

## Assessing the Socio-Economic Needs of the Maasai Community in the Msomera Resettlement Area, Tanzania

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### Abstract

Pastoralist communities in Tanzania, particularly the Maasai, have long faced challenges related to conservation policies, limited access to essential social services, and pressure on natural resources. In response, the Government of Tanzania introduced a voluntary relocation initiative to move households from the Ngorongoro Conservation Area (NCA) to Msomera Village in Handeni District. This initiative aimed to mitigate human-wildlife conflict, alleviate environmental pressures, and improve access to services for pastoralist families. However, the relocation also raised questions about community adaptation, the adequacy of support, and socio-economic transformation.

This study was conducted to assess the socio-economic needs of the resettled Maasai community in Msomera. Specifically, it aimed to: identify the basic social services available to the resettled community; assess cultural and social adaptation challenges; and evaluate community perceptions regarding the adequacy of support provided during and after the relocation. Using a mixed-method participatory approach, the study collected data from 310 household heads and 10 key informants through surveys, interviews, focus group discussions, and document reviews.

Findings indicated that while services such as education, water, and healthcare were present, they were inadequate and under strain due to the rapid population increase. Many respondents reported dissatisfaction with the support received, including limited compensation, minimal livelihood support, and a lack of involvement in planning processes. Cultural adaptation also emerged as a major challenge as the community adjusted to new land-use patterns and lifestyles. Based on these insights, the study recommends improving essential services, enhancing transparency and fairness in compensation, strengthening psychosocial and cultural support, and promoting inclusive, participatory planning in future relocation initiatives.

**Keywords:** *voluntary relocation, socio-economic needs, resettlement support, basic social services, cultural adaptation, pastoralist livelihoods.*

### Introduction

The interaction between the ecological environment and living organisms is fundamental and symbiotic. Global natural ecosystems provide essential resources and services to human and animal populations (Millennium Ecosystem Assessment, 2005). However, rapid population growth, environmental degradation and increased competition for limited natural resources are putting significant pressure on ecosystems, especially in regions where people, animals and wildlife coexist (FAO, 2018; IPBES, 2019). These phenomena are particularly pronounced in Africa, where increasing population density and agricultural expansion have accelerated habitat destruction, threats to biodiversity and conflicts over resources (UNEP, 2022; Brink *et al.*, 2016; Newmark, 2008).

The global population is projected to reach 9.7 billion by the year 2050, marking an increase of approximately 30%50 from 2023(UNDESAPD, 2022). This growth is leading to habitat loss due to changes in land use, resource extraction, and pollution. Forests are being cleared for agriculture, urban development, and infrastructure expansion, resulting in the fragmentation and decline of natural habitats (Brondizio *et al.*, 2019). According to the World Wildlife Fund, over 1 billion hectares of land, primarily forests, have been converted to agriculture since the 1700s. The United Nations estimates that by 2050, up to 70%50 of the

planet's natural ecosystems could experience significant degradation (IPBES, 2019). The Living Planet Index reveals a 70% decline in global vertebrate populations since 1970, which is linked to habitat loss (WWF, 2022). To mitigate the effects of population growth and ensure a healthy planet for both humans and wildlife, there is an urgent need for sustainable practices, conservation of space, and responsible management of resources.

In Tanzania, these challenges are evident in regions such as the Ngorongoro Conservation Area (NCA), a UNESCO World Heritage Site that harmoniously combines human settlement and nature conservation (UNESCO, 2021). The Maasai community, traditional pastoralists in the NCA, have coexisted with remarkable wildlife species for many years (Homewood and Rodgers, 2004; McCabe *et al.*, 2014). However, this harmonious coexistence is increasingly threatened by population growth, changing environmental conditions, and economic changes (Noe and Kangalawe, 2015; Igoe, 2006; Ngorongoro Conservation Area Authority [NCAA], 2019).

The human population in the NCA has increased dramatically, from approximately 8,000 in 1959 to over 93,136 in 2017. This increase is significant considering that the original master plan envisioned only 20,000 people (approximately 5,000 households) (Connect Democracy of Tanzania, 2019). At the same time, the number of Tropical Livestock Units (TLU) per capita—a similar indicator of livestock density—has decreased significantly from 11.6 in 1959 to just 2.3 in 2017, indicating a significant shift in pastoral behaviour and land-use practices (TLU, 2019). This trend suggests that human population growth may be placing unsustainable pressure on available rangelands and other ecological resources.

Tourism has made this situation more complex. Ten years ago, it represented about 92% of the overall economy of the NCA (Melita & Mendlinger, 2013). The number of tourists grew from roughly 54,935 in 1984 to more than 644,000 in 2022 (NCAA, 2020). This increase in tourism brings significant financial advantages, but it also introduces major dangers. The large number of visitors at famous locations such as Ngorongoro Crater and Olduvai Gorge has caused specific environmental harm and uneven growth (Rimisho & Matei, 2024). Furthermore, the large arrival of tourists and the facilities built for them have led to the introduction of over 139 invasive plant species in the past ten years, with some being very harmful to both people and animals. (Ngondya & Munishi, 2021).

Remote sensing and GIS research have shown that Land Use and Land Cover (LULC) in the NCA have been greatly altered because of growing human populations, tourism activities, and changing patterns of livestock grazing. Furthermore, these changes have taken place even with the presence of various conservation measures and classifications, such as UNESCO World Heritage recognition and biosphere reserve status. While these frameworks aim to balance conservation and sustainable development, their effectiveness is increasingly being challenged.

In response to these growing pressures, the Government of Tanzania has launched a voluntary program to resettle the Maasai people to places like Msomera in Handeni District. The purpose of this program is to lessen the strain on people and their animals in the sensitive environment of the NCA. The government has been committed to improving access to vital resources like houses, medical care, schools, and clean water for those who have moved (URT, 2022; IPIS, 2023). The act of relocation is supported by national laws such as the Wildlife Conservation Act (2009), the Land Use Planning Act (2007), and the National Environmental Policy (1997, updated 2021), each of which highlight the need for responsible land use, environmental protection, and improvements in community living (URT, 2021a; URT, 2021b).

Furthermore, Tanzania's Third Five-Year Development Plan (FYDP III) 2021/22–2025/26, highlights key areas such as environmental preservation and changes in rural areas, which correspond to the government's resettlement initiatives (URT, 2021). Resources have been allocated to improve essential infrastructure in new settlement areas like Msomera, including roads, schools, and medical services. Regardless of these measures, the resettlement strategy has encountered disapproval from both human rights advocates and academic researchers, citing insufficient community engagement and potential harm to the Maasai people's cultural heritage and customary means of support (Human Rights Watch, 2023; Oakland Institute, 2022). These concerns underscore the need for more inclusive, rights-based, and participatory approaches to conservation and development in Tanzania.

## 1.2 Statement of Problem

The relocation of the Maasai community from the Ngorongoro Conservation Area (NCA) to the Msomera resettlement area in Tanga is a major government initiative aimed at reducing ecological pressure on

conservation areas while promoting access to better social services and livelihood opportunities for pastoralist communities (Kannowski & Ngaiza, 2022; Mbise, 2022). While this effort is framed as a voluntary and development-oriented solution, it introduces new challenges that have not been fully understood or addressed—especially those concerning the socio-economic needs and cultural wellbeing of the relocated Maasai community.

The Msomera resettlement program raises critical concerns about equity, sustainability, and cultural continuity. Although it is intended to provide land for cultivation, improved infrastructure, and protection from conservation-related conflicts, it also presents risks such as cultural dislocation, disrupted livelihoods, and reduced adaptive capacity in the face of climate change. Empirical studies have shown that such transitions—from pastoralist to sedentary or agrarian lifestyles—can result in social fragmentation, identity loss, and diminished resilience (Fernandez-Gimenez, 2000; Homewood *et al.*, 2009). Additionally, reports have questioned the inclusivity of the consultation process and the readiness of the receiving communities and infrastructure to support long-term integration (Oakland Institute, 2022; Human Rights Watch, 2023). Therefore, assessing the socio-economic needs of the Maasai in the Msomera resettlement area is critical to ensure that the relocation contributes to sustainable livelihoods, respects indigenous rights, and maintains cultural integrity.

