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Chapter

Perspective Chapter: A Perspective on the Resettlement of Maasai Communities from the Ngorongoro Landscape in Tanzania

Franco P. Mbise

Abstract

Tanzania is endowed with an abundance of natural resources, and the country has set aside more than 30% of its land for conservation. The Ngorongoro district is where both the Ngorongoro Conservation Area (NCA) and the Loliondo Game Controlled Area (LGCA) are located. Sometimes, it is confusing when talking about Ngorongoro as a region and the NCA as a conservation area. The NCA is an example of a diverse landscape in which humans (the Maasai tribe) and their livestock coexist with wildlife, but crop farming is prohibited. According to current projections, the Maasai population at NCA is approximately 120,000 people. And there are approximately 45,200 livestock. The increase in people is proportional to the increase in livestock, as the Maasai who live in the Ngorongoro landscape rely solely on animal husbandry as their main source of income. In the NCA, human and livestock population growth have a significant impact on wildlife and their habitat. To alleviate the pressure on the landscape, the Tanzanian government took the initiative to seek Maasai willing to relocate to another area, in this case, Handeni district in Tanga region.

Keywords: landscape conservation, Maasai, quality of life, resettlement, Tanzania

1. Introduction

The International Union for Conservation of Nature (IUCN) has defined six Protected Areas Management Categories that describe protected areas (PAs) and their management planning through the World Commission on Protected Areas (WCPA). This includes sustainable use areas set aside to protect important ecological processes, species, and ecosystems while also providing cultural, scientific, educational, recreational, and visitor opportunities and strictly protected areas set aside to protect biodiversity and only used for scientific research and monitoring [1].

The Yellowstone National Park in the United States, Kruger National Park in South Africa, and Serengeti National Park in Tanzania are all well-known parks with great conservation histories. Protected areas around the world have become the only way

to protect species and their habitats. As the human population grows, these protected areas are increasingly encroached upon by locals, degrading and destroying these pristine wildlife habitats. Recently, the focus of wildlife conservation has shifted to single species, particularly endangered species. The main concern is to protect the entire ecosystem, as this will protect all species. True, threatened and endangered species require extra care in conservation. This initiative should be handled with extreme caution without losing sight of the importance of conserving the entire ecosystem, which in turn conserves all species. Nowadays, conservationists understand that without local communities, the paradigm of sustainable conservation will fade away. Communities living within or adjacent to protected areas play a critical role in achieving this goal. When people in a community care about conservation, it costs the government less to protect protected areas [2–5]. A major issue arises when the two actors are required to distribute accrued benefits equally, and benefit sharing is the demand for tangible benefits to local communities living within or near protected areas. Benefit sharing that is equitable will improve mutual understanding between local communities and conservation stakeholders. Benefits devoted to the construction of schools, hospitals, water wells, and roads appear to be less tangible to locals because what they really want is direct cash flow in their pockets. For example, in western Serengeti, the construction of schools became a motivator for poaching. Because conservationists build schools, parents must pay school fees and uniforms to send their children to these schools. Many PAs in Africa followed the Yellowstone conventional and exclusionary principle of a top-down approach, which was used during the formation of the world's oldest national park in 1872. As a result, many PAs have prioritized biodiversity and ecosystem services over social and cultural issues that are important to local communities. Poaching is an immediate option for covering these costs. In this scenario, helping societies is not always perceived as such, but rather as a threat to biodiversity [6–9].

Tanzania is endowed with an abundance of natural resources, and the country has set aside more than 30% of its land for conservation. This 30% is where 22 national parks are located; 16 game reserves; 38 game-controlled areas; 13 wildlife management areas; and 28 forest reserves. About 20% of the Tanzanian revenue comes from tourism. Therefore, fostering conservation initiatives is of paramount importance for the future conservation activities of the country. The government of Tanzania has made significant contributions to achieving the conservation vision that was laid down by Mwalimu Julius K. Nyerere [10], who was the first Tanzanian president and the father of the nation after independence in 1961 and until his retirement in 1985.

