



NGORONGORO CONSERVATION AREA: A LAND OF TREASURES

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■ Abstract

This paper examines opportunities and challenges of the Ngorongoro Conservation Area (NCA) in Tanzania in terms of conserving ecosystems, understanding human evolution and developing its identity as providing economic benefits to local communities living within and around the property. NCA has global significance for its natural, cultural and geological values. It has been recognized by multiple UNESCO designations as a Mixed Cultural and Natural World Heritage property, a global Geopark and part of Serengeti-Ngorongoro Biosphere Reserve. NCA is managed by a public institution known as Ngorongoro Conservation Area Authority (NCAA), which follows the multiple land use model where the objectives are to promote the conservation of natural and cultural resources, while safeguarding the interests of Indigenous residents and promoting tourism. In this paper, the significance of NCA is reviewed in terms of the linkages between its natural and cultural values. Furthermore, the challenges faced by NCA are discussed and recommendations are suggested for the conservation of the site and its continuity for supporting the wellbeing of local communities.

KEY WORDS: Ngorongoro, Culture, Nature, Communities

■ 1. Introduction

Ngorongoro Conservation Area (NCA), located in Northern Tanzania [Fig.1] was established in 1959 by the NCAA Ordinance No 413 of 1959 as a multiple land use area with objectives to promote the conservation of natural and cultural resources, safeguard the interests of NCA Indigenous residents and promote tourism. The NCA is a unique protected area in Africa where conservation of natural resources is integrated with human settlements' development in an extent of 8,292 sqkm.

The landscape of the NCA is protected to conserve nature, ecology, wildlife, and prehistoric and contemporary archaeological and paleoanthropological features. NCA supports the presence of approximately 25,000 large animals, mostly ungulates (General Management Plan 2019a). Extensive archaeological research within

the NCA is yielding a long and unbroken sequence of evidence, over approximately four million years, for human evolution and human-environment dynamics.

Moreover, NCA hosts about 90,000 Indigenous people belonging to three ethnic groups – namely Maasai engaged in pastoralism, Tatoga engaged in pastoralism and minimal crop cultivation and Hadzabe who live as hunters and gatherers. Living testimonies such as traditional skills applied in house construction, rituals of these communities demonstrate the continuation of traditional customs and practices.

Even though the multiple land use model allows the integration of human settlements within the protected area, this system was established 60 years ago and in this span of time, increasing population and tourism have been progressively impacting NCA's state of

