

Rwenzori Mountains National Park

2020 Conservation Outlook Assessment

SITE INFORMATION

Country: Uganda
Inscribed in: 1994
Criteria: (vii) (x)



The Rwenzori Mountains National Park covers nearly 100,000 ha in western Uganda and comprises the main part of the Rwenzori mountain chain, which includes Africa's third highest peak (Mount Margherita: 5,109 m). The region's glaciers, waterfalls and lakes make it one of Africa's most beautiful alpine areas. The park has many natural habitats of endangered species and a rich and unusual flora comprising, among other species, the giant heather. © UNESCO

SUMMARY

2020 Conservation Outlook

Finalised on 01 Dec 2020

GOOD WITH SOME CONCERNS

The conservation outlook remains robust, given the natural attributes and resilience of such an inaccessible and rugged place, with its wide range of elevation, and linkages with other components of Africa's most diverse trans-frontier protected area complex. There remain significant uncertainties over the likely long-term impact of climate change, which may result in loss of the glaciers and snowfields by 2030 and have far-reaching long-term effects on fauna and flora. The proposed cable car project poses major concerns on the OUV of the property, and urgent actions are required to reconnect the ecological corridors currently preventing elephant movement to and from the property. Re-opening of the copper mine is no longer an imminent threat.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Spectacular mountain scenery**

Criterion:(vii)

The park protects some of Africa's most spectacular mountain scenery, including Africa's third highest peak (Mount Margherita, 5,109 m), and an abundance of glaciers, lakes, snow-capped peaks, waterfalls and bog-filled valleys. Unlike most other high African mountains, the Rwenzori range is not of volcanic origin but was created through tectonic movements in the Earth's crust associated with the formation of the western arm of the Great Rift Valley. The mountain range includes multiple peaks, and its location on the edge of the Congo Basin is associated with very high rainfall and the development of exuberant Afro-alpine vegetation with impressive giant senecio and lobelia plants growing in the high bogs, and great cushions of colourful moss perched on the leaning branches of giant heathers (World Heritage Committee, 2011).

► **Rich montane flora, with many endemic species**

Criterion:(x)

The park has the richest montane flora of any site in Africa, including many endemic species. The heaths and Afro-alpine vegetation zones that extend from around 3,500 m to the snowline (at around 4,400 m) represent the rarest vegetation types on the African continent. Prominent constituents of this extraordinary vegetation are several endemic species of giant groundsels (senecio) and lobelias, which punctuate the landscape like giant candelabra (World Heritage Committee, 2011).

► **Rare and endemic birds**

Criterion:(x)

Although the total number of species of birds recorded (247 spp.), is not especially high, the avifauna includes two Red Data Book species (Shelly's crimsonwing, *Cryptospiza shelleyi*, classified as Vulnerable; and Lagden's bush shrike, *Malaconotus lagdeni*, classified as near-threatened (BirdLife International, 2012)), as well as 20 of the 24 species endemic to the western (Albertine) Rift area of central Africa (Howard et al., 1996; World Heritage Committee, 2011).

► **Rare and threatened mammals**

Criterion:(x)

The Rwenzori range is especially important for its rare and endangered mammals, including an unusually rich small mammal fauna and some prominent larger mammals. The small mammal fauna includes 28 species of rodent and 12 shrews, of which nine species are endemic to the western (Albertine) Rift and three (*Micropotamagole ruwenzori*, *Paracrocridura maxima* and *Ruwenzorisorex suncoides*) are extremely rare (Howard et al., 1996). Large mammals of conservation concern include elephants, chimpanzee, Rwenzori black-fronted duiker (possibly a separate species) and l'Hoests monkey (World Heritage Committee, 2011).

► **Diversity of habitats**

Criterion:(x)

There is an exceptional diversity of habitats on account of the range of altitude (2,100 to 5,100 m), equatorial location and high rainfall. There are montane forest, bamboo, tree heather, Afro-alpine and nival zones at increasing altitude, each with its own special characteristics and associated flora and fauna (World Heritage Committee, 2011).