The Mwalimu conservation vision was manifested during the Arusha Manifesto in 1961, and it states:

The survival of our wildlife is a matter of grave concern to all of us in Africa. These wild creatures amid the wild places they inhabit are not only important as a source of wonder and inspiration, but are an integral part of our natural resources and our future livelihood and wellbeing. In accepting the trusteeship of our wildlife we solemnly declare that we will do everything in our power to make sure that our children's grand-children will be able to enjoy this rich and precious inheritance. The conservation of wildlife and wild places calls for specialist knowledge, trained manpower and money, and we look to other nations to co-operate with us in this important task - the success or failure of which not only affects the continent of Africa but the rest of the world as well.

The Mwalimu conservation vision was a first-of-its-kind, symbolic plan that was put into action in a strong way. Its goal was to protect and care for Tanzania's

beautiful wildlife as a top national heritage [10]. In the pursuit of conservation initiatives to make this wildlife conservation paradigm come true, during 2020, the country made a substantive recategorization of protected areas, making a total of 22 national parks from only one national park, the Serengeti, since 1959. The recategorization process upgraded the status of six game reserves to a more protected category, that of a national park. The newly established national parks are: Nyerere, Burigi-Chato, Kigosi, Ibanda-Kyerwa, Rumanyika-Karagwe, and Ugalla River [11].

2. Ngorongoro landscape

Ngorongoro Conservation Area (NCA) is classified as category V by the IUCN. Category V is defined as an area with distinct ecological, biological, cultural, and scenic value as a result of long-term human–nature interaction. As a result, the area and its associated features are protected and preserved. The NCA is an example of a diverse landscape in which humans (the Maasai tribe) coexist with wildlife. The Maasai of the Ngorongoro Crater were evicted from Serengeti, the Maasai name for an endless plain. The Maasai were evicted from the Serengeti plains by colonial rule in 1959, and the area was gazetted as a national park [8, 12]. As a conservation model, colonial rule used “fines and fences,” an approach that excluded people from conservation efforts, resulting in hostility between the two actors [2]. Following that, the Maasai were relocated to the Ngorongoro landscape, and they remained there since their exodus from the Serengeti plain. They had a population of about 3000 people when they relocated to NCA. They joined a small group of local Maasai at NCA landscape. According to current projections, their population on the landscape is around 120,000 people (**Figure 1**). The increase in people is proportional to the increase in livestock, as the Maasai who live in the Ngorongoro landscape rely solely on animal husbandry as their main source of income (**Figures 1 and 2**). The 1959 Ngorongoro Conservation Ordinance strictly prohibits farming in the area (**Figure 3**) [13, 14]. As the human population grows, it becomes a burden on our mother earth. Not only that, but given the constraints imposed on the Maasai, who are limited to only one source of economic activity (animal husbandry). As a result, the government was forced to take some steps in order to secure arable land in Handeni, Tanga region (**Figure 4**). Furthermore, because they lived in the Ngorongoro landscape, the 1959 Ngorongoro Conservation Ordinance prohibited them from constructing modern homes. Given the restrictions put in place to protect the landscape’s beauty, these restrictions hurt the Maasai people.

In the NCA, human and livestock population growth has a significant impact on wildlife and their habitats (**Figures 1 and 5**). Human population growth and associated activities result in significant changes in land use in any landscape (**Figure 1**). As a result, wildlife’s available vegetation and habitat ranges are shrinking [15–17]. The lion population, for example, has declined significantly in the NCA (**Figure 5**). Because of increased human activity, the Serengeti National Park is now a source of predators, while the protected areas surrounding it are sinks [15]. The human population is rapidly growing in the area (**Figure 1**). As the human population grows, so does the demand for land for livestock grazing (**Figure 2**), farming, and settlement. As a result, wildlife habitats are deteriorating and being displaced by other activities [18, 19]. Some writers stated in the Cattle Complex Theory, in the context of pastoralists and their livestock, that it was difficult to draw a line between a herd of

