

ACTION PLAN FOR THE DYNAMIC CONSERVATION OF ENGARESERO VILLAGE AS A GLOBALLY IMPORTANT AGRICULTURAL HERITAGE SYSTEM (GIAHS) AREA

Project background

The Globally Important Agricultural Heritage Systems initiative was launched by the Food and Agriculture Organization (FAO) in 2002 with the aim of establishing the basis for the global recognition, conservation and adaptive management of outstanding traditional agricultural systems and their associated landscapes, biodiversity, knowledge systems and cultures. The initiative aims to “protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements” [cf. CBD: Article10(c)], specifically within agricultural systems. In many of these systems, the prosperity of nature and the poverty of people unfortunately coexist. Therefore, the initiative does not intend to freeze systems in time, but rather calls for their “dynamic conservation”, emphasizing a balance between conservation, adaptation and socio-economic development. It aims to empower smallholder farmers/pastoralists, traditional communities and indigenous peoples to maintain their traditional agricultural systems and to create an economic stake in the conservation of (agricultural) biodiversity so that nature and people can prosper together.

Within this context, the Federal Republic of Germany through the Federal Ministry of Food, agriculture and Consumer Protection (BMELV) and the German Technical Cooperation (GTZ) approved the current effort to establish sites in Kenya and Tanzania and to support the food security and reduce poverty of the local communities in GIAHS areas.

In Tanzania, the Maasai Pastoral System was identified as one of the country’s best examples of a resilient system deserving of support in line with the GIAHS objectives. Its dynamic conservation through targeted measures on the ground, combined with the right policy support would ensure food security and livelihood sustenance, as well as sustainable management of its environment and the continuity of its living agricultural (pastoralist) heritage.

Development of the Action Plan

Since the project inception the following milestones have been achieved in Tanzania:

1. Potential sites in Ngorongoro, Monduli and Hanang districts were evaluated in June 2009, using site the GIAHS selection criteria (FAO).

2. Main characteristics, threats and opportunities for each of these sites were identified and analyzed by the national project team through community consultations and field-visits before they were presented to the Project Facilitating Committee (PFC) for further deliberations, ranking and eventual agreement of the Project Site.
3. The area of Engaresero village (Ngorongoro District) was decided upon;
4. A team comprising of members from the National Project Facilitating Committee carried out a “Free Prior Informed Consent” procedure in the community. The community gave its consent by acclamation;
5. The visit was also used to further discuss the threats and opportunities presented by the site and priority interventions.
6. On this basis, a draft Community Action Plan was developed by the project team.
7. The draft Community Action Plan was presented to the community, to indicate priorities and to include suggestions for its improvement.
8. The revised draft was presented to the Project Facilitating Committee for suggestions and approval.
9. The current document was finalized. Its implementation is expected to fulfil the Project Objectives leading to poverty reduction and improvement of livelihood through the dynamic conservation of the site and its resources.



Photo: In Engaresero village the Maasai rely heavily on their traditional knowledge and practices, to be able to carve out a livelihood in a rugged environment. In doing so, they preserve an invaluable heritage for Tanzania. In the background rises Oldonyo L'Engai the world's only active natro-carbonite volcano, which frequently erupts and is of great spiritual significance to the Maasai (see also next page)



Why is pastoralism an international/national heritage?

Many pastoral systems worldwide conform to the criteria laid out by the GIAHS Initiative of FAO, and particular examples conform to the standards of the World Heritage Convention (as *Cultural Landscapes*). The specific common values of pastoral systems include their importance for the conservation and sustainable use of animal breeds, the landscapes which co-evolved with pastoralists' cultural practices, which e.g. provide critical habitats for wild biodiversity, deep reservoirs of local/indigenous knowledge on livestock rearing and health, as well as on ecological functioning. Moreover, they show remarkable resilience and capacity to adapt to climatic and other environmental fluctuations. Many pastoralist cultures embody strong conservation values, reflected in and reproduced in the communities' cosmologies and religious practices, customary laws and institutions, as well as stories, songs, riddles and other aspects of their cultural heritage. Maasai pastoralism, as practiced traditionally, provides an outstanding example of pastoralism in East Africa and continues to have relevance for the sustainable management of its rangelands.

From a livelihoods and economic perspective, especially considering the development of small-holder livestock keepers, pastoralism is an effective and sustainable way of exploiting natural resources provided by different habitats within the landscape where and when available in a highly unpredictable environment. Policies and programs that have sought to develop high potential areas within these landscapes (for cropping, mining, logging, tourism) have taken critical habitats for rotational grazing away from both people and wildlife, reducing the economic value and environmental sustainability of more marginal habitats, which cannot sustain all year around use for livestock, cropping or wildlife. This is because the very sustainability of livestock production and wildlife management depends on temporal access to the full pallet of habitats within the wider landscape. Viewed at

this scale, the economic and ecological benefits of wildlife and development policies, especially interventions in the land-tenure regime, have had equivalent or worse environmental and economic costs in other parts of the landscape. For the Maasai as a group, the costs have far outstripped the benefits. It has led to their gradual marginalization, and a decreased ability to provide for their own food security (and to realize their “right to food”).



Photos: The action plan was formulated with the community. Initially suspicious of outside intervention, an elder (left) remarked that this was the first project that appreciated the way they managed the land, instead of telling them to abandon their ways.

Today, the combination of the loss of access to critical grazing resources, the increased population pressure from both within Maasai society as well as through the influx of other land-users, the sub-division of common property systems and a range of cultural factors, unfortunately has created a set of incentives that discourages Maasai from their traditional sustainable practices and leads to the adoption of unsustainable uses of natural resources, including unsustainable cropping practices, overgrazing of fragile rangelands, increased conflict with wildlife and destructive practices such as charcoal burning. One of the main underlying causes is the persistence of false assumptions and prejudices about Maasai pastoralism and a lack of appreciation of how Maasai practices manage to provide a livelihood within the delicate limits of their environment, allowing the landscape to sustain diverse and valuable ecosystem services. These prejudices, which originated in the colonial era, continue to misinform projects, programs and planning in Maasai areas. This puts the United Republic of Tanzania at risk of losing a valuable and original African heritage in the form of a significant body of knowledge and practices that can contribute to its sustainable development, as well as losing a prominent and economically significant part of the country's identity. Furthermore, the general lack of a valuable exit strategy of Maasai citizens of Tanzania out of pastoralism risks to exacerbate their social and economic problems, including their food insecurity.