### **1.3 Objective of the study**

#### **1.3.1 The main objectives**

The main objective of this study was to assess the socio-economic needs of the Maasai community in the Msomera resettlement.

#### **1.3.2 Specific Objectives**

To achieve the general objective, the study will pursue the following specific objectives:

1. To identify the basic social services (e.g., education, healthcare, water) available to the Maasai community in the Msomera resettlement area.
2. To assess the cultural and social adaptation challenges faced by the Maasai community in the resettlement area.
3. To evaluate the perceptions of the Maasai community regarding the adequacy of support provided during and after relocation.

#### **1.3.4 Research Questions**

1. What essential social services are currently accessible to the Maasai community in Msomera?
2. What cultural or social challenges have the Maasai experienced since resettlement?
3. How do the Maasai perceive the support and interventions provided to them in Msomera?

#### **1.3.5 Justification of the Study**

The idea of resettling the Maasai people in the Ngorongoro Conservation Area (NCA) in Msomera is one of the strategic government policies that has a long-lasting effect on the environmental health and socioeconomic status of the indigenous populations. However, in general, the socio-economic consequences of such relocation continue to be poorly traced and extensively written about. It will therefore be necessary that a proper assessment of the socioeconomic needs of the Maasai relocatees is conducted to provide an answer as to whether the intervention is achieving its set aims; that is, improving livelihood, ensuring equitable access to the public services and preserving cultural identity.

The relocation of the Maasai people from the Ngorongoro Conservation Area to Msomera transition remains poorly documented and understood. Assessing the socioeconomic needs of the relocated Maasai people is essential to determine whether the intervention is achieving its stated objectives, such as improving livelihoods, ensuring equitable access to services, and preserving cultural identity. This represents a major policy step with long-term implications for environmental conservation and the well-being of indigenous communities. However, socioeconomic consequences of this.

This study will inform policy decisions, guide future resettlement programs, and ensure that the voices and needs of indigenous communities are central to development interventions. It will also provide insights into the strengths and weaknesses of the current resettlement process, helping stakeholders adopt more inclusive, rights-based, and sustainable approaches to community resettlement. Furthermore, the study findings will

contribute to expanding scientific knowledge in the fields of pastoralism, resettlement, development studies, and human rights in conservation

Resettlement in this study refers to a broad process that includes not only relocation but also re-establishing livelihoods, rebuilding housing, and integrating displaced populations into new socio-ecological systems, ideally restoring or improving their former standard of living (Scudder, 2012; de Wet, 2009).

## **2.0 Theoretical And Conceptual Frameworks**

### **2.1 Theoretical Framework**

Systems theory was developed in the 1940s–1950s by Ludwig von Bertalanffy to provide a holistic framework for understanding complex and interconnected systems that could not be explained through reductionist approaches alone (von Bertalanffy, 1950). It emphasises the importance of relationships, feedback loops, and adaptive processes across disciplines, offering an integrated lens for analysing dynamic socio-ecological phenomena (Baggio, 2008).

The theory is based on the assumption that resettlement is not merely transferring people; it involves modifying the social-ecological, economic, cultural and political components in interaction (Glyptou, 2024; von Bertalanffy, 1950). When people like the Maasai pastoralists leave a Ngorongoro Conservation Area and move to Msomera, they initiate new patterns of relationships with people, territory, institutions and resources. This transition introduces new dynamics into the system. Moreover, such relocations provide feedback loops: with pressure off the land in the receiving area, new strains may appear in the receiving area, and some social and cultural impacts may come later and unintentionally (Cernea, 2000; Scudder, 2012). From this view, the resettlement programs must be designed to be dynamic, learning-oriented, stakeholder-inclusive, and people-centred. They also need to consider the interrelationship among the various levels, acknowledge the worth of each of the groups trying to resettle, and safeguard the communities being relocated and the new environs to their settlement in the long term (OECD, 2020; URT, 2022). Due to the interconnectedness of socio-ecological systems, systems theory provides a general framework in planning to resettle people in a way that achieves short-term policy objectives but also increases resilience and enhances well-being in the long term (Baggio, 2008; Oakland Institute, 2022).

The systems theory has been applied by various scholars, such as Scudder (2012), to examine the resettlement projects with respect to the large dams that were introduced in Africa and Asia. Scudder applied a longitudinal, systems-based approach in order to trace the way displaced populations adapt in time. His four-component system, which was the recruitment, transition, potential development, and incorporation/fall, showed that resettlement is an open system which has a complex system in its feedback loop involving displaced communities, host society, ecosystem, and institutions. Most resettlement efforts showed that they did not achieve sustainable results due to oversights in planning of such aspects as the livelihood of their people, in addition to governance systems that were ineffective and lacked exposure to local economies. He stated the case of having participatory planning, long-term support and continuous tracking of the changing feedback of the system.

The study by Glyptou (2024) studied the role of systems thinking in dictating the relocation policy related to conservation in Southern Europe and East Africa, demonstrating that an environmental policy shift can trigger a cascade of responses on various levels. To demonstrate the impact of relocation, the study utilized systems mapping and stakeholder analysis and established that coupled systems such as land use, socio-economic structures, and cultural practices are affected. Contact journeys conducted by Glyptou show that poorly planned interventions can form negative feedback loops, e.g. increased land pressure or social tension in the receiving locations due to the lack of cross-scale coordination and active engagement of the community. The paper concludes that there is a need to integrate complex adaptive systems thinking with adaptive strategies at a community level to be able to design effective and resilient resettlement policies.

Scudder (2012) and Glyptou (2024) demonstrate through systems theory that successful resettlement requires understanding the complex, interconnected social, ecological, and institutional dynamics at play, emphasizing inclusive planning, ongoing support, and adaptive management. The relocation of the Maasai from Ngorongoro to Msomera highlights a critical research gap, as little is known about how well the process addresses the community's socio-economic needs, cultural adaptation, and long-term sustainability. Concerns about inadequate participation and preparedness suggest weak feedback mechanisms crucial for resilience. This study seeks to fill that gap by assessing the Maasai's lived experiences in Msomera, aiming



to inform policies that balance ecological conservation with sustainable livelihoods and cultural preservation through a comprehensive systems approach.

Numerous studies have applied Systems Theory to examine how interactions between social, cultural, and institutional subsystems influence the well-being of communities undergoing resettlement (von Bertalanffy, 1968; Meadows, 2008; Baggio *et al.*, 2015). These studies demonstrate that when resettled communities are supported through coordinated interventions across multiple subsystems — such as social services, cultural adaptation mechanisms, and livelihood support — they are more likely to achieve socio-economic stability while enhancing sustainability outcomes in both the resettlement and original areas (Sultana, 2021; Osborne *et al.*, 2021). Hence, Systems Theory provides a holistic framework for analysing how different policy components interact to enhance the Maasai community’s well-being during the resettlement process.

### 2.1.1 The Conceptual Framework

Based on System Theory studies, Figure 1 presents a conceptual framework of this paper and suggests that socio-ecological systems are composed of interdependent and interconnected components, whose interactions determine the behaviour and outcomes of the entire system. Applied to the Maasai resettlement process, this framework posits that socio-economic well-being is not the result of a single policy input, but rather the result of the dynamic interaction between government resettlement interventions (inputs), intermediate subsystems (processes), and community-experienced outcomes (outcomes).