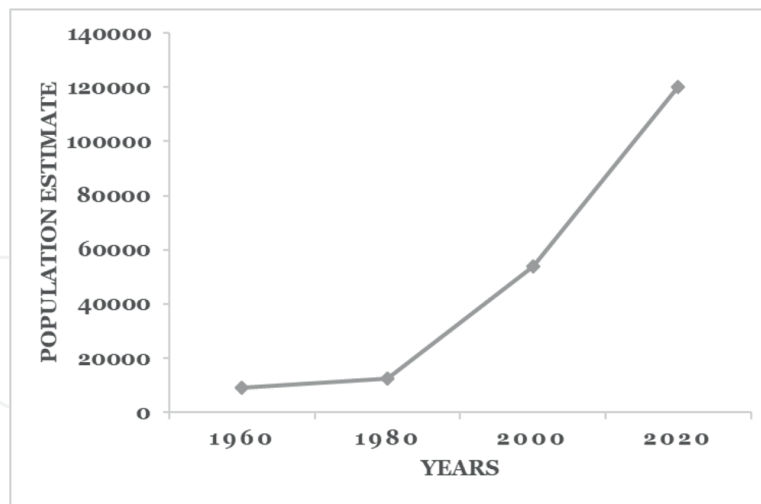


Figure 1.
Human population projections for the Ngorongoro conservation area from 1960 to 2020.

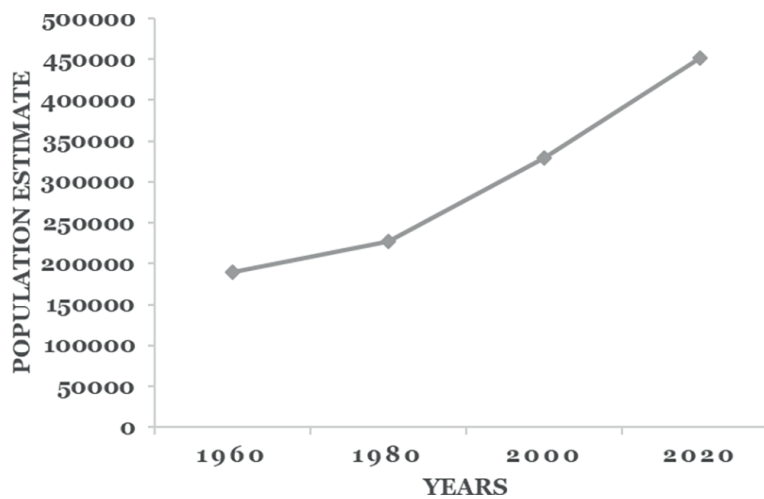


Figure 2.
Livestock population (cattle, sheep, and goats) projections for the Ngorongoro conservation area from 1960 to 2020.

cattle and the cattle herder (difficulty distinguishing master from slave). Eventually, they concluded that cattle are in charge in African pastoralism because herders try to meet their needs for food, water, space, and disease protection [20]. The Ngorongoro district currently has approximately 419,355 hectares suitable for cattle grazing. Tanzania has 12, 513 villages, but only 648 villages have been authorized to dedicate their land for grazing [20].

Human population growth in many African countries has increased the demand for land use and natural resource exploitation significantly. As the human population grows, especially in Africa, wild prey species such as wildebeest are depleted (**Figure 6**) and natural habitats are displaced; these habitats are now limited to small patches [21]. As a result, a proper management structure and policy designed to conserve natural habitats and their species is urgently required [22, 23]. When humans dominate the areas surrounding protected areas, their activities have a huge negative impact on wildlife [21]. In Algonquin Park, Canada, for example, the wolf population was severely persecuted when the animals crossed the park border [24]. Because of human population growth and the expansion of agricultural activities for global food security, biodiversity is

