



carbon**tanzania**



Reducing Emissions from Deforestation and Forest Degradation in the Yaeda Valley, Northern Tanzania

Improving the livelihoods of indigenous hunter-gatherer and pastoralist communities by protecting land from conversion while delivering substantial social and biological co-benefits



Project Design Document Plan Vivo Application

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Abbreviations and Acronyms

AGB	Aboveground Biomass
AMSL	Above Mean Sea Level
CBNRM	Community-Based Natural Resource Management
CFR	Community Forest Reserve
CITIES	Convention on the International Trade in Endangered Species
CO2e	Carbon Dioxide Equivalent
CSO	Civil Society Organization
CT	Carbon Tanzania
FPIC	Free, Prior and Informed Consent
GCA	Game Controlled Area
GPS	Global Positioning System
IBA	Important Bird Area
IUCN	International Union for the Conservation of Nature
MoU	Memorandum of Understanding
NCCSC	National Climate Change Steering Committee
NEMC	National Environment Management Council
NGO	Non-Governmental Organization
NWFP	Non-Wood Forest Products
OTC	Over-the-Counter
PDD	Project Design Document
PES	Payment for Ecosystem Services
REDD	Reducing Emissions from Deforestation and Forest Degradation
tC/ha	Tonnes Carbon per Hectare
tCO2e/ha	Tonnes Carbon Dioxide Equivalent per Hectare
TSC	Timed Species Count
UCRT	Ujamaa Community Resource Team
UNDP-GEF	United Nations Development Programme's Global Environment Facility
UNESCO	United Nations Educational, Scientific and Cultural Organization
VLFR	Village Land Forest Reserve

Section A. Aims and Objectives

This project works with hunter-gatherer Hadzabe and pastoralist communities in Mongo Wa Mono and Domanga villages. By working in conjunction with traditional leaders, the elected village governments and a team of community members, Carbon Tanzania (CT) and Ujamaa Community Resource Team (UCRT) aim to establish a system of results-based payments for ecosystem services (PES) through the sale of certified carbon offset credits. This REDD project strengthens land tenure, management capacity and local natural resource management, enhances and diversifies local incomes, and contributes to local, national and global environmental conservation aims. Successful avoided deforestation will be achieved through a series of interventions including reinforcing the implementation of the approved village land use plan and associated village by-laws, improving forest conservation and management activities and addressing the primary driver of deforestation, slash and burn agriculture.

Reducing Emissions from Deforestation and Forest Degradation (REDD) means different things to different people. In the context of this project, REDD refers to avoiding deforestation and forest degradation while promoting sustainable natural resource use on the part of land users and managers. This REDD project, planned with the indigenous Hadzabe community, delivers significant socioeconomic co-benefits to the participants and surrounding populations as well as positive biodiversity impacts to the larger ecosystem that the project area helps to support.

Section B. Site Information

1. Project location and boundaries

The East African country of Tanzania covers 970,000 km² of land, of which approximately 38%¹ is forested². The villages of Mongo Wa Mono and Domanga are situated at 34°30'E/03°30'S in the Central Rift Valley, at an altitude of 1200-1400 m AMSL, in the southwest of Mbulu District, Manyara Region, Northern Tanzania (see map, Figure 1).

Figure 1. Map of Northern Tanzania

The red circle indicates the project area situated on the southwest corner of Lake Eyasi.



The adjacent villages of Mongo Wa Mono and Domanga cover a total area of 46,800 ha (468 km²). A land use plan, developed by the villages³, divides the area into seven land use zones each designated as one of three land use types: housing and farming, grazing, and protected areas⁴ (see land use plan, Figure 2). The project boundary is the 20,600 ha⁵ *Acacia-Commiphora* woodland denoted as protected area for utilization for cultural livelihoods by the Hadzabe in Figure 2. The Hadzabe communities within the villages of Mongo Wa Mono and Domanga collectively own this land under the land laws of Tanzania (see land tenure and ownership documentation, Annex 8). The community developed this land use and it serves as the Plan Vivo for this project.

¹ FAO, 2011, State of the World's Forests

² The Forest Act (2002) defines forest as any area of land with at least 10% tree crown cover and includes all forest reserves regardless of tree cover or vegetation. In reality much of Tanzania's 'forest' is woodland ranging from dry *Acacia-Commiphora* in the North of the country to *Brachystegia* woodland in the South and West of Tanzania.