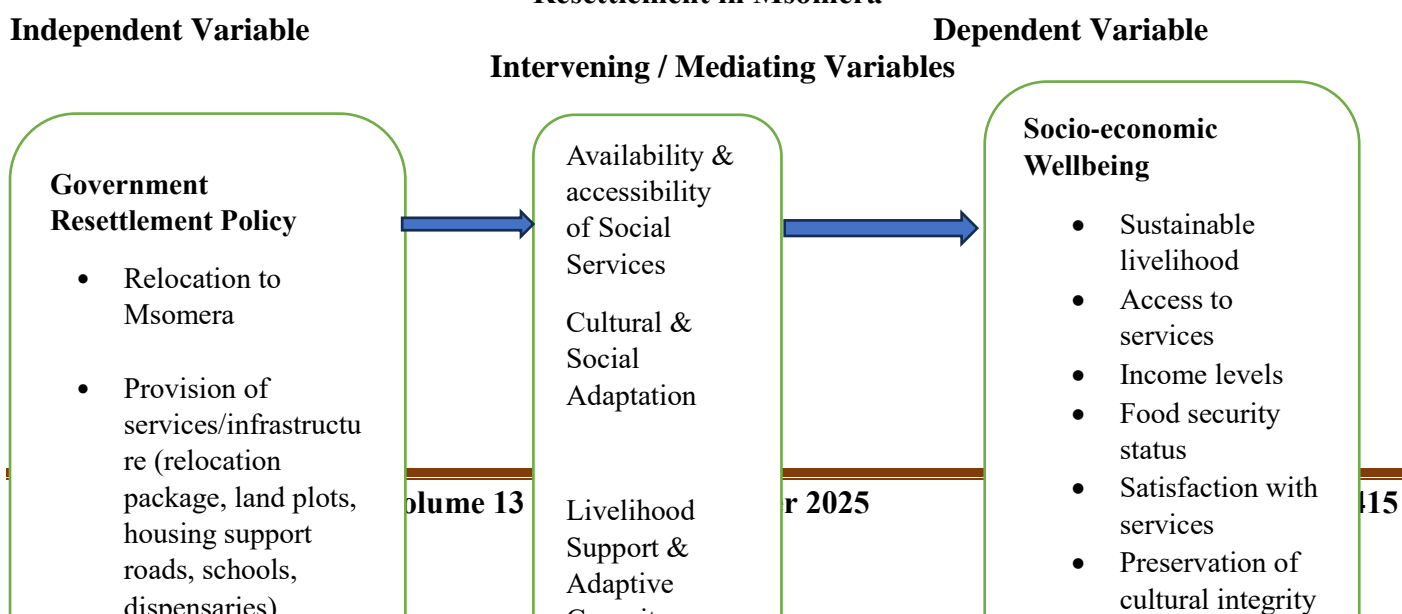
At the left of the framework is the independent variable: government policy intervention for resettlement, which includes the provision of resettlement packages, the distribution of land plots, housing support, and commitment to infrastructure development (roads, schools, clinics). These interventions trigger responses in various intervention/mediation subsystems, which together determine how the relocated Maasai adapt and benefit.

The first mediation subsystem, availability and accessibility of social services, measures the extent to which displaced families have access to water, sanitation, schools, safety and road networks. These factors influence their daily functioning and use of services. The second subsystem, “Cultural and social adaptation”, reflects the capacity of Maasai families to maintain their cultural identity and traditional values by actively participating in new social institutions, building social networks and participating in decision-making. The third subsystem, “Livelihood support and adaptive capacity”, assesses the availability of pasture/crop areas, resources and livestock, implementation of new livelihood strategies and available training/support.

Together, these intermediate variables strengthen or weaken the transmission effect of government interventions on the dependent variable: the socioeconomic well-being of relocated Maasai communities, measured by income levels, food security, satisfaction with services, perceived improvements in quality of life, and preservation of cultural integrity.

Drawing on systems theory, the conceptual framework emphasizes that the success of resettlement depends not only on initial policy inputs but also on how effectively supporting subsystem’s function and how they interact to enhance the adaptive capacity, cultural continuity, and long-term socioeconomic well-being of the Maasai people.

**Figure 1: Systems-Based Conceptual Framework for Socio-Ecological Dynamics of Maasai Resettlement in Msomera**



## **2.2 Empirical Review**

### **2.2.1 The socio-economic needs of the Maasai community**

The socio-economic needs of the Maasai community remain pressing, particularly in resettlement contexts where traditional livelihood systems are disrupted and access to services is limited. Studies show that relocation reduces access to good pasture and water, which undermines the livestock-based livelihoods that are central to Maasai identity and economic security (Homewood & Trench, 2008; Galvin, 2020). Moreover, a lack of proper access to basic services delays the development of skills and knowledge among the people. Access to clean and reliable water is particularly relevant, as a large number of families in these villages can walk long hours in search of water, adding burden to women and children (Oakland Institute, 2022; Human Rights Watch, 2024).

Similarly, inadequate health services expose communities to preventable diseases and maternal health risks. (Fratkin, 2014; Susanna, 2022). Access to education services is also constrained by limited school availability, low enrolment rates, and long distances to school centres, which together contribute to persistent poverty and limited livelihood diversification among the Maasai population (Baird, 2015; Mwangi and Benders, 2021). Improving access to water, education, healthcare, and livelihood support services is therefore essential to promoting socioeconomic well-being and sustainable adaptation among displaced Maasai communities.

Similar socioeconomic challenges have been observed in other pastoralist and indigenous communities resettled as part of conservation or development initiatives in Africa and elsewhere. For example, the Batwa in Uganda experienced severe declines in income, food security, and access to basic services after being relocated from forest areas to establish national parks (Barume, 2014; Hayes and Robson, 2019). Similarly, Baka hunter-gatherers in Cameroon faced difficulties accessing healthcare, education, and drinking water after moving from forest areas to roadside settlements (Pyhälä *et al.*, 2016).

Similar to other pastoral and Indigenous peoples who were relocated to conserve or develop, other African and other countries suffer similar socio-economic issues. Uganda Batwa, as an illustration, were deprived of income, food security, and basic services when they were evicted to go out of forest areas and established national parks. This is explained by their condition in Barume (2014) and Hayes and Robson (2019). The Baka hunter-gatherers of Cameroon confronted comparable problems when they were relocated out of the forest lands into settlements along the roads, as it was revealed in Pyhhlina *et al.* (2016).

In Kenya, the displacement of Samburu pastoralists to establish nature reserves disrupted traditional grazing patterns, leading to a decline in cattle breeding and increased reliance on food aid (Greiner, 2016). Similarly, San communities in the Kalahari National Reserve in Botswana have reported loss of livelihoods, cultural erosion, and inadequate government services as a result of forced relocation (Saugestad, 2019). These cases, like those of the Maasai people, demonstrate that without adequate social services and culturally sensitive support, displacement can exacerbate socioeconomic problems rather than improve well-being.

In Africa and elsewhere, displaced indigenous and pastoral communities consistently face increased socioeconomic vulnerability when displacement is not accompanied by adequate services and cultural support. Studies of the Batwa in Uganda, the Baka in Cameroon, the Samburu in Kenya, and the San in Botswana highlight recurring challenges. The challenges include limited access to clean water, healthcare, education, and traditional livelihoods, which lead to food insecurity, declining incomes, and cultural erosion (Barume, 2014; Greiner, 2016; Pyhälä *et al.*, 2016; Hayes and Robson, 2019; Saugestad, 2019). These experiences echo the Maasai case, underscoring the crucial importance of responsive and holistic support systems to ensure the socioeconomic well-being of displaced communities.