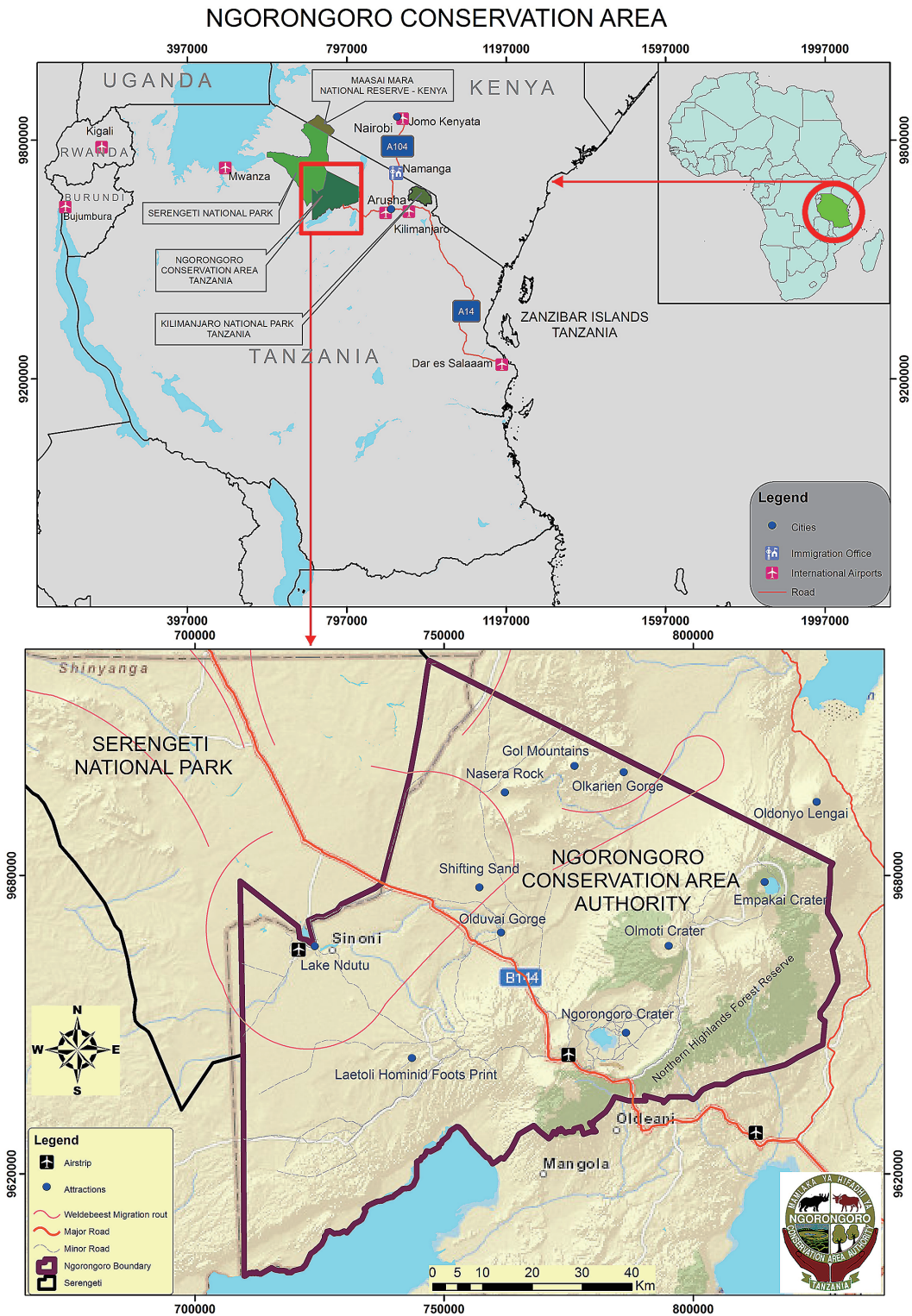


Figure 1: Location of the Ngorongoro Conservation Area. (Source: NCAA 2019)

conservation. The distinction between the cultural and natural heritage of the NCA has prevented the understanding of the interlinkages between people and their environment currently upheld by the resident communities, and their potential for effective management. In this paper, these interlinkages are highlighted and recommendations to address NCA's management challenges suggested based on nature-culture linkages.

2. Significance

2.1 Natural and cultural values

The stunning landscape of NCA is part of the Serengeti ecosystem which is one of the last intact ecosystems in the world. It accommodates spectacular concentrations of wildlife forming some of the greatest natural wonders of the planet, including the only surviving largest wildlife

migration of over one million animals (wildebeest). The property is home to over 25,000 large animals, mostly ungulates with the highest known density of mammalian predators in Africa, including the densest known population of lion, endangered species such as Black Rhino, wild hunting dog, golden cat and over 500 species of birds.

Furthermore, the area is yielding exceptionally long sequence of crucial evidence related to human evolution and human-environment dynamics, which at the moment is dated to close four million years ago. NCA stands as a testimony to major geological processes during formation of the planet Earth, located at the great east African valley.

The NCA has geo-formations connected with Indigenous communities' livelihoods which are valued as outstanding sceneries. Well known geo-sites include Mount Oldonyo Lengai, Lake Eyasi, Nasera Rock, Olkarien Gorge and Magic Shifting Sand [Fig. 2].

Important archaeological sites include the Laetoli Footprints, which are famous for the discovery of ancient humanlike footprints left on the volcanic ash and providing the earliest known evidence (3.6 million years ago) of humans walking by two legs. Furthermore, the Olduvai Gorge, containing ancient human and animal fossils together as well as various stages of stone tool technology is located within NCA. This area was home to a range of early Homo-evolution species, such as Homo Habilis, Homo Erectus and Homo sapiens; which are connected with the Laetoli species known as Australopithecus Afarensis. Thus,

NCA is regarded as the cradle of humankind.

These characteristics of NCA have granted World Heritage status under criterion (v), traditional human settlement related to the archaeological testimonies of human evolution in the extension in 2010; while the original nomination in 1979 was based only on natural criteria (vii), exceptional natural beauty; (viii) representing major stages of earth's history; (ix) significant on-going ecological and biological processes; and (x) significant natural habitat for in-situ conservation.

However, NCA is also home to about 90,000 local residents together with their livestock – a total number of over 500,000 cattle, sheep and goats, which co-exist with wildlife. It is one of the few remaining multiple land use protected areas in Africa, which relates to a traditional nomadic culture, the Maasai, who have not been included in the Outstanding Universal Value (OUV) of the World Heritage Property. In the next section, the relationship between local communities, their territory and wildlife is explored, showing the interdependency between nature and culture in NCA.

2.2 Interdependency of nature and culture within NCA

Geology, which is a natural phenomenon, has housed and facilitated dating of archaeological remains that today is able to reveal evidence and knowledge of human evolution. Maasai communities worship some naturally occurring features in NCA, such as magic shifting sand, Mount Oldoinyo Lengai, fig trees and other formations.



Figure 2: Magic shifting sand (Source: Author 2019)

Maasai communities' clans are named after wild animals such as lions, snakes, etc. It is a taboo to kill related animals since they are considered part of a family or even ancestors.