Nevertheless, in selected areas, Maasai pastoralism has proved to be resilient and continues to sustain livelihoods and valuable natural and cultural heritage. This can be attributed in part to the strong cultural resilience of the Maasai and to the fact that in many areas alternative land-uses are simply unviable in any sustainable fashion. Although the delicate dynamic interweave of Maasai pastoralism with its environment has been disrupted at larger social and geographical scales, communities in certain areas remain committed to pastoralism and strive for development by adapting it to current conditions of population, resource availability and socio-political factors. These areas continue to sustain valuable ecosystem services, including natural and cultural heritage of great relevance to sustainable development. It is the objective of the current action plan to safeguard the historic, inherently sustainable, pastoral system of the Maasai in key areas where it continues to be practiced, through a combination of local and policy measures, for the benefit of its custodians and Tanzania as a country.

The project site

Engaresero village covers a surface area of 104,550 hectares. Its inhabitants are predominantly of the Kisongo Clan of the Maasai tribe with a population of approx. 4912 people, of which 2120 are male and 2792 are female. Engaresero is a semi arid area characterized by short and unreliable rains. The rainy season is from February to May while the rest of the year is sunny and dry. Its vegetation is characterized by shrubs and trees like acacia species; ground cover is almost bare most of the year with exception of the rainy season. The livestock breeds kept by the Maasai Engaresero community are predominantly indigenous comprising of Zebu cattle, Red Maasai Sheep, Donkeys and different breeds of goats. Its ecosystem has a significant biodiversity comprising wildlife (animal and bird) species ranging from Zebra, Giraffe, Elands, Leopards,

Serval Cats, Hyenas (esp. spotted Hyenas), a few lions, baboon, wildebeest (Resident and non residents) Hartebeest, Gazelles (Both Grants and Thomson's), jackals, e.g. Golden jackal, klipspringer (*Oreotragus oreotragus*), Lesser kudu, rock Hyrax, to several species of common and rare birds, including those associated with Lake Natron e.g. lesser and greater flamingos, pelicans, several species of storks and ibis and the African fish eagle. The area is characterised by lower lying wet season pastures around the lake shore and towards Oldonyo L'engai and dry season pastures and forests on the western escarpment and towards Oldonyo Sambu. The soil structure is sand loamy in the low areas of Engaresero and some parts of the area are covered with gravel and natural aggregates which are not suitable for growing crops. On the escarpment (high land) the plains are covered with short grasses, few trees and sandy soils. During the rainy season the pastures in the higher areas provide abundant grass. Its current pastoral landuse system is highly compatible with the conservation of the Lake Natron Ecosystem and wildlife conservation, including with the Ngorongoro Conservation Area on its southern border.



Photo: The project area is of tremendous natural value, including wildlife. It lies on the western shores of Lake Natron, a RAMSAR site of critical importance to endemic birdlife. To the South Engaresero border on the Ngorongoro Conservation Area a World Heritage Site. Engaresero functions as an important dispersal area for its many large herbivores and predators. The fact that so much natural patrimony continues to be concentrated in this area is a testimony to the careful management by the Maasai. The continuity of this management is critical to the integrity of fragile ecologies, such as that of Lake Natron.

The project area was chosen after a structured comparison of different locations (ranking e.g. different aspects of natural and cultural heritage, the sustainability of the communities management practices and the integrity of the site), as a highly representative area of traditional Maasai pastoralism in Tanzania. It is not only an area deserving of protection for its heritage values, but it is also an example of the benefits generated by Maasai pastoralism and its contemporary relevance for the sustainable development of rangelands in both Tanzania and Kenya. Additionally, Engaresero village harbours Oldonyo L'Engai (Omaa for "Mountain of God), an active volcano unique in the world for its (natrocarbonite) composition of lava. It plays a pivotal role in Maasai Cosmology and Religion, akin to the role of Mount Fuji in Japanese Shinto Buddhism. A recent discovery on the ash plains bordering on Lake Natron revealed imprints of human feet in the petrified ash, which have been dated to be >120.000 years old. These are the oldest known footprints of *Homo Sapiens Sapiens*.



Photo: The oldest known footprints of *homo sapiens sapiens* have recently been discovered on the ash-plains in Engaresero village.

Objective and approach of the action plan

In order to secure the continuity of the sustainable cultural management of the area, as well as the heritage and environmental benefits it provides, a number of challenges are to be met. The project will aim to assist the community in preserving their natural resource base, pastoral practices and knowledge system while adapting their system to contemporary challenges. Adaptive measures contained in the plan are designed to reinforce the underlying socio-cultural and ecological processes of this historically evolved system. A critical part of this approach is to improve the food security and well being of the community. This is not only desirable per se, but poverty is also one of the factors driving the adoption of unsustainable practices.

Apart from site-specific measures, the project also deploys a number of policy measures aimed at the recognition and protection of the area, and the heritage practices and resources it represents, through available national policy/legal measures, as well as broader awareness raising among policy and other stakeholders of the values of Tanzania's heritage agricultural systems. Overall, the project aims to turn the considerable benefits of Maasai pastoralism as a sustainable form of livelihoods, incl. its compatibility with wildlife and its significant cultural heritage, into an advantage for the community of Engaresero and the Republic of Tanzania.