### **2.2.2 Cultural and social adaptation challenges faced by the Maasai community in the resettlement area**

Resettlement often forces indigenous and pastoral communities to make complex cultural and social adjustments as they transition to new socio-ecological contexts. For the Maasai, whose identity is deeply rooted in pastoral mobility, age-based governance systems, and communal land use, relocation to settled

villages disrupts traditional social structures and cultural practices, creating tensions as they adapt to new institutional arrangements, livelihood systems, and social relations (Homewood and Trench, 2008; Galvin, 2020). Literature shows that transitions from communal grazing to individualized land ownership and from pastoralism to agriculture or wage labour can undermine cultural norms, weaken traditional support networks, and limit the influence of elders in decision-making (Talle, 2015; Mwangi and Benders, 2021). Furthermore, increased interaction with non-Maasai populations and exposure to modern schooling, livelihoods, and values may accelerate cultural assimilation among youth, raising fears over the loss of language, rituals, dress, and other markers of Maasai identity (Fratkin, 2014; Sachedina & Pemba, 2022). Similar patterns have been documented among other indigenous groups in Africa. Following displacement from forested areas, the Batwa in Uganda and the Baka in Cameroon have struggled to maintain cultural ceremonies, knowledge transmission, and community structures in resettlement villages designed without regard for their sociocultural systems (Pyhälä *et al.*, 2016; Hayes and Robson, 2019). The Samburu in Kenya, relocated to prepare protected areas, also report a decline in social cohesion and an erosion of intergenerational knowledge due to disconnection from ancestral lands and cultural landscapes (Greiner, 2016).

The same case applies to the indigenous people in Asia and India who have to adapt to new cultural environments. In India, the relocation of tribal communities for dam construction has resulted in the destruction of kinship ties and diluted traditions and rituals (Kothari *et al.*, 2013).

In Brazil, Amazonian peoples displaced by development initiatives face difficulties preserving language and customs due to the pressure to integrate into mainstream agriculture and business (Schmidt and Gomes, 2018). All these examples indicate that displacement across the globe disorients cultural and social bonds and the need to ensure culturally sensitive planning and support to keep communities resilient.

Although numerous studies document the cultural and social disruptions experienced by resettled Indigenous and pastoralist communities globally, there remains a lack of context-specific evidence on how these adaptation challenges evolve and interact with government post-resettlement support systems to influence long-term wellbeing outcomes among the Maasai in Msomera. Existing literature tends to focus on the immediate impacts of relocation—such as loss of land and erosion of customary practices—but pays less attention to the dynamic adaptive strategies communities employ and the institutional factors that either facilitate or constrain their successful socio-cultural integration. There is therefore a need for empirical research that examines the effectiveness of ongoing policy interventions in supporting cultural continuity and social cohesion, and how these in turn affect the sustainability of resettled Maasai livelihoods.

### **3.0 Research Methodology**

#### **3.1 Study Area**

This study was carried out in Msomera Village, Misima Ward of Handeni District in Tanga Region — a semi-arid savannah area receiving 600–800 mm of rainfall annually and traditionally dominated by pastoral production systems (URT, 2022; NBS, 2023). Msomera was purposively selected because it is the government-designated relocation site for Maasai households from the Ngorongoro Conservation Area, making it a critical context for assessing the socio-economic and cultural outcomes of contemporary resettlement policies (Oakland Institute, 2022; TRA, 2023). The village population comprises approximately 90 per cent Maasai and 10 per cent Zigua and Sambaa agro-pastoralists (Human Rights Watch, 2024). Unlike intensively studied Maasai areas such as Ngorongoro and Loliondo, Msomera represents a relatively new resettlement frontier following the 2021–2022 relocation wave, providing a unique opportunity to examine early adaptation dynamics and challenges associated with policy-driven pastoralist resettlement in Tanzania (Galvin, 2020; Sachedina & Pemba, 2022).

#### **3.2 Research design**

This study used a mixed-method participatory research (PRD) approach to collect qualitative and quantitative data. PRD refers to methods that use systematic research in direct collaboration with stakeholders affected by the problem being studied. The project involves individuals who do not necessarily have research training but who represent the interests of residents or communities (Vaughn & Jacquez, 2020).

#### **3.3 Population and Sampling Procedure**

The target population for this study was resettled Maasai residing in the Msomera Village, as well as selected community leaders, government officials, Private sector actors and NGOs representatives were used to provide information as key informative.

### 3.4 Sampling design

A multistage sampling technique was adopted to ensure representativeness and relevance of the study population.

#### Stage One: Purposive Selection of Study Area

Msomera Village was purposively selected due to its significance as the government-designated relocation site for Maasai households displaced from the Ngorongoro Conservation Area (NCA). The village has experienced rapid population growth from approximately 6,500 residents in 2022 (before resettlement) to an estimated 8,900 people following the arrival of about 2,400 migrants in 2022 (Oakland Institute, 2022). This rapid influx necessitates government interventions to support smooth integration between incoming Maasai migrants and existing residents, making Msomera an appropriate setting for investigating the dynamics of policy-driven resettlement.

#### Stage Two: Stratification by Hamlets

To enhance representativeness, the village was stratified according to its administrative hamlets (vitongoji). This ensured that the sample captured variations in population characteristics, access to services, and experiences across different parts of the settlement.

#### Stage Three: Simple Random Sampling of Households

Within each selected hamlet, a simple random sampling technique was used to draw individual household heads from an official sampling frame developed using household lists obtained from the Village Executive Officer. This ensured that all households had an equal chance of being included in the survey, thereby minimising selection bias and strengthening the validity of quantitative findings (Kothari, 2004). A total of 310 Maasai household heads were sampled from a population of 1,373 resettled households, using Yamane's (1973) formula with a 95% confidence level and 5% margin of error.

#### Key Informants

In addition to household respondents, 10 key informants were purposively selected based on their roles, experience and knowledge in the resettlement process, community development and service delivery. These included the Ward Executive Officer (WEO), Ward Community Development Officer, local hamlet leaders, health personnel, market and auction leader, and traditional Maasai leaders (Laigwanani). Their inclusion enriched the qualitative understanding of institutional, cultural, and service delivery dimensions of the resettlement programme.

**Table 1: Key Informants**

Key informants	Number
Ward Community Development Officer	1
Traditional leader “ Laigwanani”	3
Local leaders (hamlet)	3
Health personal	1
Market and auction leader,	1
Ward Executive Officer	1
<b>Total</b>	<b>10</b>

#### 3.4.1 Sample size determination

Both probability and non-probability sampling techniques were used in this study. For probability sampling, the sample size was obtained using the formula developed by Yamane (1973), which considers the level of precision required, the expected population variance, and the desired level of confidence will be employed. This method was used for random sampling of data. The study was using a 95% confidence level and a 5%



margin of error to ensure adequate statistical power and precision, as presented in equation 1. However, it is still a challenge to reach an agreement on how to determine the appropriate sample size in qualitative data. Since this study employs a case study design, Yin (2011) proposes that the number of participants should fall between 25-50 units for sufficient phenomenon investigation.

$$n = \frac{N}{1 + N(e^2)} \dots \dots \dots \text{Equation 1 (Yamane, 1973)}$$

Where: N = Population size

According to MNRT (2024) total of 1,373 households have already migrated to Msomera village; therefore for the sample size for the study will be given by

N= sample size= 1,373

e = marginal error.

Where: N = Size of targeted population.

n = sample size.

e = confidence interval.

n= Pastoralists/farmers (310 households)

### 3.5 Data Collection Methods and Tools

Both primary and secondary data were collected.

#### 3.5.1 Quantitative Data Collection

Structured questionnaires were administered to household heads to gather quantitative data on demographic characteristics, access to services, livelihood changes, and satisfaction levels using a five-point Likert scale.

#### 3.5.2 Qualitative Data Collection

Qualitative information was captured using:

##### 3.5.2.1 Focus Group Discussions (FGDs) and Participatory Tools

Focus Group Discussions (FGDs) were conducted with separate groups of men, women, and youth to explore their perceptions regarding the resettlement experience, including cultural adaptation and access to basic social and economic services.