Assessment information

Threats

Current Threats

High Threat

The park's rugged terrain and long history of protection as a vital water catchment area have contributed to the protection of this site from external threats. The park covers steep, cold, high altitude land with little potential for commercial forestry or agricultural use, and has never been subject to significant pressure for anything more than subsistence use of timber and a few non-timber forest products, which is thought to be within sustainable limits although data is lacking. The findings of the 2018 elephant census however, which revealed only 13 individual elephants to be remaining inside the property and that the population may not be viable raises great concern. Urgent action is needed to reconnect the ecological corridors currently preventing the movement of elephants between Parks. Climate change is predicted to cause the disappearance of the glaciers by 2030, and result in a general shift in vegetation zones to higher elevations, reducing the area of the unique Afro-alpine communities.

► **Fire/ Fire Suppression, Dams/ Water Management or Use**

Low Threat

(Fire)

Inside site, localised(<5%)
Outside site

Fire has occurred over parts of the alpine zone in the recent past from poachers' or tourists' fires. This is a concern as many of the endemic plant species occur in this zone. The State Party however is now implementing the property's fire management plan, strengthening the park's management effectiveness in response to fires (State Party of Uganda, 2016; UNESCO, 2016).

► **Hunting and trapping**

Low Threat

(Poaching)

Inside site, extent of threat not known
Outside site

Low-level subsistence hunting is a way of life for the local Bakonjo people, and its impact is limited. Hunting is generally carried out with wire snares, and guns are not widely used in traditional hunting (IUCN Consultation, 2017a). There is also a degree of commercial poaching for bushmeat sold in the Democratic Republic of Congo, as well as for medicinal reasons (IUCN Consultation, 2017b).

► **Crops**

Low Threat

(Agricultural expansion)

Outside site

Agricultural encroachment is largely absent from the property itself, possibly due to the steep terrain. Outside of the property boundaries however, human population is increasing and agricultural expansion is leading to land use pressure pushing the development right up to the property boundaries (UNESCO/IUCN 2020), thereby posing a threat to the ecological connectivity of the property. Agricultural activities are also an important contributing factor for landslides that can impact the OUV of the property (UNESCO/IUCN 2020).

► **Logging/ Wood Harvesting**

Very Low Threat

(Tree felling)

Inside site, localised(<5%)
Outside site

The montane forests of lower elevations are not generally suitable for commercial exploitation, but a few trees are felled to satisfy local demand for building poles and sawn timber.

► **Collection of non-timber forest products (NTFPs)**

Very Low Threat

(Unsustainable use of non-timber forest products)

Inside site, extent of threat not known

Non-timber forest products, notably bamboo, medicinal plants such as *Prunus africana*, natural fibres, mushrooms, honey etc, make an important contribution to local livelihoods and these products may now be harvested from designated zones under the terms of 14 community-use Memoranda of Understanding. Off-take is monitored by park rangers, but there are few data on which to base

harvesting quotas (State Party of Uganda, 2012; State Party of Uganda, 2015).

► **Habitat Shifting/ Alteration, Droughts, Temperature extremes**

(Climate change)

Very High Threat

Inside site, scattered(5-15%)

Outside site

Climate change is raising temperatures and melting the park's glaciers, which are projected to disappear by 2030. In the longer term, climate change is expected to cause a general shift of vegetation zones to higher elevations reducing the area of the rare high-altitude Afro-alpine vegetation communities. At the same time, it is likely to increase the feasibility of cultivation close to the park boundary (on land that was previously too cold for most crops). There may be increased incidence of landslides and flooding if precipitation falls as rain instead of snow (UNESCO, 2009; Taylor et al., 2009). The State Party has reported changes to the rainfall regimes, with the property periodically experiencing heavy downpours leading to flooding and damages to infrastructures and river banks (UNESCO/IUCN, 2020). Long-term vegetation plots (part of the Global Observation Research Initiative in Alpine Environments (GLORIA) sites) have been established to monitor changes. Monitoring of the glaciers is also being conducted by Makerere University.

► **Other Ecosystem Modifications**

(Habitat fragmentation and loss of ecological corridors outside of the park)

High Threat

Outside site

The preliminary results of the 2019 elephant census commissioned by the Uganda Wildlife Authority have revealed that only 13 individual elephants remain within the property (UWA, 2020). Based on the earlier record of insurgency in the area, a large part of the population could have been poached. Factors that could be preventing the numbers from increasing include fragmentation of the forest outside of the property due to new roads, increase in agricultural lands and human-elephant conflicts that may be preventing elephant movement to and from the property (UWA, 2020). The census report notes the worrying possibility that the elephant population in the property is not genetically viable due to its isolation from neighbouring parks such as Kibale National Park and Queen Elizabeth National Parks. Some sources suggest only one sex remaining. The threat to the park's elephant population is therefore very high based on available information, but if considering the status of all other species for which this site was inscribed on the WH List, the threat can be considered to be 'high'.