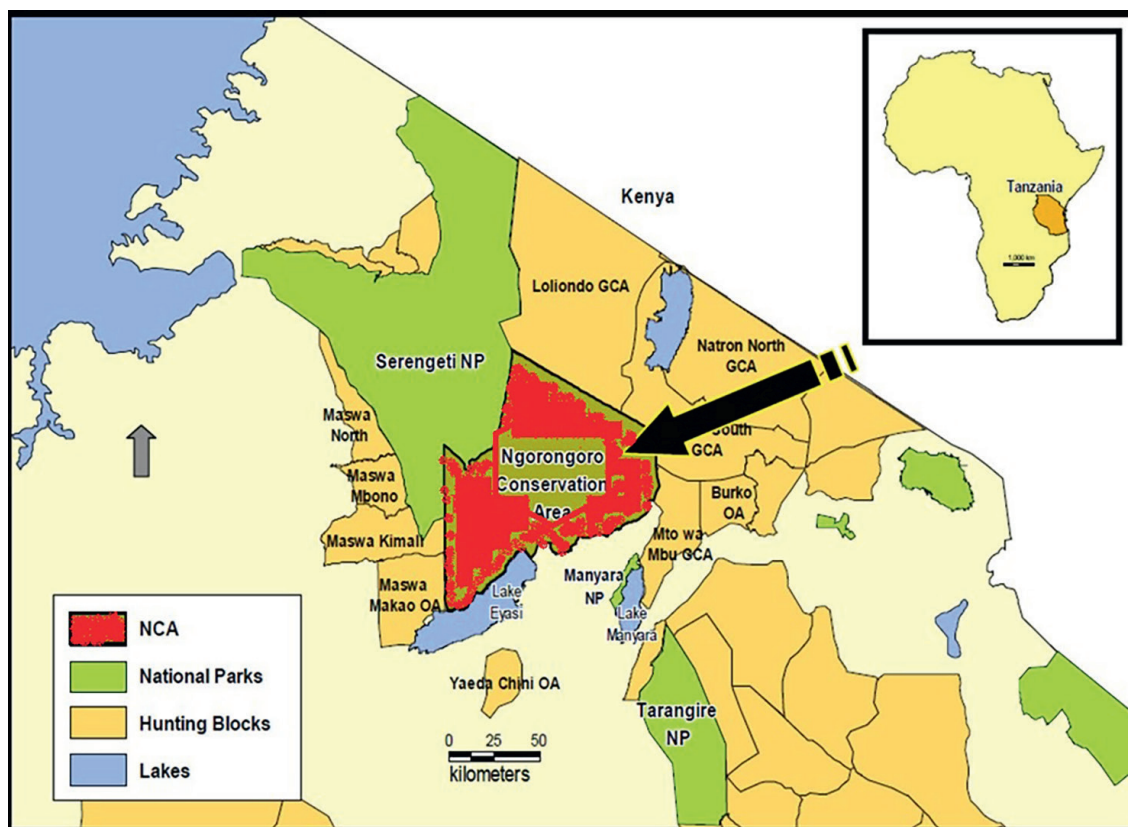


Figure 3.
 The Maasai people's current home, with red highlights outside the crater.

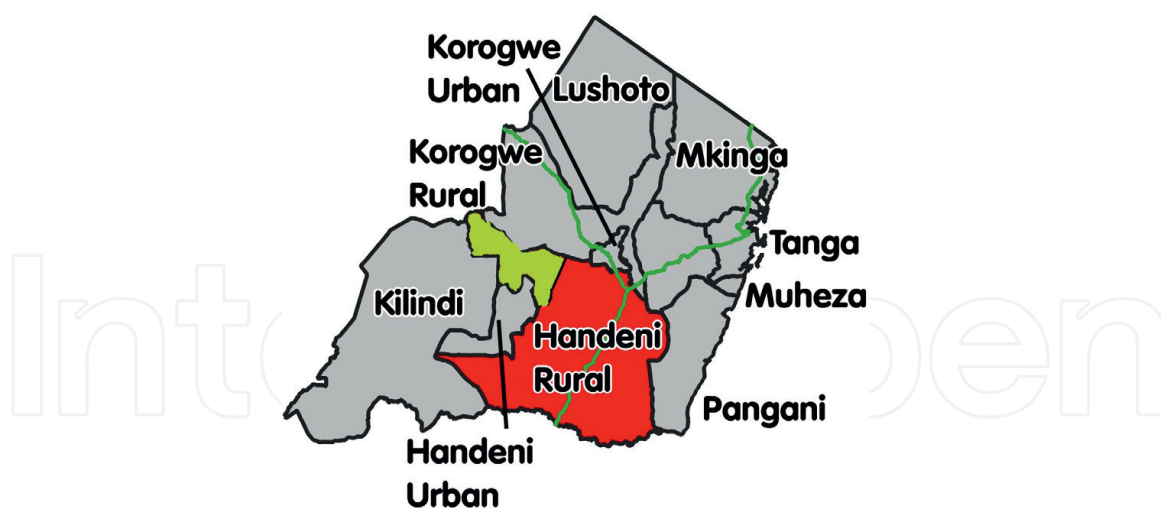


Figure 4.
 Resettlement zone in light green.