Msomera Village is divided into three sub-villages (vitongoji), and in each sub-village, three FGDs were conducted—one for men, one for women, and one for youth—making a total of nine FGDs. Each discussion group consisted of 10 to 18 participants selected purposively to ensure gender and age representation.

A semi-structured FGD guide was used to steer conversations around themes such as service delivery, cultural integration, livelihoods, gendered experiences, and community participation. Discussions were conducted in Kiswahili by trained facilitators, and information was recorded through audio devices (with consent) and detailed field notes

##### 3.5.2.2 Rural Appraisal (PRA) tools were employed:

- **Social Mapping** was used to help participants visually identify the layout of their village, including key infrastructure such as health facilities, schools, water sources, roads, and settlement patterns. This tool enabled an understanding of spatial disparities in service access within the resettlement area.
- **Pairwise Ranking** was applied to prioritize the most pressing socio-economic needs and challenges facing the community. Participants were asked to compare needs in pairs (e.g., water vs. health services, or education vs. food security), allowing them to collectively identify which issues were of highest concern.
- **Transect Walks** were conducted with key informants in each sub-village to observe physical conditions, validate information gathered in FGDs, and gain first-hand insights into environmental and infrastructural realities. These walks involved traversing the village along a pre-determined route while engaging community members in dialogue about visible conditions.

##### 3.5.2.3 Key Informant Interviews (KIIs)

To ensure consistency and relevance across all Key Informant Interviews (KIIs), a semi-structured interview guide was employed. The tool comprised open-ended questions focusing on key thematic areas such as institutional roles in the resettlement process, policy implementation across sectors like health, education, water, housing, and land, challenges in inter-sectoral collaboration, resource constraints, stakeholder engagement and community feedback.

### 3.5.3 Secondary data

Secondary data was obtained from the ministries' reports, such as the Ministry of Tourism, Land and Internal Affairs, and relevant literature, published and unpublished reports.

### 3.6 Data Analysis and Validation

Quantitative data were analysed using **SPSS version 25**, applying descriptive statistics (frequencies, means, standard deviations, and rankings) to summarise household characteristics and perceptions. Qualitative data were analysed thematically, involving coding and development of themes (e.g., social adaptation, livelihood shifts, governance participation).

## 4.0 Findings And Discussion

### 4.1. Demographic characteristics of respondents

Table 1 presents the age distribution of respondents in Msomera Village who participated in the study. Findings indicate that the majority of respondents 42% were between 36 and 55 years old, followed by those aged 56 to 75 years 35%, while the youngest group, aged 20 to 35 years, accounted for 23% of the sample. This distribution implies that most of the individuals who have migrated into Msomera are adults, who, according to the Maasai culture, usually possess significant power to make influential decisions both at the domestic and community levels. These are adults who are instrumental in influencing the community norms, resource management, and engagement in the local governance structures in the process of resettlement. Research has found that age and social status play a critical role in determining the power of decision-making and participation in migration and resettlement programs, where older adults are usually regarded as custodians of culture and the main negotiators with other parties (Hall et al., 2018; Adger et al., 2021). Age is thus a significant variable that influences the decision-making ability, skills and responsiveness to development interventions and extension services of household heads, which are crucial towards livelihoods improvement in resettlement sites (IFAD, 2020; FAO, 2021).

**Table 2: Age Distribution of respondents (N = 310)**

<b>Age Group (Years)</b>	<b>Frequency</b>	<b>Percentage</b>
20–35	71	23
36–55	130	42
56–75	109	35
<b>Total</b>	<b>310</b>	<b>100</b>

Source: Researcher's construct

### 1.2 Respondents' Level of Education

Table 2 indicates that most households in Msomera Village have completed primary school education 54.8%, secondary education 26.8%, and the rest 8.1% have gone to college or university, and 10.3% have never attended school. Traditionally, the majority of Maasai populations have valued pastoralism and animal rearing over formal education, with cattle being the main source of wealth and economic growth; consequently, most families have tended to spend less on education (Baird, 2014; Mtengeti *et al.*, 2015). But that is slowly changing, and most of them are now at least attending primary education. It is possible that this change in educational achievement contributed to the fact that the community is becoming more open to development initiatives, such as the relocation decision, as education creates awareness of opportunities, risks, and the long-term value of resettlement (Galaty, 2020; World Bank, 2022). Although formal schooling is generally low, increased levels of basic education seem to have contributed to the development of more positive attitudes to change and modern livelihoods. It is essential to continue investing in adult education, primary school, and vocational training to empower the residents of Msomera and facilitate sustainable socio-economic change (UNESCO, 2021).

**Table 3: Level of education of the respondents (N = 310)**

<b>Level of education</b>	<b>Frequency</b>	<b>Percentage</b>
Primary school education	170	54.8
Secondary school education	83	26.8
University/ college education	25	8.1
Never attended school	32	10.3
<b>Total</b>	<b>310</b>	<b>100</b>

Source: Researcher's construct

Table 3 indicates the percentage distribution of the marital status of respondents in Msomera Village, where most of the respondents (70%) were married, 20% were single, 7% were widowed, and 3% were divorced. A large proportion of married people is partly explained by the Maasai cultural practice of polygamy, whereby men usually marry multiple wives (McCabe, 2003; Ole Keiwua, 2017). Therefore, there is a high prevalence of extended families and multiple wives (mitala) in most households in Msomera, which affects the household structure and sharing of resources. This cultural background reveals the reason why a good number of the people who have moved to Msomera belong to big polygamous families. Livelihood activities are normally carried out at the household level, and pastoralism and emerging agricultural practices are examples of livelihood activities where spouses and other family members work together to increase access to productive resources like land, labour, and capital. According to Doss *et al.* (2018) and FAO (2021) studies, discovered that married rural dwellers enjoy more social security and labour provision, which positively affects their ability to engage in development interventions and take up sustainable livelihood practices.

**Table 4: Marital Status of Respondents (N = 310)**

<b>Marital status</b>	<b>Frequency</b>	<b>Percentage</b>
Married	217	70
Widowed	22	7
Single	62	20
Divorced	9	3
<b>Total</b>	<b>310</b>	<b>100</b>

Source: Researcher's construct

#### **4.2 Basic social services (e.g., education, healthcare, water) are available to the Maasai community in the Msomera resettlement area.**

This section explores the availability and accessibility of essential social and economic services provided to the Maasai community resettled in Msomera Village, Handeni District. These services include education, healthcare, access to safe and reliable water sources, as well as critical economic infrastructure such as livestock auction markets (mnada wa wanyama), agricultural produce markets (soko la mazao), and road networks. Access to quality education is vital. It equips community members with the knowledge and skills necessary to diversify their livelihoods beyond traditional livestock keeping. Furthermore, healthcare services play a crucial role in safeguarding the well-being of households as they adjust to new socio-economic conditions. Access to clean water is equally important, supporting both domestic needs and livestock productivity. Livestock auction and crop produce markets also have a significant impact by enabling Maasai pastoralists and emerging agro-pastoralists to sell their products, generate income, and enhance food security. However, the efficiency of market connectivity, transportation of goods, and access to other public services heavily depend on the condition of feeder and access roads. Therefore, assessing the availability and accessibility of these services is essential to identify gaps. This assessment will help inform targeted interventions that promote the welfare, resilience, and sustainability of the resettlement programme.