To this end, this action plan contains the following measures, e.g:

- Improved management of pastures, their access and grazing patterns by delineating and zoning of grazing sites
- Provisions of water for both livestock and human needs, harmonized with dynamic Natural Resources (NR) use patterns
- Development of a long term management plan for the area, and related community agreements/by-laws building on traditional management institutions.
- Restoration of traditional values, knowledge systems and the need to integrate them into the modern education system and transmitted for application in their day-to-day lives
- Documentation of natural, cultural and combined heritage values
- Utilization of agricultural heritage, archaeological and wildlife resources for eco-tourism purposes
- Development of activities and programs to address environmental degradation
- Address threats that can be caused by wildfires
- Improve harmony between livestock production and wildlife goals
- Diversification of income
- Transmission of indigenous knowledge systems

Site specific challenges and interventions

An analysis carried out with the community in the development stages of this Action Plan revealed a number of factors to which the project will need to respond. This section summarizes the findings of the analysis. The interventions by this action plan are referenced to the activities presented in Table 1 of the current document.

Challenge 1: Improving productivity and conservation of natural resources at the landscape level of the project area, in order to improve food security and long-term sustainability

In the context of developments in the wider Maasai area, as sketched above, the available land area and scale of pastoral management has greatly diminished. Neighboring communities, especially in Kenya, have opted for sub-division and subsequent land sales to outside investors, or have converted pastures to crop-land and other uses. Significant land areas have also been set aside for wildlife conservation, game hunting and industrial development. Dry-season refuges further a-field have long been converted to other uses such as protected areas and crop-farming. The community has largely to make do with the remaining available dry- and wet-season pastures, water and forest resources within its own territory. This has greatly diminished the flexibility of their operations in response to climatic fluctuations, including long-term climate change. There is therefore an enhanced need to manage grazing cycles carefully, in order to allow pastures to regenerate “off-season”. The traditional leadership of the community in consort with local authorities has already devised a number of traditional measures to manage the grazing cycle wisely, but further harmonization of resource uses and conservation measures are necessary. A number of obstacles to do so face the community:

- In certain areas within the group ranch there has been under-development of water facilities for livestock. This requires herders to take livestock to drinking facilities in areas where pasture should be recovering. The community requires outside support to harmonize the watering and grazing cycles.
- Neighbouring Maasai communities, including from Kenya, which have converted large portions of the pastures within their home territories to other uses, “free-ride” on pastures the community is painstakingly trying to conserve. Additionally, it is hard to enforce adherence to grazing cycles from outsiders. Maasai cultural norms do not traditionally contain provisions for excluding members of other Maasai communities, assuming there is long-term reciprocity in an open-access arrangement. The current changes in the land-use and land-tenure regime have changed the prospects of such reciprocity between communities that do and do not maintain their pastures, requiring a new arrangement, including agreement on conditions for access and/or compensation.

- Certain areas have been severely degraded and their seed stocks in the soil depleted. Without targeted interventions these areas will not recover to their previous levels of productivity and diversity.
- The food security of the community is greatly dependant on the availability of pastures for livestock. Harmonizing the grazing and pasture cycles will enhance the availability of animal-based foods directly. However, there are also seasonal fluctuations paired with gender and age differences in food security. The availability of subsistence food (milk and meat) follows the seasons and the grazing cycle. Women, the elderly and small children have a marked dip in food security when livestock is moved away from the homestead in the dry season by men and boys. In the wet season, there is a surplus of grass, which withers when the rains stop. The storage of this excess grass and other fodder would allow a number of livestock (esp. cows) to remain at the homestead and provide food. Currently, the community does not have the technical capacity to harvest and store the surplus.



Photos: Leparakash sub-location provides ample grazing during the rainy season. However, because there is no water for the livestock, pastoralists return every two/three days to the dry season pasture to drench their animals. This way the dry season pasture cannot recover. The project will build two water dams to harmonize the grazing cycle improving both productivity and sustainability.

Intervention:

The Action Plan addresses the above through: assessment of the current natural resources and their dynamic use patterns and the development of a long-term land-use plan (an update of the existing land-use plan), in which natural resource uses are harmonized, based on principles of the traditional management of the grazing cycle (Activity 1.1 and 1.2). This will include an exercise to develop agreements with neighbouring communities on terms for their use of community pastures and other resources, and internal regulation of uses, including incentive/enforcement arrangements (Activity 1.3). The long-term management plan will include a number of improved uses/management practices of pastures which will include the promotion of high rotational and deferred grazing, the harvesting and preservation of excess pasture and fodders, and the restoration of degraded pastures. Training for such improved management of pastures is foreseen under Output 2. Additionally, the Action Plan will harmonize the water for livestock facilities with the grazing cycle by closing certain and opening new facilities (Output 3).

Challenge 2: Preservation of wildlife habitat and culturally significant biodiversity

Wildlife is relatively abundant in the project area, as well as a large diversity of trees and plants that are culturally significant: e.g. as food compliments, human and animal medicines. The common Wildlife found in the area are the: Zebra, Giraffe, Elands, Leopards, Serval Cats, Hyenas (esp. spotted Hyenas), a few lions, baboon, wildebeest (Resident and non residents) Hartebeest, Gazelles (Both Grants and Thomson's), jackals, e.g. Golden jackal, klipspringer (*Oreotragus oreotragus*), Lesser kudu, rock Hyrax, and several species of common and rare birds, including those associated with Lake Natron. Engaresero borders on the Ngorogoro Conservation Area, a World Heritage and Man and the Biosphere site, and functions as a critical dispersal area for its wildlife. It also borders on Lake Natron, a RAMSAR site of critical importance for aquatic birds and other species. The sustainability of water and land-use in Engaresero is of crucial importance to water and lake-shore quality for the lake. Changes in land and water-use are bound to affect the lake. Therefore, a prudent strategy to the sustainable development of the Engaresero community is to reinforce rather than to replace its current land-use system. Other uses, especially cropping on the lake-shore, especially when pesticides and industrial fertilizers would be used, would have negative repercussions on the lake's ecology. Generally, well-managed pastures will benefit both humans and wild animals (esp. herbivores and their predators). The factors described under challenge 1 affect the overall sustainability of landscape management, including the areas critical to wildlife. Additionally, over-harvesting of trees, effects of wild fires, cultivation, charcoal burning and encroaching settlement areas threaten to diminish the availability of plants with medical, veterinary and cultural significance, mainly from the forested areas in the project area. The community continues to rely to a large extent on these resources for human and animal health, as they have limited access to commercial equivalents. Measures to reduce current pressures on trees and forests (from community members and outsiders) will benefit bird, plant and tree diversity as well as their continued cultural uses.