Potential Threats

High Threat

The Kilembe copper mine is currently closed but reopening the project would pose considerable risk to the property, especially through the possibility of water contamination. The proposal for a cable car inside the property raises great concern and will most certainly damage the OUV of the property.

► **Mining/ Quarrying**

(Water pollution from mining)

High Threat

Outside site

In 2014 the State Party of Uganda indicated that the government had signed a 25 year concession deal with the Chinese company, Tibet Hima Ltd, to extract over 4.5 million tonnes of copper within the Kilembe geographical area (State Party of Uganda, 2015). The mine, located adjacent to the property, would comprise subterranean mining shafts that enter the property (State Party of Uganda, 2016). The reopening of the mine after a 30 year dormancy raised significant concerns for the potential impacts on the OUV of the property especially from water pollution. The site is rich in aquatic biodiversity including endemic species of fish that are sensitive to water pollution (ITFC, 2016). Water pollution results in change in water pH, siltation and sedimentation of the rivers and subsequently of nearby lakes. Small scale mining is understood to have taken place in recent times and according to the State Party, no surface water contamination had been observed as a result. No data on groundwater appears to be available however. In 2017 the State Party reported that it had cancelled the licence that had been awarded to Tibet Hima Ltd for the project (UNESCO, 2018) and the mine is currently closed. Any indication that the mine would reopen would therefore pose considerable risk to the property.

► **War, Civil Unrest/ Military Exercises**

Low Threat

(Insurgency and security issues)

Inside site, scattered(5-15%)

The park is located in a volatile part of central Africa, with insurgency activity on both sides of the international border erupting from time to time. Conflicts that impact management actions have consequences on conservation and tourist numbers. The COVID-19 pandemic in 2020 has led to a considerable decline in tourist numbers which may impact the conservation activities.

► **Tourism/ visitors/ recreation**

Very High Threat

(Tourism development - cable car)

Inside site, extent of threat not known
Outside site

The Uganda Development Plan (2015/16-2019/20) and the Rwenzori Mountains national Park Tourism Business Plan (2019/20-2023/24) both describe the development of a cable car system as an important option to increase tourist numbers. However, according to the regulation defined in the Rwenzori Mountains National Park Management Plan (2016-26) it is not possible to build such type of infrastructure in the wilderness areas of the park. Whilst still in the early conceptual phase, the proposal to build a cable car inside the property would pose considerable risks to the OUV of the property. Visitor numbers to the property are currently on the rise, increasing from 2767 visitors in 2014 to 4834 in 2018 (State Party of Uganda, 2019). However the cable car project would increase visitors number to between 130,000 and 217,000 per annum.

Overall assessment of threats

High Threat

The park's remote and rugged geography, combined with its very limited potential for alternative use, means it has been relatively well protected to date. Climate change is melting the glaciers (which are projected to disappear altogether by 2030), and will alter vegetation communities in the long term. The proposal for a cable car inside the property poses considerable risk to the exceptional natural beauty and biodiversity of the property for which it was inscribed. The dwindling, isolated population of elephants require urgent attention to ensure their protection.

Protection and management

Assessing Protection and Management

► **Management system**

Some Concern

The park has been under planned management for more than half a century, the first two management plans (1948, 1961) being produced by the Uganda Forestry Department and focusing on water catchment protection. The development of a General Management Plan (GMP) for all national parks is a statutory requirement, and the first full plan developed by Uganda Wildlife Authority covered the period 2004-2014 period. The GMP was reviewed in 2009 to make it more responsive and relevant to changing circumstances (State Party of Uganda, 2012). The property is currently managed under the 2016-2025 Management Plan. Whilst it addresses the protection of biodiversity within the property (criterion (x)), it does not include the protection of the scenic beauty (criterion (vii)) for which the property was inscribed.