##### **4.2.1 Access to Health Services in Msomera Resettlement Area**

The analysis of group discussion and key informant interviews has shown that Maasai community in Msomera is still struggling to access quality healthcare even in the presence of a newly built health centre. There is only one health facility available to serve a rapidly growing population. However, 65 per cent of

respondents reported that factors such as long distances, shortage of medical staff, and inefficient supplies often prevent them from accessing timely care. Even though the health centre building is ready, it is not fully functioning because it lacks staff, drugs, and is not equipped with laboratories or mortuaries. These findings are similar to national results that indicate many rural health centres in Tanzania are affected by persistent shortages of trained personnel and basic facilities (Ministry of Health, 2021; WHO, 2020). Women's groups have reported serious challenges in accessing maternal health services. The absence of nurses, delivery equipment, and proper waste-disposal facilities has created unsafe and undignified conditions. In some cases, mothers are compelled to carry medical waste home after giving birth. As one respondent noted, this experience is both distressing and unacceptable.:

*"We have a health centre but with no nurses or doctors to help us; the laboratory is there but has never been used."* (FGD, women group 1)

Men were complaining that the health insurance programs were ineffective and that the health insurance they had migrated with in Ngorongoro could not be utilized in Msomera, and that even newly purchased health insurance policies did not manage to save their lives when they needed to access treatment. The young participants highlighted the lack of emergency services, as they said that ill family members have to be taken to hospitals on motorbikes or by using expensive taxi services. The cost of transporting a pregnant woman to the health centre is approximated to be TSh 3,000-5,000 each time, and the cost of referral to the Handeni Hospital is estimated to be around TSh 100,000, thus making emergency services unaffordable by most families. These results are in line with the observations of Gammino *et al.* (2020) and World Bank (2018), who state that pastoralist populations resettled are likely to have structural obstacles to effective health service provision because of underinvestment, ineffective decentralisation and integration of mobile health services.

#### **4.2.2 Education Services in Msomera Resettlement Area**

The education services in Msomera are highly limited due to poor infrastructure, lack of teachers, and insufficient learning materials, a situation that particularly disadvantages the children in the resettled Maasai households, more so the girls. The village has one primary and one secondary school (Orimoti), but the two schools are under pressure with overcrowded classes, inadequate desks, and only eight teachers to serve the whole primary school. One key informant (local leader) reported that:

*"The government constructed schools in this area, but the facilities are not sufficient to cater to our increased population, and it is our children who are the sufferers."* (KI: Laigwanani 2)

Women stressed that overcrowding and sharing of desks mean that children are made to study in unfavourable conditions, which adversely impact concentration and performance:

*"Our children are not able to learn well because they are forced to share a desk, and the teachers are too few to give them the necessary attention"* (FGD, women group 3).

Men supported, citing the shortage of computers, electricity, dormitories, and water at the secondary school as significant barriers to better education, and one of them said

*"Education is the key; however, how can our children excel without sufficient classes, computers, or even electricity in their dormitories?"* (FGD, Men's group 2)

The youth participants admitted the positive by recognizing the success of all 22 candidates who recently passed their secondary form four examinations, but stressed that their further success would be jeopardised unless infrastructure and teaching capacity are improved as soon as possible. The results are consistent with trends identified by Mohamed (2019), who found that pastoralists tend to be excluded from education, owing to their distance from education facilities, infrastructure gaps, and social and cultural factors. There is therefore an urgent need to invest in classrooms, teachers, desks, dormitories, and digital learning facilities as a way of ensuring all resettled children get equitable access to quality education in Msomera.

#### **4.2.3 Access to water sources**

Reliable and safe water is one of the greatest challenges in Msomera Village with regard to household and livestock use. The main water sources available are salty underground wells and a small dam that is mostly used to cook and water animals. In focus group discussions, all groups of people, women, men, and youth were in agreement that despite the existence of these sources, they are not enough to support the daily needs of the increasing population and the vast herds that have been moved out of Ngorongoro. Women have emphasized that the salty groundwater is not safe to consume as well as cook with, and men have observed



that the dam usually dries up during the dry season, exposing the community to acute shortages. The youth respondents indicated that drinking salty water has adverse impacts on the productivity of livestock since milk curdles quickly, which impacts food security and income earned by households. The respondents also noted that the pursuit of safer water compels most families to walk long distances or use the expensive motorcycle transport, which is a big burden on women and children.

The discussion was summarised by one respondent, who said,

*"We are surrounded by water, but it is salty and unsafe; we need clean water to live and to save our animals."* (FGD, Youth's group 1)

These findings are supported by a study conducted by Rockström *et al.* (2021) and UN-Water (2022), which stated that resettled pastoralist populations tend to have a restricted supply of drinking water because of the poor investment in rural water supply and a significant strain on the local water supply. Consequently, community members were keen on the immediate linkage of Msomera to a piped water supply system at Ruvu River, and building of rainwater harvesting tanks, communal water points and facilitation of low-cost water purification technologies. The enhancement of access to water is regarded as important to human health and dignity, as well as livelihoods protection and livestock protection in the resettlement region.

#### **4.2.4 Livestock Auction Facility**

One key informant indicated that a modern livestock auction yard (mnada wa kisasa) has already been constructed in Msomera, but it is not yet complete and operational. Consequently, livestock keepers continue to depend on far-away auction centres in Handeni or the informal markets, where prices are low and the transport costs are expensive. He clarified that such a scenario decreases the income and bargaining power of pastoralists, who, instead of selling to buyers, sell to middlemen. The absence of a functional livestock auction point also demoralizes the pastoralists to invest in the quality of their herds and access vet services and market information. These findings are part of a wider body of evidence showing that local livestock auction infrastructure is critical in enhancing market efficiency, boosting pastoralists' incomes, and contributing to rural economic growth (Njuki *et al.*, 2019; Manzano & Yacob, 2021; FAO, 2022). The key informant emphasised that it is important to complete and operationalise the Msomera auction yard to enhance livestock-based livelihoods and boost the resilience of the resettled Maasai community.

#### **4.2.5 Road Infrastructure and Transport Challenges**

According to key informants, road networks serving Msomera village are in a very poor condition and need extensive rehabilitation. The feeder roads that are present are dusty, uneven and almost impassable during the rainy season, which results in frequent breakdowns of vehicles and transport to and from the village is slow and costly. The low quality of roads has led to transport costs of essential goods, livestock, and people being high, and this further puts a burden on the already weak resettled households economically. As one informant stated;

*"It is expensive to get goods here since the road is poor; transport is costly, and the vehicles do not even come at times."* (KI, Laigwanani 1)

Poor road infrastructure also restricts market access and the willingness of traders to enter the village, as well as the efficient provision of social services in the form of health outreach and agricultural extension. These issues are consistent with broader evidence that inadequate connectivity of rural roads undermines developmental outcomes by raising the costs of transactions, restricting market access, and isolating pastoralist communities (Mwabu & Thorbecke, 2019; World Bank, 2021; Kithinji *et al.*, 2022). It is thus important to upgrade and maintain the road network in Msomera to facilitate efficient transportation, minimize transportation expenses and increase livelihood opportunities among the resettled Maasai community.

#### **4.2.6 Access to Financial Services**

Msomera Village has no formal banks or micro-finance institutions operating within the settlement, leaving residents with very limited access to financial services such as savings accounts, credit facilities, and mobile money liquidity points. This lack of financial infrastructure is a major limitation for the community to participate in productive economic activities, invest in livestock, agribusiness, or address emergency needs. Lacking access to cheap credit and safe savings, most households have to turn to informal lenders and vikoba savings groups, which seldom offer adequate capital at high interest rates. According to one youth,

*“People want to grow their businesses, but without a bank or financial services nearby, they have nowhere to get loans or save safely.” (FGD, Youths’ group 3)*

This has also failed to attract external traders and investors to transact business with the local community, and instead, residents are forced to travel long distances to Handeni town to access banking services, at a high cost and wasting a lot of time. These difficulties are reflected in other researchers’ findings that lack of rural financial services decreases livelihood resilience, entrepreneurship, and hinders poverty reduction activities in pastoral and resettlement regions (Bagehot *et al.*, 2020; Demirguc-Kunt *et al.*, 2022; IFAD, 2023).