Intervention:

Paramount to the action plan and its activities is the continuation of the traditional pastoral system. Ensuring its ecological and economic sustainability will prevent the conversion to land-uses much less compatible with wildlife and Lake Natron's ecology, including cropping. Specifically, the development of the long-term land-use plan, and its by-laws, will incorporate wildlife considerations, as part of the holistic management of the landscape (Activity 1). By-laws will also address the potential threat of increased charcoal burning by community members and outsiders. Additionally, the plan aims to identify alternative uses for fuel and energy that would diminish pressure on local sources. The increased use-efficiency and restoration of pastures foreseen under Output 2 will benefit both wildlife and livestock production.

Challenge 3: Reinvigorating and improving transmission of traditional knowledge, cultural practices and institutions

Contemporary life presents Maasai communities with significantly different challenges than they faced historically. Their traditional institutions, esp. their age-group system, were finally attuned to socio-economic, security (incl. military) and environmental challenges. Many of their cultural institutions, e.g. moran-hood, gender roles and the governance by elders, as well as the ceremonies associated with it, combined aspects of defense, natural resource management, social security and the transmission of traditional knowledge and skills to next generations. The colonial and post independence socio-economic and political realities have introduced a number of changes. Traditional leadership and the age group system are now complemented by state institutions and modern education. Changes in their cultural environment have given way to new aspirations, especially among the younger generations. Maasai have a deep appreciation of formal education, but it competes with the allocation of time to transmit traditional knowledge and skills to the young. One of the moran-hood's primary functions, providing military defense, has all but disappeared. The introduction of state administrative institutions (e.g. village, ward, district, etc.) has created new social groupings and institutions, which both complement and compete with the traditional social units and their leadership, based on wider clans across larger geographical scales. These and other factors combined are leading to gaps in transmission of traditional knowledge and skills, as well as of traditional management/governance. Yet, in spite of existing alongside modern institutions traditional Maasai institutions continue to perform critical roles in social security, natural resource management and education, including the transmission of conservation practices, values and norms. In the case of Engaresero, local authorities and traditional leadership work in consort to address challenges. In order to protect and promote the traditional pastoral systems it is critical to preserve the traditional knowledge and management system that underpins it. This means that the content of the traditional knowledge has to be preserved, and the institutions for management/governance of natural resources and the transmission of knowledge have to be strengthened. For this to succeed, traditional institutions may need to be strengthened to address

contemporary challenges, and need to work in harmony with state and other modern institutions. Additionally, there is a need to document the traditional knowledge and practices and raise awareness of their significance, in order to safeguard these for next generations.

Intervention:

Output 4 provides for a number of activities to address the loss of knowledge and the gaps in its transmission. The action plan will provide for the establishment of a local information centre, which will be the primary hub for documentation of traditional knowledge and education activities, both for community members and visitors. Traditional knowledge will be documented and made available through local radio programs, flyers and other materials. Elders will be invited to local schools to educate children in traditional cultural knowledge/practices and their importance. A nursery for culturally significant plants will be established along-side the information centre to educate children and visitors about traditional Maasai uses of plants, trees and shrubs (Activity 4.5). These activities, throughout, will aim to impart a sense of pride in Maasai cultural traditions and knowledge among the young, who face many negative messages about their heritage.

Tourism activities developed under this action plan (Activity 5.1 and 5.2, described in detail below) aim to educate tourists about the Maasai pastoralism and the importance of their traditional knowledge and management system.

Additionally, the development and the long term land-use plan and the participatory implementation of the action plan will imbue the traditional leadership with significant responsibilities for its implementation and the governance of the grazing cycle, including through their development of by-laws and their enforcement. It is also foreseen that young men (Moran) play a role in the enforcement of the agreed natural resource uses defined under activity 1.3 (e.g. by monitoring charcoal burning, poaching and grazing outside permitted areas) and by providing a role as guides/educators to outside visitors, including tourists (Activity 5.4). In these activities the traditional leadership they will work closely together with local authorities.

Challenge 4: Providing long-term incentives for the continuity of traditional pastoral management (reinforcing custodianship)

The central challenge to the sustainability of the project's efforts is that the arrangements it puts in place will be able transform the combined natural and cultural benefits traditional pastoral management generates into livelihood benefits for the community. Managing traditional pastoralism must meet the needs and aspirations of the various community members: young and old, women and men, in order to generate sufficient incentives for its continuation. It's important to note that the community no longer is, or aspires to be, a subsistence community.

School fees, complimentary foods, livestock inputs and consumer items all require cash. In order to provide long term incentives for sustainable management, the project needs to address 4 factors:

- It must improve (subsistence) food security and, if possible, household income
- It must capitalize on the special environmental and cultural features of the area to provide additional income.
- It must strengthen the governing capacity of the community, including through by-laws and their enforcement
- It must instill a sense of community ownership over the projects efforts and its results

Intervention:

The projects efforts to improve subsistence food security have been described above. To further improve people's livelihoods it will aim to capitalize on the cultural and natural heritage associated with their management of the landscape. This will give the community a direct economic stake in the management of their patrimony.