► **Effectiveness of management system**

Some Concern

Management is significantly constrained by budgetary and staffing levels. The Uganda Wildlife Authority has in the past received financial and technical support during its initial establishment phase through World Bank and GEF financing of a major Protected Areas Management and Sustainable Use (PAMSU) programme, completed in 2009 (UNESCO, 2009). Like most parks, staffing levels (currently 72) are significantly below levels anticipated in the General Management Plan (which envisages 139 staff). The park staff are given training on site-specific tourism, ecological monitoring and research, and

operational skills but more specialised training needs to be provided and integrated into the financial management systems. The regulations in the Management Plan specifically bans large developments from being constructed in the wilderness zone of the property. However, the inclusion of a cable car development in the Uganda Development Plan and Tourism Business Plan demonstrates a weakness in the management system.

► **Boundaries**

Mostly Effective

Park boundaries are well marked with concrete beacons and lines of planted trees. No encroachment by local communities has been reported but rapidly growing human population in nearby districts is leading to agricultural land use expanding right up to the border of the property in parts. The international border through the centre of the mountain range remains unmarked. There are no significant boundary incursions. Trans-boundary coordination of patrols between management on either side of the international border has recently been initiated.

The buffer zone is not subject to management intervention by Uganda Wildlife Authority, but communities have been supported to plant trees adjacent to the boundaries. Most settlements are located in the valleys, typically several kilometres from the park boundary. The boundary line itself traverses steep land that is generally unsuitable for cultivation, along the 2,100 m contour.

► **Integration into regional and national planning systems**

Some Concern

The park is managed together with other protected areas within Uganda Wildlife Authority's regional management structure, as part of the Queen Elizabeth Conservation Area. The site is also managed together with Virunga Park in the DRC with the coordination of the Greater Virunga Transboundary Secretariat that was recently signed as a tripartite treaty between Uganda, Democratic Republic of the Congo and Rwanda. The very small number of elephants remaining within the property have been reported to be disconnected from other Parks due to roads and agricultural expansion in the ecological corridors outside of the property.

► **Relationships with local people**

Mostly Effective

Community relations have improved in recent years, with the economic benefits of tourism accruing to community-based groups managing park concessions for accommodation, porter and guiding services. Sixteen communities around the park have agreed Memoranda of Understanding, allowing access to park resources (bamboo, honey, mushrooms, etc.) within designated zones. Although local communities are engaged in the management of the property, they experience limited benefits from tourism. This is leading to local communities still relying on non-timber resources from the property, such as bushmeat.

► **Legal framework**

Mostly Effective

The park is managed by the semi-autonomous Uganda Wildlife Authority (UWA), established under the Uganda Wildlife Statute 1996, which was amended in 2019, with its own Board of Trustees. The legal framework is strong. Originally protected as a Forest Reserve in 1941, it became a National Park under Statutory Instrument No. 26 of 1991, amended by Statutory Instrument No 3 of 1992. No cultivation or settlement is permitted within the park.

► **Law enforcement**

Mostly Effective

Despite the need to increase the number of law enforcement rangers, law enforcement is the most funded department at the site. The law enforcement numbers have been reinforced with police and military personnel patrolling the park. The site is taking up and incorporating in its management a new law enforcement tool called the Spatial Management and Reporting Tool (SMART) with technical and financial support from Wildlife Conservation Society (WCS). It is expected that the SMART tool will allow more complex and useful analyses to be made to the data collected by the rangers.

► **Implementation of Committee decisions and recommendations**

Mostly Effective

The Committee first expressed its concern regarding the 25 year concession agreement awarded to Tibet Hima Ltd to re-open Kilembe mine in 2014, but by 2018, the State Party reported that this licence

had been cancelled. Chimpanzee surveys undertaken in 2010 and 2016 followed different methodologies that led to incomparable data. The next survey is planned for 2019/2020 but it is unclear whether the standard line transect methodology will be adopted as per the Committee request. An ecological monitoring plan was developed in 2010 but there does not appear to be a comprehensive ecological monitoring system in place. Fire protection activities and a Management Plan have been developed. The State Party has signed the Greater Virunga Transboundary Collaboration Treaty on Wildlife Conservation and Tourism Development (GVCT) with DRC and Rwanda. A pre-feasibility report for the cable car project has been submitted as requested by the Committee.

