forest and its biodiversity, while also ensuring sustainable livelihoods for both host communities and migrants. The establishment of the protected area is a high priority, accompanied by improved land-use planning in the area around the park, protection of customary land rights, the establishment of community conservation committees, and awareness raising and capacity building for local communities on less destructive livelihood practices.

Havenna Forest village, Bale Mountains National Park
Photo credit: Alec Crawford

5.0 ANALYSIS

While each of the case studies is unique, some common themes emerge that bear consideration when identifying actions to address the ecosystem impacts of migration.

The presence of migrants can have positive implications for the host community. In each of the cases, the migrants bring benefits to their new community. In Uganda, the cheap labour provided by the migrants has fuelled development of the fisheries, while in Ethiopia, the presence of migrants increased the area's population numbers to re-establish Harenna Buluk as its own district, bringing decision-making power and services back to local leaders and community members. In the DRC, migration to Misotshi–Kabogo has reunited families and facilitated the resettlement of people displaced by violence. Consequently, in all three areas, migrants have become important to the local economy. This creates a greater openness on the part of host communities and other stakeholders, balancing out perceived negative impacts of the presence of the migrants.

Local governments have a key role to play in managing migration impacts. Because of the benefits described above, local authorities may be inclined to turn a blind eye to, or even actively promote, informal and/or illegal settlement by migrants, which can pull more migrants into an area. Even if the will is there, local government actors often lack the capacity and resources to enact and enforce regulations that would limit the impact of migrants on local ecosystems. The role of local authorities, in DRC in particular but in all three countries, extends to strengthened land-use planning and conflict resolution mechanisms. In the DRC, the prevalence of customary land rights in the Misotshi–Kabogo region, coupled with a lack of protection for these land rights from the government, means that many people—locals and migrants alike—hold insecure tenure over land resources; an increasing local population in which more people need land potentially opens the door to future conflicts. Local authorities must play a role in addressing this tenure insecurity.

Livelihoods are in transition in host communities. Livelihoods in poor communities are highly dynamic, adjusted in response to changing availability of resources, market or employment opportunities and shocks and stresses. This creates opportunities for migrants, for example to provide labour in new or growing industries (as in the Lake Albert fishery in Uganda), to capitalize on land-use changes (as in the Harenna Forest in Ethiopia), or to introduce new forms of less capital intensive (and less sustainable) agriculture, as in DRC. It may also create tensions if host communities perceive migrants to be benefiting from transitions in ways that they themselves are not, or that migrant actions are precipitating environmental deterioration.

The presence of an "open access" resource is a pull factor for migrants. In each of the case studies, there is a common property resource that is perceived to be available for use by all in the area, migrants and non-migrants alike. In Ethiopia, Harenna Forest, particularly the portion outside of BMNP, and its resources are a draw for migrants, while in Uganda, migrants are for the most part moving to another part of the same lake they depended on in their community of origin in DRC. The lands around Misotshi–Kabogo, with (relatively) low population densities and without formal protection for the ecosystem, are perceived by migrants as being available for agriculture, and simply in need of clearing. The perception that these natural resources are open access is reinforced by the weak governance systems around them, with local authorities, community-based structures and national environmental agencies unable to respond to growing pressures and promote more sustainable approaches to resource use and management.

The presence of migrants is an exacerbating factor in ecosystem degradation. Generally speaking, the presence of migrants alone does not drive the pressures on ecosystems. In each of the cases, migrants are exacerbating existing natural resource management issues that have implications for important ecosystems. In Ethiopia, the migrants have contributed to forest conversion processes, speeding up the rate of land-use change in comparison to neighbouring areas with less migration. Similarly, in Uganda, migration is not the sole cause of overfishing, but it is a contributing factor. In DRC, the use of slash-and-burn agriculture among the migrant community is accelerating forest loss.

6.0 RECOMMENDATIONS FOR CONSERVATION PRACTITIONERS

Addressing the drivers of migration and prompting high-level political responses is generally beyond the scope of conservation actors. However, conservation practitioners working in areas where human migration is an issue can take action to minimize the negative impacts on ecosystems and biodiversity, through migration-sensitive conservation interventions. In many contexts, these interventions will be very similar to conservation interventions implemented in contexts where migration is not an issue. However, conservation issues that are caused or exacerbated by the migration may take higher priority, and new approaches or adjustments to existing approaches may be required to take the migration and its effects into account.

Recommendations for migration-sensitive conservation interventions include:

Understand the needs, interests and capacities of different stakeholders in relation to migration impacts. As described above, migrants are driven to move by a range of different factors, and they bring both benefits and challenges to the communities where they settle. Having an understanding of the motivations and priorities of different stakeholder groups is essential to identifying actions that are appropriate and, importantly, will not exacerbate tensions between different stakeholders. In particular, it is important to analyze the situation of migrants and non-migrants separately, even when they may on the surface seem to be part of the same stakeholder group. Only with a clear understanding of the differing priorities of stakeholders—including migrants—can migration-sensitive conservation interventions be identified.

