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Unraveling the 'Mountains of the Moon'

Rwenzori Range is a marvel of glacial peaks, wetlands and lakes—and they are under threat from climate change

By MUSONDA MUMBA

Everlasting flower (*Helichrysum guilemii*) in bloom at 3,500 metres above sea level.

Africa is at risk of losing the Central African glaciers—the highest and permanent source of water to the River Nile. A recent ten day, 27-person team expedition by WWF (the global conservation organization), Uganda Wildlife Authority (UWA) and the Congolese Institute for Nature Conservation (ICCN) trekked through the Mountain Range to get first hand information on the changes that are taking place in the glaciers at the equator and the implications for the high altitude wetlands. The team found that the mountain glaciers have shrunk by 50 per cent in the last 50 years and 75 per cent in the last century. Based on historical data, the team also found that the current glaciated area is approximately 148 ha from the original 650 ha in 1906. WWF therefore estimates that the glaciers are likely to disappear in the next 30 years. The critical question therefore is—what are the likely consequences of such a change on the important high altitude wetlands and the local livelihoods below this important massif?

Towards the end of 2007 my colleague Marc Languy wandered into my office and with a smile on his face asked whether I would be interested in being part of an expedition to the Rwenzori Mountains—after all the mountain had a lot of freshwater surely that would be of interest to me. His rather relaxed demeanor almost coaxed me into thinking his offer was not seri-

ous. Then he showed me the maps, a list of climbers and evidence of his discussions with various authorities from both Congo and Uganda. I was ecstatic and in all honesty that is an under statement. This to me was like a dream trip. A date had been set—20 February 2008 to start the ascent simultaneously from either side of the border with the aim of meeting at the peak—Margherita Peak located at 5,109 metres above sea level (masl).

As Albertine Rift Coordinator at WWF, Marc's primary interest was to survey the glaciers within the range and see what changes had taken place since 1955, the date of the last survey in DRC. A few weeks after his proposition, we got a call from the Convention on Wetlands Bureau (based in Switzerland) asking whether WWF could discuss the possibility of designating the Rwenzori Mountain National Park as a Ramsar Site with the Ugandan Authorities, giving me even more reason to follow my passion for wetland ecosystems. This would prove to be rather challenging though because I had never set eyes on high altitude wetlands before.

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We packed our bags, jumped on the plane from Kenya to Kampala and headed to the 'Mountains of the Moon'. The week before, Marc had already left for Beni via Goma in the Democratic Republic of the Congo (DRC) to lead the Congolese team for a parallel ascent from Virunga National Park. A competent group of guides from the Rwenzori Mountaineering Services (RMS) briefed us on the loop we would take and all the precautionary measures to be undertaken. I was ready to go, equipped with camera, binoculars, notebooks and all manner of food supplies. We began our ascent as planned on the morning of 20 February. Standing at the foot of the mountain range in Kasese Town, I must admit that I felt intimidated yet excited by the sight of the mountain range. I was not prepared for the beauty of the range that lay ahead of us—the rivers, lakes, bogs, streams and the phenomenal glaciers at the equator.

An area of high biological diversity, the fascinating high altitude lakes, rivers and wetlands, the Rwenzori Mountain Range is a natural gem and a marvel. While most parts of Africa are endowed with wetlands and lakes, most of these are located at low elevation and easily accessible by local people. The ones on this mountain range are mostly beyond the reach of local people although their benefits flow beyond the boundaries of this mountain range.

As we climbed higher and higher, I could not resist the temptation of stopping every so often to take pictures of flowing rivers, logs encrusted with fascinating lichens, strange looking chameleons, the everlasting flower and many more details. A guide noticed my enthusiasm and warned me to my save batteries for the higher levels because that would be where, as he put it, 'the secrets of the range lay'.

At an elevation of approximately 3,500 masl, I came face to face with the marvelous Bigo Bog. This bog lay in a valley floor area, with the heather forest towering on either side of the valley. An area covered by Carex grass and other vegetation such as Senecio and occasional Lobelias was incredibly beautiful. RMS, with support from UWA, has built a long boardwalk across the boggy area to reduce damage to the bog vegetation and to ease walkers' crossing to the other side of valley. Bogs in the Rwenzori range can be precarious places and a single missed step could land a person in waist-deep mud.

As we climbed higher, the 'secrets of the range' began to unravel

The Rwenzori Massif—a UNESCO World Heritage Site—is shared by Uganda and the Democratic Republic of Congo (DRC). It is protected as Rwenzori Mountains National Park in Uganda and as Virunga National Park in DRC. These two protected areas are managed by the Uganda Wildlife Authority (UWA) and the Congolese Institute for the Conservation of Nature (ICCN) respectively. It covers an area of 4,800 kilometres^2, with about one-third being above 2,000 metres above sea level (masl). Several glacial peaks can be found in the massif, however, the Margherita Peak—at an altitude of 5,119 masl—is the third highest peak in Africa.