currently facing a significant challenge. Anthropogenic activities have significantly altered land cover and land use, which has a negative impact on biodiversity in any ecosystem [25]. For example, in the Serengeti ecosystem, large carnivore populations are higher in the Serengeti National Park than in the Loliendo Game Controlled Area (LGCA) [26], whereas large carnivore abundance was similar in the two areas in previous decades (Figure 5) [18]. This shift is the result of an increase in pastoral community populations that live within the LGCA with their livestock.

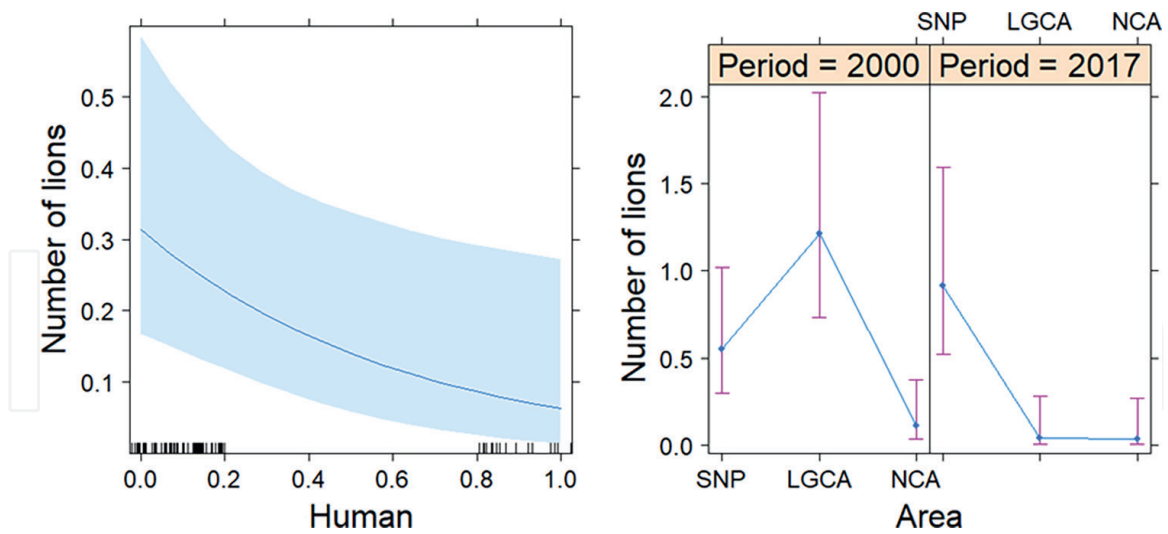


Figure 5.
Lion population status in the Ngorongoro conservation area for the two periods (2000–2017) [15].

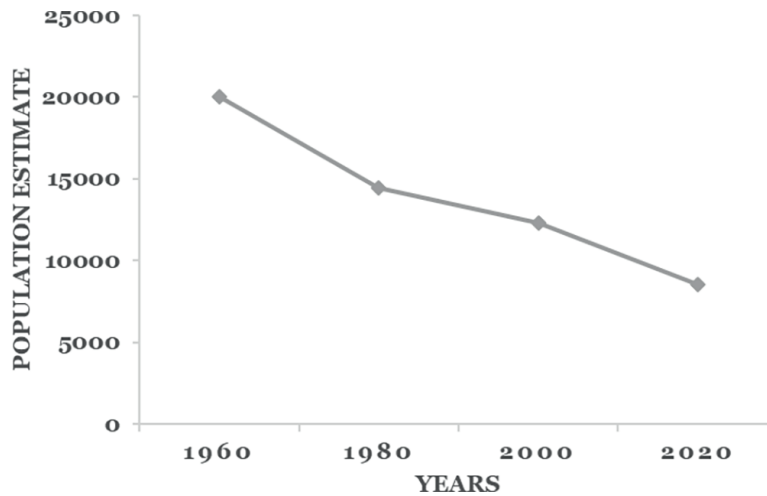


Figure 6.
Wildebeest population decline in the Ngorongoro conservation area from 1960 to 2020.