Under Activity 5.1, 5.2 and 5.4, the action plan will develop tourism activities. These will firmly focus on attracting visitors for cultural and natural tourism, highlighting the pastoral history and practices of the area (the agricultural heritage). The cultural and environmental impacts of (bulk) tourism are notoriously difficult to manage, as is the fair distribution of its benefits. Therefore, under activity 5.1, the community will be assisted to develop a "tourism charter" reflecting agreement on how to distribute benefits and investment, rules of conduct for tourists and tour guides alike, including training requirements. The strategy is to use/develop a market niche for tourists who have a genuine interest in the cultural, pastoral and natural patrimony of the place. It aims to provide genuine information about the area and its community and genuine ethnological experiences, such as herding cattle and ethno-botanical courses/field trips. It thus aims for low impact, high revenue visitors. The information centre described under Activity 4 will provide a hub for the tourism activities as well.

Under activity 5.3 small arts and crafts businesses for women will be developed. The strategy is to provide genuine ware rather than watered down designs and to insure that women in the community have equal opportunities to participate and share benefits. A cultural boma will be developed where women can sell their goods. A cooperative/women's arts-and-crafts-group will be established, which can organize the women on issues such as quality control, price control and marketing.

In addition to economic incentives, social/customary law incentives will play a role in the implementation/enforcement of the land-use plan and grazing cycles. Penalties may be imposed on offenders and fees charged for grazing by outsiders. Such rules will be developed through activity 1.3.

To create ownership the project will deploy a fully participatory approach, in which community members are key decision makers. By building the project's interventions on the community's traditional institutions and values the plan will encourage community ownership and control over their natural and cultural resources. During the implementation of the action plan additional livelihood development and diversification activities will be identified for follow-up to the project.

Challenge 5: Mobilizing awareness and formal recognition/protection of the area, and its benefits

As described in the introductory section of this plan, a major obstacle to the protection and promotion of the Maasai pastoral heritage is the persistence of prejudices against and poor understanding of it. Conversely there is a lack of appreciation of the value of this African heritage, which continues to contribute to the management of the rangelands and the identity of Tanzania as a whole. Formal recognition by the Tanzanian government and the international community of Maasai pastoral practice and the project area in particular, would greatly impact on decision-maker's and the public's perception.

Intervention:

Under the provisions of the World Heritage Convention (UNESCO), the Ministry of Natural resources and Tourism (MNRT) maintains the Tentative National World Heritage List of Tanzania. The plan will gazette the selected area as a candidate for World Heritage recognition and include it in the tentative list. Entry on the Tentative List already provides a degree of protection and recognition at both national and international levels. It is expected that this will provide wider benefits in terms of raising awareness of the value of other heritage agricultural systems and their continued social, economic and environmental relevance (Output 6).

Additionally, the plan will explore the viability of including agricultural heritage issues explicitly in the Tanzanian Heritage Act and laws for the protection of heritage (Output 6).

Finally, decision-makers will be targeted by communication materials (flyers, publications and the project web-site) and national workshop/trainings will be held to raise awareness and understanding of agricultural heritage issues (see communication plan)

Monitoring

The project defines the indicators for progress in its logical framework. During Activity 1.1 all baseline information on the indicators will be collected by the project team. At the project's conclusion, progress/impacts of the action plan will be measured by collecting information and data on the same indicators.

Implementation arrangements

Consistent with the decisions made by the project's inception workshop, the implementation arrangements are as follows:

- FAO's field-based technical officer provides for technical and operation oversight of the plan's implementation.
- FAO's Representation to Tanzania will provide operational support, including procurement services and additional technical advice
- The project's national focal point institution for the Engaresero project area, MLDF, is responsible for the implementation and national coordination of the plan. Its designated National Project Coordinator is its main liaison and the de-facto manager of the plan's implementation.
- The Ministry of Agriculture, Food Security and Cooperatives (MAFC) the project's national co-focal point institution and its designated focal point provide direct technical assistance to the implementation of the action plan within its mandate and field of expertise.
- The project's national inter-disciplinary Project Facilitating Committee provides a platform for coordination and the mobilization of additional expertise. Its members have been assigned concrete roles in the implementation of the action plan:
 - 1) The National Environmental Management Council (NEMC) will assist with carrying out Environmental Impact Assessments and advise on other environmental issues, including PES schemes
 - 2) The Ministry of Natural Resources and Tourism (MNRT) will assist with the documentation and conservation of heritage aspect, the establishment of the site's information centre and the national heritage designation and heritage policy aspects of the action plan.
 - 3) Other members of the PFC will advise the community and the project team on issues within their fields of expertise.
 - 4) The communities of Engaresero Village will contribute local knowledge, time and labour, within their means

The Action Plan's implementation will be closely coordinated with the Wildlife Division of MNRT with regard to linkages with the management of the Lake Natron Ramsar site and wildlife aspects.

The Action Plan's implementation will be closely coordinated with the district, ward and village authorities. The action plan's interventions will be integrated into district plans. Specific contributions by the district authorities include:

- Integration of land-use management measures into the district's land-use plan (activity 1.2)
- Recording of community NR use-agreements as official by-laws, as appropriate (activity 1.3)
- Training of community members in hay-baling (activity 2.1)
- Construction of livestock control crashes and carrying out cattle vaccinations (activity 2.3)
- Supervise the construction of water facilities for livestock (activity 3.1)
- Assist with the establishment of a primary cattle market (activity 5.6)

Table 1: The Community Action Plan for the Engaresero GIAHS site:

Main Outputs and activities	Activity details	Objective/ Expected impacts	Lead agency and partners	Timeframe 2010 (calendar year)	Inputs	Estimated budget Budget (USD) /Implementation modalities
<p>Output 1: Long-term land-use and management plan developed for the project area, consistent with GIAHS goals and principles</p>	<p>The objective is to put in place long term arrangements for the management of the area, the conservation of its heritage characteristics and the improved livelihoods of community members. With the aid of GIS tools, an assessment of current natural resource use patterns and practices will identify opportunities to harmonize natural resource use patterns, management measures for the sustainable management of the landscape and its environmental, economic, social and cultural values, as well as identify opportunities to diversify livelihoods. Through a visioning and planning exercise with the community the existing land-sue plan will be reviewed, updated and adjusted, where necessary. This plan will be complemented by community level management arrangements, including by-laws to manage community members’ natural resource uses and agreements with neighbouring communities to address free-riding behaviour that diminishes the community’s benefits of their conservation and sustainable use efforts. The institutional arrangements and by-laws will build on the Maasai’s cultural management practices and institutions.</p> <p>The outputs of this action plan provide building blocks for and assistance to the development and implementation of the long-term management plan</p>					
<p>1.1. Assessment of dynamic land-use patterns,</p>	<p>Collect data on natural resources, including biodiversity, their</p>	<p>Improved information on and community awareness of</p>	<p>Technical lead: GIS Expert consultant</p>	<p>4th Quarter 2010 & 1st Quarter 2011</p>	<p>Experts fee (25.000 for 1.1 and 1.2)</p>	<p>Contract with GIS expert consultant (FAO)</p>

resources, values and management arrangements and collection of baseline data for measuring project impact	management and use, and livelihood patterns. Prepare reports and maps Collect data on baseline indicators for impact monitoring	dynamic land-use patterns, landscape values and opportunities for their sustainable management Baseline indicators collected for impact monitoring	Logistics: MLDF Other partners: MAFC MNRT NEMC Community		Travel and substance allowance	LOA MLDF
1.2 Review and Update/adjust the existing land-use plan to become a long term integrated management plan for the area	Participatory holistic land-use planning exercise and identify shortcomings in or complimentary measures to the current land-use plan Update land-use plan Embed updated land-use plan at district level Liaise with MNRT for harmonization	The site's natural resources are preserved and utilized sustainably and its cultural integrity maintained for future generations	Technical lead: GIS Expert consultant Logistics: MLDF Other partners: MAFC MNRT NEMC District and local authorities Community	1 st and 2nd Quarter 2011	Experts fee (see above) Travel & Subsistence allowance Fuel	Contract with GIS expert consultant (FAO) LOA MLDF

	with Lake Natron RAMSAR-site management					
1.3 Development of community institutional arrangements and by-laws for the implementation of the land-use plan	<p>Establish community guidelines/rules for NR use</p> <p>Negotiate terms of use with other users (meetings with neighboring communities))</p> <p>Integrate by-laws in long term land-use plan</p>	Community able to deter any land use activity that is incongruent to the agreements set out in the action plan	<p>Technical lead: Expert in collaboration with the National Land Use Planning Commission, the District Authorities and MLDF</p> <p>Logistics: MLDF</p> <p>Other partners: MAFC MNRT NEMC District (legal expert) Local authorities</p>	1 st and 2nd Quarter 2011	<p>Expert (Community mobilizer 8 months x 600\$)</p> <p>Subsistence Air Travel Fuel Lunch and tea (covered above)</p>	<p>Consultancy (FAO)</p> <p>LOA with MLDF</p>

			Community			
Total budget						35 000
Output 2: Improved Rangeland management practices and livestock production	<p>The health status of the range (vegetation and soils) as assessed during the participatory planning exercise indicated a high grazing pressure, because of diminished access to dry season pastures in the wider landscape. Signs of overuse of the resource base are noticeable in certain areas. A short dry spell and drought situation quickly exerts a toll on the livestock. There is therefore a need to initiate prudent management practices to arrest the trend.</p> <p>To address the land degradation problem, holistic grazing management approach among other approaches will be promoted in the reinstatement of soil fertility and vegetation cover. During times of normal rainfall, growth of pasture is quite rapid but quickly deteriorates in terms of quality and quantity soon after the rains. There is need therefore to have it harvested and stored for use during dry drought periods. The storage of animal feed has the additional advantage that during livestock migration, a number of lactating livestock can stay at the homestead, improving the food security of women and children during times of drought.</p> <p>Invasive species and bush encroachment, haphazard harvesting of trees and soil erosion, rangelands pest (army worms, locusts and burrow rats) have led to diminished pasture availability. Reseeding should be done in areas where natural seed banks have been depleted through repeated over grazing and frequent drought cycles. The community will be sensitized/trained to practice selective bush clearing and uprooting of invasive plant species.</p>					
2.1. Baling of excess grass and fodder at the end of the rainy seasons (June/July and December),	Training on hay bailing Construction of hay bans	Impacts of drought reduced Household sustained during times of drought	Lead: MLDF & District (Expert trainers) Other	2 rd Quarter 2011	Trainers (provided by district) Materials and tools for making hay bans and harvesting/storing grass	LOA with MLDF

through training.* * MLDF to develop precise specification of individual and collective measures		Income from sales of excess pastures to neighbouring communities.	partners: MAFC MNRT NEMC and local authorities Community		Travel & Subsistence allowance Fuel Community Labour	Community
2.2. Promotion of sustainable pasture management restoration, through training of community members in range improvement practices	Promotion of holistic management approach through flexible zoning, controlled fires, rotational and deferred grazing (to be imbedded in activity 1.2) Improve pastures by field training on seed collection, reseeding/over sowing with indigenous species of grass and leguminous plants/trees. A	Bush encroachment controlled and pasture availability and cover improved through reseeding Increased pasture production	Lead: MLDF Other partners: MAFC MNRT NEMC District and local authorities Community	1 st and 2nd Quarter 2011	Subsistence allowance Fuel local officers DSA Fencing materials & Tools Seeds & manure (24.000) Labour	LOA with MLDF Procurement (FAO) Community