The massif is a priority area for biodiversity conservation in Africa. It is home to many endangered habitats and species. These include vast montane forests and afro-alpine habitats holding unique forms of life. More than 75 plant species can only be found in the Rwenzori, as well as mammals like the Rwenzori duiker (*Cephalophus rubidus*) and many amphibians and reptiles. One important feature of Rwenzori is that it supports a complete and uninterrupted habitat range from the Semliki Valley to its summit; this is unique in Africa.

Stanley Glacier—then and now

Above—the base of the main glacier, seen from Lac Gris in 1953 (left) and 2008 (right).

Below—the entire DRC section of the Stanley group, as seen from Peak Maria in 1956 (left) and 2008 (right).

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Top & bottom right, respectively: © WWF-EARPO/Svein Erik Haarklau and © Marc Languy

themselves dramatically. The streams that flowed from the steep cliffs towards rivers, small boggy areas and small rivers that would eventually become bigger all graced the climb further up. After the third day, I spotted a few glacial peaks and it was breathtaking. First Savoia, then Baker and, as we changed direction, Speke Glacier. We climbed higher and at 4,900 masl we encountered Irene Lakes—three rather small lakes in the shadow of Margherita Glacier. These lakes are simply too cold and too high to support any fish life in them but the view from this vantage point made up for any lack of visible life. Both Speke and Stanley Glaciers were clearly visible and so was Margherita. We could also see Lake Bujuku in its entire splendor through stunning Senecio vegetation.

For more information:
www.uwa.or.ug and
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Three members of the Congolese team who had just crossed the massif through the Stuhlman Pass joined our party while we were enjoying the landscape around Bujuku. I was relieved to hear the good news from our colleagues that tourism on the other side of the border had just been resumed, thanks to significant efforts from ICCN and WWF to reopen the trails and rehabilitate the huts. They informed us that Marc had stayed behind to photograph the glaciers from the Wasiwameso Ridge, which stands at 4,600 metres and reveals stunning views of the Stanley group. The idea was for him to take the images from the same vantage point as those taken in 1952 and 1956 in order to compare them.

View of Stanley Glacier from Irene Lake.

One striking quality of the Rwenzori Range is the connectivity of the entire wetland system. Just below the Speke Glacier, for example, lies a lake embedded in solid rock known as the Green Lake. Trickling water from this lake moves down the steep slope of a rock face, flowing towards Bukuju Lake a good 6-8 kilometres below via a bog system. Lake Bujuku has an outlet on its western end that eventually becomes Bujuku River flowing further downstream until it joins Mubuku River. While this connectivity may sound rather simplistic, these rivers meander through a system of wetlands that is so intricate that it is difficult to locate precisely the source of the water. The winding streams and bogs within the bamboo forest area are equally intriguing.

Climate Change

Speaking to the local guides and people who have been coming to this mountain for more than twenty years, it was evident that some changes had taken place, particularly with the rainfall patterns in the area. This raised some pertinent questions: How vulnerable were the wetlands to such changes? What if parts of this complex ecosystem started drying up or getting wetter than usual? What would be the broader implications of such changes?

Several rivers flow from high up in the range, initially starting as small trickles from the glaciers; eventually they become flowing rivers downstream that local communities depend on for their livelihoods. Hearing the trickling sound of water in the rocks and boulders at over 5,000 masl confirmed the intricateness and complexity of the system. The water from this mountain range eventually finds its way into the Nile River, making the Rwenzori the highest source of that magnificent river. The simple fact remains—we know very little about these wetlands and their vulnerability.

The changes that have taken place in this amazing ecosystem are prodigious. Climate change has altered the face of this ecosystem and there is proof. Unfortunately the implications of climate change on these wetland ecosystems are not so well understood but the potential effects of this clearly should not be underestimated. It is important to note that while the accelerated glacier retreat and its subsequent shifts are likely to be associated with climate change, glacier retreat and change is a natural phenomenon that takes place over hundreds of years. Natural systems undergo change over time but such changes have been accel-

erated by anthropogenic factors. Glaciers play an important role in maintenance of downstream flows. What is significant, on the other hand, is that non-climatic changes may have greater impact on water resources than climate change and, in a sense, climate change presents an incremental challenge to the water resources of the Rwenzori Range.

When the two teams joined in Kasese to share experiences from this unique climb, Marc showed us the pictures he took with Svein Erik, a Norwegian colleague, side by side with the pictures from the 1950s, I could not believe what I saw. First I thought Marc had manipulated the images to exaggerate the dramatic recession of the glaciers. One week after our return to Nairobi, Marc and his team used the pictures to validate high-resolution satellite images and calculate the current extent of the glaciers. The results were devastating: their area shrank from 650 hectares in 1906 to 381 hectares in 1955. The area covered by glaciers decreased by another 50% to a mere 148 hectares in 2008.