Tanzania’s government, through the Ministry of Natural Resources and Tourism, is doing everything possible to keep the Mwalimu vision of protecting wild places alive for present and future generations. Today, high attention is focused on the decline and extinction of species, habitats, and entire ecosystems. The most serious attention is given to the loss of biodiversity due to species extinction. Therefore, on the good will of the government of Tanzania to make sure that its people live in a peaceful place with freedom to legally perform daily economic activities, the Maasai were voluntarily asked to register and relocate to Handeni, Tanga. In the new home, the government built modern homes and provided infrastructure for social services such as hospitals, water wells, electricity supply, and road networks, to mention a few. The exercise is still in progress as many people are still willing to relocate to the area (**Figure 7**). The public is still unaware of the number of new houses that are expected to be built, but it may be determined by how many people are willing to relocate to the area. I understand how difficult it is to relocate 120,000 people, and because the exercise is based on individual willingness to relocate, it is anticipated that not all Maasai will leave the NCA landscape (personal observation).



Figure 7.
The current housing style of the Maasai people at Ngorongoro.

3. Livestock depredation and human attack incidences in the Ngorongoro landscape

Globally, wildlife habitats are gradually shrinking as a result of anthropogenic activities and human population growth [23]. Because of an increased human population, the edges of protected areas are gradually shrinking, resulting in an increased demand for land for settlement and farming. Such demands have a negative impact on biodiversity conservation by encroaching on arable and fertile lands adjacent to protected areas [27]. As a result of habitat degradation, frequent interactions between humans and wildlife have increased [21, 23]. Because human population control in Africa is poor, there is a strong correlation between the increase in human population and the extinction of wildlife [28, 29]. Large carnivores and humans have a long history of conflict, with human attacks and livestock depredation [30, 31]. Human attacks and livestock predation have resulted in carnivore retaliation [31, 32]. This conflict must be addressed using all available means in order to gain conservation support for large carnivores from local people who interact with these species [23, 33]. For example, a study of the feeding and seasonal preferences of lions (*Panthera leo*) in Kenya's Tsavo National Park discovered that livestock depredation increased during the dry season [34]. In contrast to the dry season, when most herds of prey are found around water points, carnivores' prey is evenly distributed across the habitat during the wet season. This facilitates predation because lions can hide near water sources and prey on approaching herds [34]. However, chasing individuals during the wet season requires more effort and energy due to the abundance of shallow water points. When predators find it difficult to hunt wild prey, they turn to easier prey, such as livestock [34]. Furthermore, it was discovered that livestock depredation

increased during the wet season in the Tsholotsho Communal Land and Ngamo Forest adjacent to Hwange National Park in Zimbabwe [35]. Communities usually grow crops during the wet season. During this time, their livestock is moved away from the crop fields to graze near protected areas where there are more wild carnivores [35]. When dealing with livestock depredation, coexistence measures are easier to implement in a community than human attacks. It is frequently possible to provide conservation incentives that boost local morale and increase their willingness to accept losses as a result of the incentives. It is, however, impossible to provide incentives that compensate for human attacks and/or killings. Ideally, studies should be conducted to educate people on how to avoid human attacks based on the circumstances surrounding previous attacks. The study's findings will be used to propose various strategies for harmonious coexistence between humans and carnivores as well as to support their conservation. Tanzania's conservation stakeholders' primary goal is to reduce the carnivore population adjacent to many networks of protected areas. Retaliatory killings will increase if people have negative attitudes toward large carnivores. Large carnivores require large home ranges, and because protected areas are shrinking due to anthropogenic activities, they end up living close to human-dominated areas.

The situation in the Ngorongoro landscape is threatening people's lives due to frequent incidents of human attacks and/or livestock depredation. Normal lives of people living in the landscape have been jeopardized, especially for schoolchildren, who now attend school in comparison to previous generations when many Tanzanians did not. When students arrive at school in the morning, they are vulnerable to predator attacks. With all of this chaos, only a few families are brave enough to send their children to school. With the new home in Handeni, the constraints that would have resulted in an illiterate society in the future are now a thing of the past.