Facilitate dialogue and collaboration among conservation stakeholders, including migrants. Following from the above recommendation, the most constructive way to move forward on identifying conservation actions in areas affected by migration is through inclusive dialogue among different stakeholders. This dialogue must aim to create a shared understanding of the immediate and long-term consequences of unsustainable natural resource use and management, and, ideally, to create a common vision for the future. Dialogue creates a foundation for collaborative action, where different actors work together toward achievement of shared conservation goals.

Plan based on a realistic assessment of the impacts of migration and how these may evolve in the future. Because of the complexity of migration issues, there is a tendency by governments and other actors to plan development and conservation without taking these issues into account. Consequently, migration is often left out of key documents such as land-use management or conservation area management plans. To effectively address the ecosystem and biodiversity impacts of migration, all relevant planning processes should integrate analysis of current migration trends and include mechanisms for monitoring future changes, and understand the implications of both for livelihoods and natural resource use. This will enable pragmatic approaches to managing the impacts, recognizing the positive and negative contributions of migrants and the need for sustainable and resilient livelihoods for all stakeholder groups.

Strengthen the participation of migrants in natural resource governance structures, systems and enforcement. As the case studies demonstrate, weak governance of natural resources is a pull factor for migration and creates the conditions for unsustainable use and management that lead to ecosystem and biodiversity impacts. Even in the absence of migration, strengthening the capacity of local authorities and community-based conservation actors to enact and enforce land tenure rights

Hippopotamus, Uganda
Photo credit: Alec Crawford

and natural resource regulations is a high priority if conservation efforts are to be successful. Where migration impacts are evident, it is critical that the mechanisms and structures that are established are inclusive of migrants. Participatory natural resource management structures have demonstrated potential, as in the case of Ethiopia; these will be strengthened by the inclusion of migrants as a stakeholder group.

Prioritize resilient and sustainable livelihoods for both migrants and non-migrants. In rural areas, livelihoods and natural resource management are intrinsically linked, and people's efforts to secure income and food are often a major driver of ecosystem degradation. Consequently, a key way to reduce negative impacts on ecosystems and biodiversity is to promote livelihood strategies that sustain the quality and availability of natural resources such as water and forests. At the same time, as people are faced with the increasing risk and uncertainty associated with climate change, ensuring that livelihoods are also resilient to shocks and stresses becomes increasingly important. Efforts to support sustainable and resilient livelihoods must address the needs and priorities of both migrant and resident populations, with a particular focus on those who may face additional barriers, including women. This may include vocational and technical training and skills building, strengthening access to inputs and markets and facilitating access to employment information.

Share evidence on migration impacts on ecosystems and biodiversity to promote helpful policy actions. Implementing the above recommendations will generate evidence that is useful for policy-makers and other actors in making decisions about conservation, but also in other policy spheres, including immigration issues, service provision, livelihoods and social protection interventions. By documenting and sharing the knowledge gained regarding push and pull factors for migration, resultant changes in livelihoods and natural resource use and impacts on ecosystems and biodiversity, conservation practitioners can enable better-informed decision making and policy actions that address both the drivers and the impacts of migration.

7.0 CONCLUSIONS

The Great Lakes region faces a myriad of development challenges, including conflict, climate change and increasing pressures on natural resources such as land, forests and water. These challenges have critical implications for ecosystems and biodiversity, which face threats from increasing pollution, population growth, unsustainable resource use, poaching, and land-use change. While human migration is not the main cause of these pressures, in some contexts it is an exacerbating factor that must be considered during conservation planning and implementation. The case studies demonstrate the positive and negative impacts of migrants on their host communities and the need to engage them as stakeholders in conservation and development efforts.

Conservation practitioners can take steps to ensure that interventions are sensitive to migration issues. This begins with recognition of migrants as a stakeholder group in their own right, and analysis of the differing interests, needs and capacities that drive decisions and actions by migrants, host community members and other actors. Such an analysis will inform conservation and development planning by acknowledging migration as a key element of the local conservation context. Inclusive dialogue, collaborative action and improved natural resource governance will engage all stakeholders in reflection and action regarding the need for sustainability in the use and management of natural resources: at the same time, enabling sustainable and resilient livelihoods for migrants and non-migrants alike will create the foundation for conserving ecosystems and biodiversity into the future. Finally, the drivers of migration—poverty, conflict and increasing climate-related hazards, among others—must be addressed through targeted investments in sustainable development, peacebuilding and climate change adaptation, with a view to creating stability and building resilience. This is beyond the scope of conservation actors and requires action by higher-level governments and other agencies working on development and humanitarian issues.

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