► **Sustainable use**

Data Deficient

Sixteen Memoranda of Understanding have been developed under which communities adjacent to the park can use resources such as bamboos, honey, mushrooms and medicinal plant products from designated zones. Resource availability and off-take are monitored by park rangers to ensure sustainable use, but the details of this monitoring are not yet available. Some illegal hunting is carried out (Howard, 1996; UNESCO and IUCN, 2003), but its impact in the rugged mountain terrain is difficult to evaluate.

► **Sustainable finance**

Some Concern

Financial sustainability is based on retention of all park revenues by Uganda Wildlife Authority, enabling cross-subsidy within the Uganda parks system. Park revenue covers 50% of recurrent budgets so the park depends on cross-subsidy from other parks and donor support (State Party of Uganda, 2012). A major World Bank/GEF-financed PAMSU program ended in 2009, and there are ongoing support from international NGOs including WWF, WCS and FFI. However these can not be considered as sustainable financing. Visitor numbers to the Park is increasing with 2018 recording 4834 visitors (State Party of Uganda, 2019). The trend is positive for the Park but the consequences of COVID-19 on visitor numbers and hence the financing of the Park is yet to be seen. There is still much potential for the Park to increase visitor numbers through sustainable, low impact tourism.

► **Staff capacity, training, and development**

Some Concern

The General Management Plan requires that the site has 139 staff but the site continues to be understaffed, with only 72 trained staff at present (which is a slight increase on the 56 staff reported in IUCN World Heritage Outlook 2; 2017).

► **Education and interpretation programs**

Mostly Effective

An education strategy aimed at raising awareness of park values amongst local communities has been developed through the support of the WWF-funded Rwenzori Mountains Conservation and Environmental Management Project. A separate initiative focused on raising awareness of climate change impacts and mitigation is supported by the MacArthur Foundation. Local communities are engaged at various levels, through tourism initiatives, wildlife clubs and negotiation over the extent and limits of resource use within designated resource use zones.

► **Tourism and visitation management**

Mostly Effective

Visitor numbers are increasing from 2767 visitors in 2014 to 4834 in 2018, who are mostly interested in peak climbing. Unofficial data for 2019 reports a total of 6,045 visitors to the property. Due to the still relatively low numbers, there is no tourism pressure at present. The park has put in place various mitigation measures to reduce impacts on vegetation from trampling. One concern is that the tourism strategy for the property has not fully considered the OUV of the property, which could lead to problems, such as that seen with the proposed cable car project. For now however, it appears to be well managed.

► **Monitoring**

Some Concern

An ecological monitoring plan has existed since 2010 but the property continues to lack a comprehensive ecological monitoring programme. The lack of funds has been - and continues to be - a major hindrance to carrying out the ecological monitoring programme at the site. In 2011, ITFC

established permanent plots along different elevation gradients of the Rwenzori Mountains to monitor the impact of climate change on restricted-range species, and changes in vegetation belts/altitudinal zonation as part of the GLORIA network. Chimpanzee surveys have been undertaken in 2010 and 2016, though the data are not comparable, and an elephant census is expected to take place in 2020.

► **Research**

Some Concern

Unlike at Bwindi Impenetrable National Park where there is an active research station (ITFC) with ongoing research, the Rwenzori Mountains do not have an active research station. ITFC is mandated to work in the Rwenzori Mountains but lacks funds to extend its research there. Most of the research in the Rwenzori Mountains is carried out by independent researchers and partially by park management with limited funding. WWF has funded a few studies there and helped train the park's research department (WWF, 2010). The uptake of the research recommendations from independent researchers by park management is poor due to limited funds available to park management. Thirteen priority research topics have been identified to aid management decision making. Three of these, focused on (1) resource inventory; (2) monitoring of resource off-take by community members and (3) status of chimpanzees, are being undertaken with support from WWF. Two further research activities have recently been commissioned by Uganda Wildlife Authority on (1) the impact of climate change on restricted-range species, and (2) changes in vegetation belts/altitudinal zonation resulting from climate change.