#### 4.2.7 Youth Unemployment and Livelihood Shifts Following Resettlement

One of the main issues highlighted by key informants is the rising unemployment among Maasai youth in Msomera and the limited options for alternative income-generating activities. Traditionally, Maasai young people mainly rely on herding livestock, especially cattle, as their primary economic activity and a key part of their identity. However, since resettlement in Msomera, most herders have reported an increased number of livestock mortality due to the emergence of new diseases, climate fluctuations, and unfamiliar grazing conditions. According to a KI,

*“Our cattle are dying because the environment is different — the grasses, the water, and new diseases we don’t know. (KI, Laigwanani 3)*

Due to the reduction in the number of cattle and the inadequacy of pasture, most of the young people lack a steady source of livelihood, leading to unemployment and laziness in the settlement. This scenario is indicative of broader research findings that forced mobility, environmental change, and disease outbreaks severely compromise pastoral livelihoods and leave young people vulnerable to economic exploitation (Catley *et al.*, 2019; Homewood & Trench, 2021). The absence of other job opportunities or vocational training also compounds the suffering, and the young people are asking to be provided with skill-building programmes, small-scale enterprise support and access to start-up capital as possible measures to diversify incomes. Studies of other resettlement sites indicate that training, microcredit, and access to markets have the potential to decrease livestock dependence and facilitate a more comfortable transition to livelihoods (Tache & Oba, 2020; World Bank, 2022).

The pairwise ranking analysis presented in Table 5 aligns with objective one of the study, which aimed to assess whether basic social services—such as education, healthcare, and water—are available to the Maasai community in the Msomera resettlement area. The ranking results indicate that while some basic services are physically present, their availability, accessibility, and quality remain significantly inadequate. The highest-ranked priority was access to health services, reflecting major concerns about the shortage of medical staff, essential drugs, emergency care, and maternal health services, despite the existence of a health facility. Access to water sources was ranked second, pointing to the critical issue of reliance on salty groundwater and unreliable surface water, both unfit for consumption and livestock use. Education services ranked third, with concerns over poor learning environments, lack of qualified teachers, and inadequate teaching and learning materials. These findings suggest that although efforts have been made to establish basic services in Msomera, the functionality and effectiveness of these services are insufficient to meet the needs of the rapidly growing resettled population. Hence, the objective is only partially achieved, as physical infrastructure exists, but meaningful access and quality remain major gaps.

**Table 5: Pairwise Comparison Matrix**

Needs (Rows vs Columns)	Health	Water	Education	Roads	Youth Jobs	Finance	Livestock auction	Total Score	Rank Priority
Access to Health Services	—	1	1	1	1	1	1	6	1
Access to Water Sources	0	—	1	1	1	1	1	5	2
Education Services	0	0	—	0	1	1	1	3	4
Road Infrastructure	0	0	1	—	1	1	1	4	3

and Transport Challenges									
Youth Unemployment and Livelihood Shifts	0	0	0	0	—	1	1	2	5
Access to Financial Services	0	0	0	0	0	—	1	1	6
Livestock Auction	0	0	0	0	0	0	0	0	7

### 4.3 Cultural and social adaptation challenges faced by the Maasai community in the resettlement area.

The resettlement of the Maasai community in new areas such as Msomera presents significant cultural and social adaptation challenges that affect their ability to maintain traditional ways of life within changing socio-economic environments. As a pastoralist society with strong traditions, customs, and land use practices tied to cattle rearing, the Maasai face pressure to adjust to new settlement patterns, diversify livelihoods, and establish relationships with other ethnic groups. These developments often create a conflict between preserving cultural identity and embracing modern development opportunities. Changes in family and gender roles, loss of communal grazing lands, shifts in social networks, and adaptation to formal education and market economies are some of the challenges forcing the community to renegotiate their cultural values and social cohesion. These cultural and social dynamics are crucial considerations in designing resettlement programmes that respect the Maasai traditions while promoting sustainable development goals.

#### 4.3.1 Cultural adaptation challenges

The Maasai people encounter various cultural adaptation issues in their resettlement region as they closely interact and, in some cases, conflict with agricultural communities that have a different cultural practice and lifestyle. These variations influence a number of areas of Maasai family life, leadership patterns, marriage, child-rearing patterns and dietary patterns that have resulted in considerable social adaptations.

#### 4.3.2 Family Roles:

Traditionally, Maasai families have clear roles with men responsible for herding and guarding livestock, while women manage household tasks and care for children. These roles are also questioned in the resettlement context, whereby, due to the reduced livestock population and new economic needs, both men and women are expected to engage in farming or other income-generating activities. This shift leads to conflicts and misunderstandings regarding household duties.

#### 4.3.3 Leadership:

Traditionally, Maasai leadership was founded on age-set systems and the councils of the elders, which directed social and cultural affairs. Nevertheless, in communities that are mixed with farmers, there is the presence of formal government arrangements and varying norms of leadership. This duality makes decision-making hard, and it undermines the traditional authority, so Maasai leaders cannot effectively enforce the customary laws or mobilize their people.

#### 4.3.4 Marriage:

Polygamous marriage is an important part of Maasai culture because it signifies wealth and status. On the contrary, the farming communities tend to have monogamous marriages. This cultural variance results in a clash of misunderstandings and social tension, as resettled Maasai socialize with neighbours with alternate marital standards, which may alter family stability and social acceptance.

#### 4.3.5 Child Rearing:

Maasai child-rearing is characterized by communal responsibility, where children acquire skills in livestock management and social values in the process of engaging in herding activities. Resettlement distorts this

model because children go to formal schools and participate less in traditional practices, thus creating gaps in cultural transmission and a feeling of losing identity among the youth.

#### 4.3.6 Diet and Food Security:

Maasai people have traditionally depended upon meat, milk and blood of cattle as the primary source of dietary nutrients and are also the focus of their culture. Losses of livestock through diseases, change of environment and limited grazing land as a result of resettlement also contribute to the decreased supply of these staple foods. As a result, most of the Maasai experience food insecurity and are compelled to switch to new diets that may affect their health and cultural well-being.

These cultural adaptation issues demonstrate the complicated social processes that the Maasai have to go through as they adapt to the resettlement process, as they have to balance their identity and the new reality. The same results have been described in research on pastoralist transitions, which focus on the significance of culturally competent interventions to facilitate social cohesion and sustainable livelihoods (Galvin, 2018; Hodgson, 2011; Homewood *et al.*, 2012; Rieckmann *et al.*, 2020).

#### 4.4 Perceptions of Support Provided During and After Relocation

The results indicate that there are mixed perceptions of the Maasai community on the level of support given during the relocation process. Although a majority of them admitted that the government was instrumental in easing their initial migration, such as transportation, assigning residential plots, and temporary shelters, most of the respondents believed that the aid was not enough to ensure sustainable settlement in Msomera. Most respondents were disappointed that livestock compensation, agricultural inputs, and building materials to construct houses were not delivered on time as promised. Some of the community members noted that once they arrived there, the follow-up was minimal and households were left to their own devices in adapting to a new and unfamiliar socio-ecological environment.

Poor access to basic services like water, health, schools, and markets further entrenched the belief that post-relocation support was not up to the promises made. In addition, the respondents did not feel they had been meaningfully included in the planning and decision-making processes of the resettlement, which added to a feeling of exclusion and mistrust. However, some took the initiative in a positive light, as they had noted that the provision of land and basic infrastructure, albeit in minimal amounts, did offer developmental potential, which could be capitalised upon in case of a greater level of long-term support being offered. In general, the community feels that although the relocation was made easier, the assistance given was, in most cases, inadequate to help the community make a smooth transition and sustainable rebuilding of livelihoods in Msomera.