	nursery for indigenous tree species will be established, as well as a garden for leguminous pasture seeds.					
2.3 Improved animal health through veterinary practices* * District livestock office to deliver a list of prevalent animal health problems and required veterinary drugs	Construct 2 animal control crashes (Engaresero and Leparakash) Training on use of crashes Vaccination	Animal health improved Community members are knowledgeable on use of animal control crashes and veterinary measures	Lead: MLDF & District Other partners: MAFC MNRT NEMC District and local authorities Community	1 st and 2nd Quarter 2011	Labour charges (fundi) Building materials Vaccines/accaricides (spray) Allowances Transport & fuel	LOA with MLDF
Budget						59.000
Output 3 Improved water provision for livestock	The development of water resources in the project site is planned to be distributed to reflect the dynamic uses of wet and dry grazing areas. Currently there is under-development of water resources in wet season areas, encouraging over-grazing in dry-season areas where water is amply available. New water facilities will be developed to encourage livestock to stay as long as the pasture is available in the wet season grazing area, along valuable dry-season pastures to					

	recover. Overall, all human and livestock facilities should be aligned with the wet and dry season grazing pattern, to encourage recovery and conservation of pasture off-season.					
3.1 Construction of two new water dams in Engeju Olokeri (Lerpakashi) and Loldepe (Monic sub-location)	Field survey to develop specifications and design for new water facilities, including bills of quantities* Conduct Environmental Impact Assessment Construct water facilities * MLDF to develop TORs	Traditional cyclic livestock movement enhanced Livestock productivity increased Sustainable grazing resource use assured	Lead: MLDF & District (supervision) Other partners: MAFC MNRT NEMC (EIA) local authorities Community	1 st , 2 nd and 3 rd Quarter 2011	EIA Consultant 2000\$ Engineer 2000\$ Construction, incl. hire of machinery 60.000\$ per dam Air travel & Subsistence 4 trips 4 p 4 days (incl. flights) 2 people district (8 weeks supervision) fuel 1500\$ rent truck Labour	Contract (FAO) Contract (FAO) Procurement (FAO) LOA with MLDF Community
Budget					135,000	
Output 4: Heritage	The heritage resources including the application of indigenous knowledge systems have been declining due to influences from external cultures and adoption of modern technologies. This					

<p>agricultural practices and knowledge systems recorded and promoted</p>	<p>has led to the erosion of traditional systems that have for long supported the pastoral system. Development of a site museum and information centre will, therefore, be used to impart knowledge to its visitors on the importance of the systems and the need to preserve it for current and future generations.</p> <p>The area is rich in all aspects of biodiversity that the community has relied on for its sustainability but is now facing increased threats due to the shrinkage of the wildlife operational range while the floral base biodiversity is threatened by human activities such as charcoal burning and tree felling. The importance of biodiversity conservation through traditional institutions shall be given emphasis. Elders will be involved in field visits with students and other stakeholders for the transmission of this knowledge.</p>					
<p>4.1. Identify and conserve heritage (measures to be included in long term management plan)</p>	<p>Identify key knowledgeable persons and sites</p>	<p>Maasai pastoral heritage system conserved</p>	<p>Technical lead: MNRT</p> <p>Logistics: MLDF</p> <p>Other partners: MAFC NEMC District and local authorities</p> <p>Community</p>	<p>1st Quarter 2011</p>	<p>Fuel Subsistence allowance</p> <p>1 trip 2 days 4 people</p>	<p>LOA with MLDF (logistics)</p> <p>LOA with MNRT (other inputs, if any)</p>

<p>4.2. Document Indigenous Knowledge Systems, local technologies and best practices*</p> <p>* FAO (Tech.Officer) to develop TORs</p>	<p>Document and establish a database of Indigenous Knowledge</p>	<p>Utilization and transfer of Indigenous knowledge systems enhanced</p>	<p>Technical lead: MNRT</p> <p>Logistics: MLDF</p> <p>Other partners: MAFC NEMC District and local authorities</p> <p>Community</p>	<p>1st and 2nd Quarter 2011</p>	<p>TK Expert (2000\$) Legal expert</p> <p>2 missions one week 2 people</p> <p>Fuel Subsistence allowance 250\$</p>	<p>LOA with MNRT or consultancy (FAO)</p> <p>LOA with MLDF (logistics)</p>
<p>4.3. Disseminate and promote IK systems and technologies</p>	<p>Flyers, AV documentary (for TBC), newspaper articles and radio programmes produced for publicity</p>	<p>Indigenous Knowledge systems harnessed and utilization enhanced</p>	<p>Technical lead: MNRT</p> <p>Logistics: MLDF</p> <p>Other partners: MAFC NEMC District and local authorities</p>	<p>3rd and 4th Quarter 2011</p>	<p>AV Production costs Materials (dvd's, tapes, memory cards) Media Expert hosting fees</p> <p>Publication costs</p>	<p>LOA with NMK</p>

			Community			
<p>4.4 Develop a site museum cum information and documentation centre*&**</p> <p>* MNRT to propose specifications (functions and design criteria) and select a location for the centre</p> <p>** The information centre, the cultural boma (5.2) and the market site for arts/crafts market (5.3) will be part of one integrated design.</p>	Build and develop content of museum/information centre	Knowledge and materials on Maasai agricultural heritage preserved	<p>Technical lead: MNRT</p> <p>Logistics: MLDF</p> <p>Other partners: MAFC NEMC District and local authorities</p> <p>Community</p>	1 st and 2nd Quarter 2011	<p>Architect/exhibition designer</p> <p>Conservation materials</p> <p>Construction materials</p> <p>Construction contract</p> <p>Subsistence allowance</p> <p>Community labour</p> <p>Artefacts collection</p>	<p>LOA with MNRT (design and development of contents)</p> <p>Procurement (tent.)</p> <p>Procurement (tent.)</p> <p>LOA with MLDF</p> <p>Community</p>