Overall assessment of protection and management

Some Concern

The State Party has been effective in responding to the WH Committee's request and has been proactive in its communication with UNESCO regarding proposed projects. This has allowed for early and effective communication, leading to important decision making. Nevertheless, funding is needed to activate park programmes such as the research and monitoring department together with community conservation. Currently the site has no comprehensive research and monitoring programmes despite the development of an ecological monitoring plan in 2010. The park is still heavily dependent on international NGO partners and donor support to cover recurrent and investment costs. The proposal for a cable car inside the property when it clearly contradicts the Management Plan is a cause of concern. Growing human pressure from outside the property has led to a considerable reduction and isolation of the elephant population inside the Park.

► **Assessment of the effectiveness of protection and management in addressing threats outside the site**

Some Concern

Community outreach programmes have significantly improved relations with local communities and the process of engaging communities in negotiating resource access rights should provide a basis for long-term sustainable use and reduce threats. The increasing human population outside of the property is leading to the expansion of agricultural activities, with plantations now pushing up to the boundaries of the property. This, coupled with road developments and human-wildlife conflict are now understood to be isolating the Rwenzori elephants from other parks, leading to a decimation of their numbers inside the property.

► **Best practice examples**

The park is considered a model for integration of cultural values into the Protected Area Management framework as an innovative approach to resource management, the first of its kind in Africa (World Heritage Committee, 2011; Infield & Mugisha, 2010; FFI-UWA, 2012).

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Spectacular mountain scenery

Low Concern
Trend:Deteriorating

For many visitors a significant element in the scenic values of the site is the existence of the glaciers and snowfields very close to the equator. Their disappearance will reduce the scenic value and impact of the site. Furthermore, as visitor numbers increase, there will be a need and pressure for further infrastructures, which may compromise the wilderness value of the property. The proposed cable car project through the property will significantly alter and comprise the aesthetic value of the property through some permanent forest loss and large infrastructures. The proposal is still at its early conceptual stage with no decision made on the project, hence at present the threat level is relatively low; any indication that the project may proceed will significantly heighten the level of threat to the OUV.

► Rich montane flora, with many endemic species

Low Concern
Trend:Data Deficient

The full impact of climate change is difficult to predict, but it is expected to cause a gradual long-term shift of vegetation communities to higher elevations, with the rare high-altitude Afro-alpine communities reduced in extent as they are gradually replaced by species characteristic of lower elevations. It is these rare communities at the higher elevations that have the highest proportion of endemic plants (UNESCO, 2009; Taylor et al., 2009).

► Rare and endemic birds

Good
Trend:Stable

Most of the rare birds, including the majority of the Albertine Rift endemics which are forest birds, may be expected to benefit from the expansion of forest habitats to higher elevations as the climate warms. An assessment undertaken by WCS to compare 2015 with 2002 data on bird species composition illustrated a trend for the movement of many birds to higher altitudes.

► Rare and threatened mammals

High Concern
Trend:Deteriorating

The 2018 elephant census concluded that only 13 individual elephants remain within the property due to the loss of ecological connectivity with other forests. There are current insufficient data for chimpanzee to draw a trend, and ecological monitoring of other species are currently lacking.

► Diversity of habitats

Data Deficient
Trend:Data Deficient

As the climate warms and there is a general shift of vegetation zones to higher elevations, a reduction in the area of the rare Afro-alpine vegetation communities can be expected. At lower elevations, species characteristic of richer lowland forest communities may be able to colonise the lower areas of the park. Nevertheless, the main vegetation communities and diversity of habitats are not likely to be altered in any major way.

Summary of the Values

► Assessment of the current state and trend of World Heritage values

Low Concern
Trend: Data Deficient

The scenic values of the site, epitomised by the occurrence of glaciers and snowfields on the equator, are being compromised as the ice melts (and the glaciers are expected to disappear altogether by 2030). There are insufficient data to assess likely changes to the site's biodiversity resulting from climate change, but rare endemic plants in the Afro-alpine zones may be in decline, while birds and mammals endemic to the western (Albertine) Rift forests may be benefiting from an

expansion of forest at lower elevations. The 2018 elephant census data shows only 13 individuals to be remaining in the property due to the loss of ecological corridors. Due to the difficult terrain and remoteness of property however, all of its other values are currently maintained.