The Ngorongoro Magic shifting sand [Fig. 2] which is created by nature, not for specific purpose and in constant movement of 17m – 19m, apart from its aesthetic values, it is also a Maasai sacred monument with rituals practices, a monument of reconciliation [Fig. 3] and peace making and Maasai believes that where it ends in its movement, it will be the end of the world.



Figure 3: Reconciliation practice at Ngorongoro's magic shifting sand dunes (Source: Author 2019)

Elephant do feed on natural occurring soils and caves, famously known Elephant Caves that uniquely connects geology and wildlife [Fig. 4].



Figure 4: Elephant feeding on natural soils, demonstrating the interaction of geology and wildlife (Source: Author 2019)

Yet, these interconnections have not been sufficiently explored for supporting the management system of the NCA.

■ 3. Management

3.1 Legislation, institutional arrangement, resources

The primary legislation protecting the property is the Ngorongoro Conservation Area Ordinance of 1959. The property is under the management of the Ngorongoro Conservation Area Authority (NCAA). The Tanzanian Division of Antiquities is responsible for the management and protection of

the paleo-anthropological resources in the country, including those within the NCA. A Memorandum of Understanding has been established to mandate NCAA to manage the cultural resources and antiquities related to the archeological remains.

The management structure of NCAA comprises a Board of Directors appointed by the Minister of Natural Resources and Tourism. Among Board members, is a chairman for Ngorongoro Pastoralist Council, association of local communities living within NCA funded by NCAA with objectives of providing further social services such as education, health and food security.

Consultative meetings are regularly held between NCAA and TATO (Tanzania Association of Tour Operators) regarding improvements of the property in terms of environments, tourist infrastructure and safety. NCA offers cultural tourism products such as museums and interpretation centres: Olduvai, Laetoli, Leakey's living museum and communities' cultural Bomas showing their daily lifeways [Fig. 5]. Two cultural tours to Laetoli hominid footprints and Olduvai Gorge are highlights for visitors, as well as nature photographing and filming and game drive to wild animals.



Figure 5: Maasai cultural houses called Bomas (Source: Author 2019)

Property management is guided by a General Management Plan 2015 – 2025. Currently, the primary management objectives are to conserve the natural, cultural and geological resources of the property, protect the interests of the local residents (pastoralists) and to promote tourism, however management of the area is constrained by high human population growth, effect of climate change and ecological stresses that has resulted in increase of poverty raising human – wildlife conflicts.

■ 4. Current State of Conservation and Challenges for Continuity

Conservation status is currently evaluated as being in a good state, with all OUV intact (UNESCO World

Heritage Centre 2019). However the property is threatened by the following situations:

- Increased demand of resources arising from increased populations of wild animals, livestock and people coupled with human population spatial distribution over the landscape and changing lifestyles of the existing social structure resulting in regular human – wildlife conflicts and continuous reduction of the property’s carrying capacity.
- Changes in ecological, demographics and climatic conditions have significantly caused competition of available resources such as water and forage; balancing needs for these to sustain human activities (accommodation and transhumance pastoralism) and wildlife is becoming increasingly threatened.
- Decline of the pastoral economy, according to McCabe et al. (1992), a member of a household requires at least 8.0 Tropical Livestock Units (TLUs) for sustenance. However, the current TLUs per person within NCA is 2.3 (excluding donkeys), accounting for about 30% of the minimum requirement. The declining trend in livestock per capita causes pastoral food shortage, as NCA communities rely solely on livestock for food insecurity. This has prompted communities to adopt survival strategies, some of them are culturally and environmentally unacceptable such as begging from tourists, prohibited cultivation and occasional poaching.
- Integrative interpretation of natural and cultural values that also recognizes people, for example speaking of lions and their population growth can be explained in tandem with respect originating from their relationships with a Maasai sharing same clan with lions traditionally.
- Harmonized management systems for all UNESCO designations will lessen workload to management team and reduce costs related to advisory/ revalidation mission coming at different times and with different scope of works being applied on the very same landscape. This can be achieved by combining statements of outstanding Universal Value for nature (including Geology) and culture as well as its conservation management approaches. Current revisions on the General Management Plan are geared to try addressing these issues.

These situations indicate gradual deterioration for both human and ecological conditions, including in relation to land degradation and reduced quality of forage due to increased invasive alien and pioneer weed species.

■ 5. Recommendations

For the continued maintenance of the property’s OUV, the following actions are suggested:

- Reassess the multiple land use model within NCA in view of balancing conservation, development and sustainable community livelihood;
- Harmonize approaches in the management of natural and cultural heritage (e.g. by adopting a single General Management Plan), previously and currently, NCAA has two different management plans for nature and culture.

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