4.5. Establish tree nursery gardens for medicinal, edible and culturally significant plants		Transmission of knowledge to young community members	Technical lead: MLDF & MAFC	1 st and 2nd Quarter 2011	Seeds/seedlings Community labour	LOA with MNRT (see for inputs KE-AP)
Budget						23,000
Output 5: Niche markets developed	<p>The tourism activities to be offered will be community-based targeting the unique pastoral heritage inherent in the site and target tourists who can pay a premium price for a genuine ethnographic experience. It will promote ecological conservation while respecting Maasai culture. Documented aspects of their pastoral heritage will be disseminated in the information and displays developed to promote their appreciation.</p> <p>A tourism charter will be developed with the community to ensure that heritage resources are sustainably utilized for tourism purposes without endangering the fragile ecosystem and ensuring that respect for the culture is adhered to. The charter will also address the fair and equitable sharing of revenues from tourism. In line with this, tour guides will be identified from the community and given appropriate training.</p> <p>Authentic Maasai traditional crafts will be produced by women who will be encouraged to form a cooperative group. Goods will only be accepted if they meet certain predetermined standards and quotas set out by the members and realistic prices set. Any revenue generated to be equitably distributed among the group members. The handicraft shop shall be located within the manyatta along the tour routes to ensure that those visitors interested in learning how to weave the crafts are given an opportunity to get a hands-on experience with the producers.</p> <p>To ensure that the overall tourism products and activities offered by the site are not over</p>					

	exploited or degraded, a tourism charter shall be developed to harmonize and develop by-laws for all the activities of the different components such as the tourism information centre, cultural bomas and the women groups.					
5.1. Development of a local tourism charter, including a strategy and standards for tourism development and revenue sharing;	Community meetings	Heritage resources within project site sustainable utilized	Lead: MNRT Other partners: MAFC MLDF NEMC District and local authorities Community	1 st Quarter 2011	Expert Air travel & Subsistence allowance Fuel 1 mission with the team from Dar	LOA with MNRT (or consultant) LOA with MLDF (logistics)
5.2. Promotion of the site for bio-cultural tourism* * The information centre (4.4), the cultural boma (5.2) and the market site for arts/crafts market (5.3) will	Walking tours/treks developed (ethno-botany / herding) Cultural boma established Select tourism stakeholders to visit site for familiarization will be organized and fliers produced	Alternative livelihood support offered reducing pressure on the natural resources	Lead: MNRT Other partners: MAFC & MLDF NEMC District and local authorities Community	1 st , 2 nd and 3 rd Quarter 2011	Construction Construction materials (boma) Labour Preservation materials (boma) Signage Design and production of promotion materials Subsistence allowance	Contract and procurement (FAO) or LOA MNRT LOA with MNRT LOA with MLDF

be part of one integrated design.					Community labour	(logistics) Community
5.3. Establishment of a market facility for the production and sale of authentic traditional Maasai crafts for Maasai women	Market sites established Establish women's group	Alternative livelihood support offered reducing pressure on the natural resources	Lead: MNRT MLDF & MAFC (setting up groups) Other partners: MAFC MNRT NEMC District and local authorities Community	2 nd and 3 rd Quarter 2011	Construction Construction materials (boma) Labour Design Expert mobiliser	Contract and procurement (FAO) or LOA MNRT LOA with MNRT Consultancy with FAO or LOA MNRT
5.4. Train guides on heritage tourism	Training	Alternative livelihood support offered reducing pressure on the natural resources	MNRT	2 nd and 3 rd Quarter 2011	Training fees	Direct payment by FAO
Budget						30,000
Output 6:	The conservation of Globally Important Agricultural Heritage Systems must be nested within					

Mainstreaming of GIAHS goals and principles into national policy	government programs and policies once the project cycle ends. Policy makers will, therefore, be made aware of the different policies that are in support of it or need development for its institutionalization.					
6.1. Recognition of Engaresero under national heritage law	Establish task force Develop statement of outstanding universal importance & state of conservation (workshop & mission)	Site protected under national heritage and listed in the Tanzania World Heritage Tentative List	MNRT (lead) UNESCO	Ongoing 1 st and 2 nd Quarter 2011	Travel & subsistence allowance Expert fee	See AP Shimbwe Juu
6.2. Mainstreaming of GIAHS into national policy, plans and strategies, including training of policy makers through field visit to project sites	Develop proposal for Tanzanian Heritage Act. Produce comprehensive analysis of Tanzanian policies and laws in relation to GIAHS Hold national workshop to establish GIAHS within the	GIAHS initiative institutionalized GIAHS goals adopted under the Tanzanian Heritage Act. Institutional responsibility for GIAHS matters beyond project cycle defined Policy makers are	MNRT , NEMC MLDF and MAFC (as pertinent to their specific mandates)	Ongoing / 3 rd and 4 th Quarter 2011	Legal Expert Produce publication on national GIAHS Travel & subsistence allowance (workshops and field visit)	Consultant Procurement LOA with MLDF

	permanent structure of the Tanzanian Government	knowledgeable of the GIAHS project/approach and its linkages with Right to Food objectives and principles				
	Organize field visit for Policy makers					
	Include provisions for GIAHS in pertinent policies of Tanzania					
Subtotal*						29,000
Estimated Total budget **						312,000

**** Additional items for this activity covered by budget action plan for the Shimbwe Juu project area (incl. printing costs publications)**
**** Budget is based on unit costs for October 2010 and may be subject to adjustments. Management costs, incl. admin fees have been factored into the figures.**

Breakdown budget modality:

- A1: 25.000 Contract / 5.000 consultants (Arpakwa) / 5.000 LOA (travel/logistics)
- A2: 24.000 Procurement / 35.000 LOA
- A3: 120.000 Construction / 4.000 Consultants / 11.000 LOA
- A4: 15.000 LOA MNRT / 8.000 LOA
- A5: 15.000 LOA MNRT / 10.000 LOA / 5.000 training
- A6: 21.000 LOA / 2.000 consultant (legal expert) / 6.000 contract (printing and design)

Summary:

LOA MLDF:	90.000
LOA MNRT:	30.000
Consultants:	10.000
Procurement (A2):	24.000
Construction (A3):	120.000
Service (A1):	25.000
Training:	5.000