4. Improving the quality of the Maasai people with modern homes and farming opportunities

A large number of Maasai communities have voluntarily registered to relocate to the newly established homes in Tanga's Handeni district [36, 37]. It is time to educate the public about the distinctions between the NCA and the LGCA) in the Loliondo and Sale divisions. According to the IUCN, NCA are classified as category V. However, the Wildlife Division is in charge of the LGCA. It is a gazetted area with defined boundaries where people are permitted to live. A permit or license is required to exploit or harvest wildlife resources. Some species are not hunted, for example, rhinos and giraffes, as well as there is wildlife control for crop or livestock protection. So, the NCA only lets people visit for photography, while the LGCA lets people visit for both photography and trophy hunting.

When discussing the Ngorongoro district, where both the NCA and the LGCA are located, it is common to become confused. As a result, they are found in the same district but play different roles in terms of wildlife conservation and tourism businesses. Tanzania's government believes that they have the right to protect their people from any danger. In this context, the government defines the danger as human attacks, livestock depredation, and a poor quality of life [31, 38] as well as the consequences of raising an illiterate generation because most children do not attend school due to fear of lion attacks [39]. Tanzania's government has taken steps to build houses in the Tanga region (Handeni district) (**Figure 4**). The Handeni

district appears to be the ideal location for Maasai people and livestock in order to alleviate current pressures on the well-known NCA [40, 41]. The presence of NCA contributes to a higher percentage of tourism revenue generated by tourism activities. As a result, the Tanzanian government has determined that the only way to protect the status and scenic beauty of the NCA is to ask the Maasai people to relocate to a safe place (Handeni district) that is free of human attacks caused by large carnivores and/or livestock depredation. The artifact of constructing new modern homes in better conditions than existing traditional houses is in accordance with the country's goal of continuously improving the quality of life of its people. As a result, the majority of Tanzanians see the government's actions as beneficial to Maasai communities. Maasai people in NCA currently live in boma houses made of poles and cow dung and thatched with grass or occasionally covered with plastic [42] (**Figure 3**). The conservation policy that governs the NCA prohibits the Maasai from engaging in farming activities [43, 44]. The only advantage they have is free pasture, and the remainder of their food should come from nearby districts [43, 45]. The new home, Handeni, on the other hand, has no such restrictions. In this anticipation, it is a good opportunity for each household to have a good house made of bricks and roofed with iron sheets (**Figure 8**). Furthermore, they will have a backyard to grow food crops such as maize and vegetables to supplement their diet. What a fantastic opportunity!

Nevertheless, this opportunity may prove difficult during their initial days in their new home. For centuries, the Maasai have been pastoralists, relying on livestock husbandry for a living. Outside the NCA, the Maasai practice both livestock husbandry and subsistence farming, like in the LGCA [17]. Since the Maasai from NCA have not done farming before, they will need help and training from extension officers from the Ministry of Agriculture.



Figure 8.
The new housing style of the Maasai people at Handeni.

5. Conclusion


Given the current unprecedented increase in human population, now is the time for conservationists and policymakers to rethink and find immediate solutions to conserve and protect biodiversity. If we do not plan for the future, the natural wonders we enjoy today will be lost and our grandchildren will blame us for irresponsible actions. As the Mwalimu (the father of Tanzania) vision emphasizes, the loss of these magnificent wild places and their creatures will affect not only the African continent but also the entire world. As a result, Tanzania's decision to willingly allow the Maasai to relocate to freedom land was the millennia decision ever made in conservation initiatives. For instance, according to the Martin Oleikayo, the head of Msomera Village, said that "the resettlement plan is good for the whole country." He also said that "all citizens benefit from the money made by tourism in the conservation area" [36]. A bold decision on economic potential due to the area's growing human population will result in a medium- and eventually high-income populace. With the present climate change and population pressures, it will aggravate poverty in the region [46]. However, the Maasai resettlement may have some drawbacks. It is very likely that moving out of the area where you have lived since you were a child will cause some discomfort. The trade-offs that are being thought of here are ones in which the option of moving is better than the option of staying on their ancestral land.

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