**Table 4 : Perceptions of Support Provided During and After Relocation**

Support area	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	Mean	Std dev	Rank
Relocation assistance (land transport, housing)	28(9%)	105 (34%)	46 (15%)	92(30%)	39(12%)	2.97	1.22	1
Compensation	12(4%)	50 (16%)	31 (10%)	122 (39%)	95 (31%)	2.23	1.17	3
Agricultural inputs	19 (6%)	55 (18%)	33 (11%)	109 (35%)	94 (30%)	2.34	1.18	2
extension support	4 (1%)	43 (14%)	26 (8%)	141 (45%)	96 (31%)	1.10	1.10	5
Access to basic services	7 (2%)	47 (15%)	35 (11%)	121 (39%)	100 (32%)	2.16	1.13	4
Involvement in planning/decision-making	3 (1%)	25 (8%)	20 (6%)	132 (43%)	130 (42%)	1.84	1.03	6

The majority of respondents indicated a level of dissatisfaction or high dissatisfaction with the support offered during and after resettlement. The negative attitudes could mainly be explained by the fact that the expectations, which were created by the promises, and the reality of the actual support given did not match and neither did the assistance fit their pastoralist lifestyle. Even though each family was provided with a



house, most people complained that the units were small and could not support all members of the household, especially in polygamous families. Also, the houses were constructed with new designs and materials that were not the usual circular “enkaji” huts or Boma, which affected the identity and spatial arrangement of the Maasai.

In the case of land, despite the reported allocation of over six hectares per household, the participants complained that it was not sufficient considering the number of livestock they had taken in Ngorongoro and their intention of keeping large herds and the fact that they were accustomed to living with their sons and co-wives in a cluster called a boma. The landholdings were viewed as inadequate to sustain collective grazing systems and lacked adequate pasture and water, resulting in the death of livestock and stress. The agricultural and livelihood inputs also had high levels of perceptions of dissatisfaction. The respondents accused the support tools and crop seeds of being irrelevant to their pastoralist skills, given late or too few to have any effect.

Follow-up and extension services also got a lot of dissatisfaction since the community believed that the technical officers hardly came to Msomera to train or support them. Most of them stated that they were left alone after their relocation. Frustration was compounded by poor access to basic services, like water, medical care, and education, with complaints that roads become impassable during rainy seasons, water is salty, there is not enough medicine in the dispensary, and schools are busy. Lastly, there was a high level of dissatisfaction with participation in decision-making as respondents claimed not to have been consulted on the design of houses, land area and the time to migrate. This discrimination left them disempowered and marginalized in decision-making that concerned their lives. In general, the perceptions clustering around dissatisfaction indicate the underlying interest in cultural inappropriateness, inadequate infrastructure, poor follow-through and lack of appropriate adaptation of support systems to Maasai pastoralist needs and traditions.

Regardless of the hardships endured during the process of resettlement and after resettlement, the Maasai community in Msomera recognizes that the government has tried a lot to assist them in their transition and in establishing the groundwork towards long-term development. The distribution of land, building of permanent houses, schools, health facilities, water sources and the commencement of major infrastructure developments like the livestock auction yard and road construction show that there is great interest in enhancing the livelihoods of the resettled households. Such interventions have provided access to stability, education to children who used to walk long distances and increased security of tenure due to owning land. Notably, the government has developed an enabling environment on which future development programmes and livelihood diversification programmes can be built. As long as investment and community involvement are sustained and culturally sensitive assistance is provided, the good work that the government has started will help to create a sustainable and resilient community of Maasai and beyond.

## **Conclusion**

The results of this research indicate a Maasai community in Msomera with a majority adult population, with middle-aged and older adults dominating the community, who are traditionally very influential in terms of making decisions in the community. This population composition is vital because it places the resettled population under a well-recognised cultural leadership and social cohesion, a prerequisite to overcoming the intricate processes of assimilation and acculturation in the new setting. The high rate of marriage and a large proportion of marriages being polygamous families support the significance of traditional families and village dwelling conditions, which impact resource sharing, social support systems and livelihood strategies. These cultural aspects are part of the community conception and how resettlement interventions can be culturally sensitive and successful.

As the level of education is still largely rudimentary, with the vast majority of the members of the community being limited to primary education, there are encouraging indicators of the growing interest in education. This slow transition in the education levels of the people increases the ability of the community to relate with the contemporary development projects and diversifies their economic practices beyond the traditional pastoral practices. Education is a key driver to the uptake of new technologies, better agricultural activities and health and social outcomes that lead to long-term community resilience and wellbeing.

In spite of these favourable demographic and educational attributes, the Maasai community is experiencing considerable challenges regarding insufficient basic services and infrastructure. Poor access to quality education, functional healthcare, clean water and efficient market facilities limits the capacity of the

community to enjoy the full potential of resettlement. There are also poor road networks that isolate the community further, making it costly and difficult to access basic goods and services. Lack of close financial institutions limits economic development and entrepreneurship, especially among the youth and women who are hoping to diversify their sources of income.

One of the major challenges is cultural adaptation because the Maasai have to deal with the transformations of the family structures, leadership, marriage patterns, norms of raising children, and eating habits because of the new socio-economic climate. These changes question the maintenance of cultural identity and social cohesion and call for the application of culturally appropriate methods in planning and executing resettlement programs.

Also, the attitudes towards the support offered during and after relocation show a combination of appreciation and dissatisfaction. Although the community recognizes the efforts of the government in enabling early migration, land distribution and infrastructure development, concern prevails regarding the appropriateness, timeliness and sufficiency of the support available. Lifestyles like small housing units that do not accommodate extended families, inadequate land to carry out pastoral activities and the absence of continuous extension services have hurt the livelihood sustainability and morale within the community.

However, it is necessary to note that the interventions of the government have provided an essential basis for development in the future. The allocation of land, development of simple infrastructure like schools, health centres and auction yards, and the start of road construction show that there is an intention to enhance the welfare of the resettled Maasai. These have enhanced security of tenure, access to education, as well as provided a platform for economic development.

To fully realise the potential of the Msomera resettlement program, it is crucial that these early investments be supplemented by long-term, culturally sensitive assistance that responds to the particular needs and desires of the Maasai people. These are improving service delivery, infrastructure, livelihood diversification and inclusive participation in decision-making processes. By engaging in this integrated and participatory process, the resettled Maasai will be able to create a strong, wealthy and culturally diverse community that will create equilibrium between the traditional and modern worlds and will provide livelihoods to the generations ahead.

## **Recommendations**

In light of the findings, the below integrated recommendations are hereby proposed to make the resettlement programme more effective and to sustain the livelihoods of the Maasai community in Msomera:

### **1. Enhance Basic Social and Economic Infrastructures**

Equip and operationalise the existing facilities, such as the health centre, schools, livestock auction yard, and water systems, by sending sufficient staff, medicines, and equipment. Enhance the road network to make markets and services accessible all year round and invest in value addition facilities like a meat processing plant and a storage facility to store farm produce to boost the local economy and minimize post-harvest losses.

### **2. Housing and Secure Land Use Systems that are Culturally Appropriate**

Engage Maasai families in settlement planning and housing construction, in order to represent the traditional boma layout, and support extended pastoral family units. Offer flexible land use schemes and access to more grazing, pasture enhancement, and veterinary care to reduce stress and death to livestock.

### **3. Encourage Livelihood Diversification and Youth Employment**

Increase the provision of extension services, vocational training, access to start-up capital and microfinance to enable youth and women to take up alternative income-generating activities. Capacities ought to be built on livestock, crop husbandry, environmental conservation, and modern farming technologies.

### **4. Increase Water Security and Accessibility**

Develop secure water infrastructure, such as drilling of boreholes, building of reservoirs, rainwater harvesting systems, and establishment of communal water points nearer to homesteads to serve the people and even livestock and relieve the women and children.

## 5. Promote the Governance of Participation and Inclusive Decision-Making by Gender.

Create frequent consultation platforms between the government, development partners and the Maasai community to make the planning inclusive and gain trust. Identify and empower women as community leaders and family heads to enhance gender equality and greater community inclusion in decision-making.

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