Additional information

Benefits

Understanding Benefits

- ▶ **Carbon sequestration,
Soil stabilisation,
Flood prevention,
Water provision (importance for water quantity and
quality),
Pollination**

Water catchment, water flow regulation, climate amelioration. As a result of the intactness of the boundary, the watershed functions have enhanced the park's capacity to act as the biggest contributor of water in the region for domestic and industrial use (World Heritage Committee, 2011).

Factors negatively affecting provision of this benefit :

- Climate change : Impact level - Moderate, Trend - Increasing
- Pollution : Impact level - Moderate, Trend - Increasing
- Overexploitation : Impact level - Low, Trend - Continuing
- Habitat change : Impact level - Low, Trend - Increasing

Water pollution as a result of cobalt mining and future copper and oil exploitation will likely increase in the rivers flowing from the site. Already there is reported pollution of the rivers from cobalt mining, limestone mining, irrigation schemes and power dams located near the site (ITFC, 2016). Climate change at the site is already a reality with the glaciers retreating and this is likely to lead to drying of rivers and possibly lakes, vegetation shifting to higher altitudes and loss of some endemic flora and fauna.

- ▶ **Cultural identity and sense of belonging,
History and tradition,
Sacred or symbolic plants or animals,
Sacred natural sites or landscapes,
Wilderness and iconic features**

Sacred sites, strong cultural ties, rich history, source of livelihood, security. The Bakonzo and Bamba have a strong cultural attachment to the Rwenzori Mountains, including some flora and fauna therein. The Rwenzururu Kingdom under the king Omusinga has a strong cultural link to the Rwenzori Mountains. Recent conflicts in the region between government and the Rwenzururu Kingdom are likely to affect this cultural link.

- ▶ **Outdoor recreation and tourism**

Mountaineering, nature tourism, cultural tourism, scenery.

- ▶ **Direct employment,**

N.A.

- ▶ **Legal subsistence hunting of wild game,
Collection of wild plants and mushrooms,
Fishing areas and conservation of fish stocks**

The collection of food resources is not permitted by park management but the local people continue to

collect food resources such as fish, wild honey, fruits, etc. illegally.

Factors negatively affecting provision of this benefit :

- Pollution : Impact level - Low, Trend - Continuing
- Overexploitation : Impact level - Low, Trend - Continuing
- Habitat change : Impact level - Low, Trend - Continuing

The collection of the food resources is at a subsistence level even though done illegally.

► **Access to drinking water,
Commercial wells**

N.A.

► **Collection of medicinal resources for local use**

N.A.

► **Importance for research,
Contribution to education,
Collection of genetic material**

N.A.

► **Collection of timber, e.g. fuelwood,
Sustainable extraction of materials (e.g. coral, shells,
resin, rubber, grass, rattan, etc)**

There are memoranda of understanding with the local people to collect medicinal and basketry materials from the forest for their livelihood use. Sixteen MoUs are now being used and managed by the park management for the local people to extract plant resources sustainably from the forest (WWF, 2010).

Factors negatively affecting provision of this benefit :

- Pollution : Impact level - Low, Trend - Continuing
- Overexploitation : Impact level - Low, Trend - Continuing
- Habitat change : Impact level - Low, Trend - Continuing

The collection of plant resources for medicinal use and basketry is carried out at a subsistence level and there is no evidence of overexploitation currently.

Summary of benefits

Ecosystem services benefits to the local population such as water supply, food, medicinal and basketry materials are currently sustainable. Improving the supply of basketry and medicinal plants could benefit local poor people since they are highly dependent on the forest. The pollution of the rivers near the site is a potential threat to local rural livelihoods.

Projects

Compilation of active conservation projects

Nº	Organization	Project duration	Brief description of Active Projects
1	WWF		Rwenzori Mountains Conservation and Environmental Management Project, Phase II
2	FFI / MacArthur Foundation		Culture and Conservation Programme
3	WCS		Albertine Rift Conservation Programme

Nº	Organization	Project duration	Brief description of Active Projects
4	Environmental Conservation Trust of Uganda (ECOTRUST)		Support Ugandan communities to Conserve Rwenzori
5	Institute of Tropical Forest Conservation-ITFC	From: 2010	ITFC established long-term study Permanent Sample Plots under the project GLORIA to monitor changes in vegetation along altitudinal gradient in response to climate change. The plots were established in 2010 complete with data loggers. However, funding to continue with monitoring is unavailable.

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