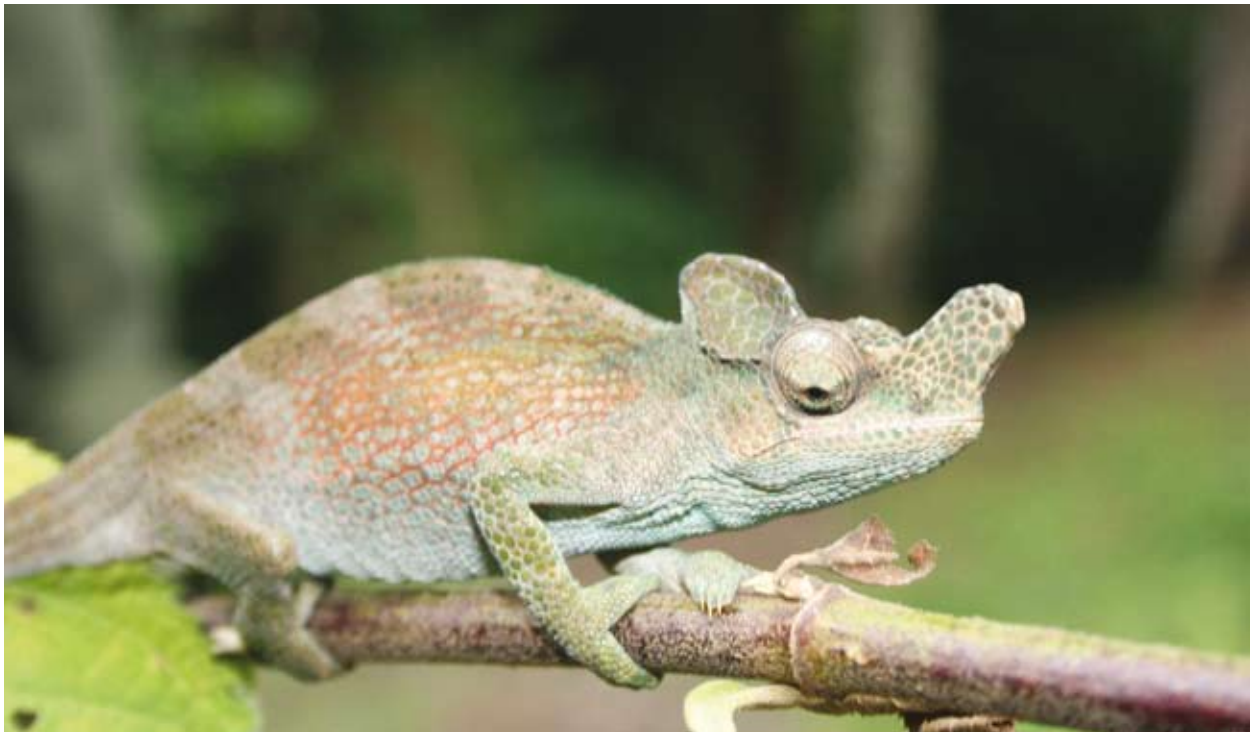
The good news from DRC was that the trails and huts were now in excellent condition but also that the site was still intact. The team heard chimpanzees on four occasions, counted the tracks of six leopards and saw a wide variety of wildlife. While climbing to the peak from DRC remains a challenge, everything is now set to welcome tourists from the area and abroad up to 4,600 masl. We can even dream of opening of trails that would cross the border or go round the Stanley Glacial group, something UWA, ICCN and WWF are considering in the long run.

The Rwenzori massif is entirely protected as the Rwenzori Mountains National Park in Uganda and Virunga National Park in DRC, both of which are designated as Ramsar sites, in 2008 and 1996 respectively.

The Ugandan Government through the Wetlands Management department, took steps to have these high altitude wetlands designated as wetlands of international importance—and rightly so—under the Convention on Wetlands. The Rwenzori Mountains National Park is already a protected area and it is due to be designated as a Ramsar Site under this convention. This implies that the management of the wetlands will be priority and further study in order to understand the ecosystem will be critical. The Ugandan Government can be commended for taking such a bold step particularly when this entire ecosystem in under threat.

However, there is need for joint efforts from other governments, individuals, bilateral organizations, the private sector and NGOs to collectively protect and manage this important area. The traditional knowledge particularly in relation to what changes have taken place around the area is also important and worth gathering. In essence, the traditional way of life of the local communities is equally threatened by climate change.

Adaptive strategies and alternatives need to be well thought through so that community based strategies help the local communities to adapt to the changes and reduce the climatic shocks likely to take place. Let us not forget that local people have had to cope with climatic variability for many years. As the saying goes 'We all live downstream'.



Strange-horned chameleon (*Kinyongia xenorhina* aka *Chamaeleo xenorhinus*) sighted along the trail.

ABOUT THE AUTHOR

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