³ The villages of Mongo Wa Mono and Domanga constituted a single village at the time when the land use plan was created. The plan endured after they became two separate entities.

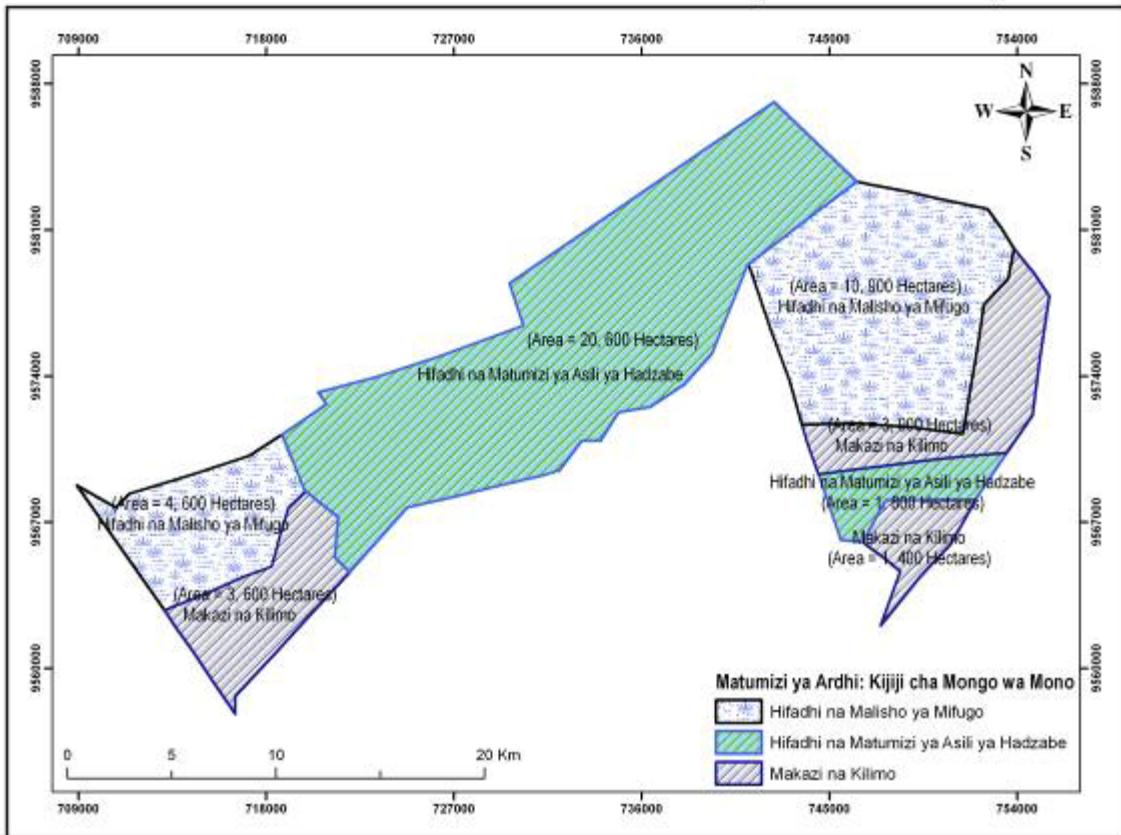
⁴ These areas are designated as protected for the utilization by Hadzabe at a village level and should not be confused with any nationally designated protected areas such as national parks or game reserves, which are under central government authority.

⁵ The government resurveyed the land prior to issuing the land deed and the area was determined then to be 20,790 ha.

Figure 2. Village Land Use Plan/ Plan Vivo

The key below the map shows the translation from Swahili to English

MATUMIZI YA ARDHI: KIJIJI CHA MONGO WA MONO (WILAYA YA MBULU)



Map datum and Projection: WGS 1984, Zone 36 S: Map drawn by UCRT, 2010

Key

- | |
|---|
| Hifadhi na malisho ya mifugo
(Protected area with grazing for domesticated animals) |
| Hifadhi na matumizi ya Asili ya Hadzabe
(Protected area for utilization for cultural livelihoods by Hadzabe) |
| Makazi na kilimo
(Area designated for housing and farming) |

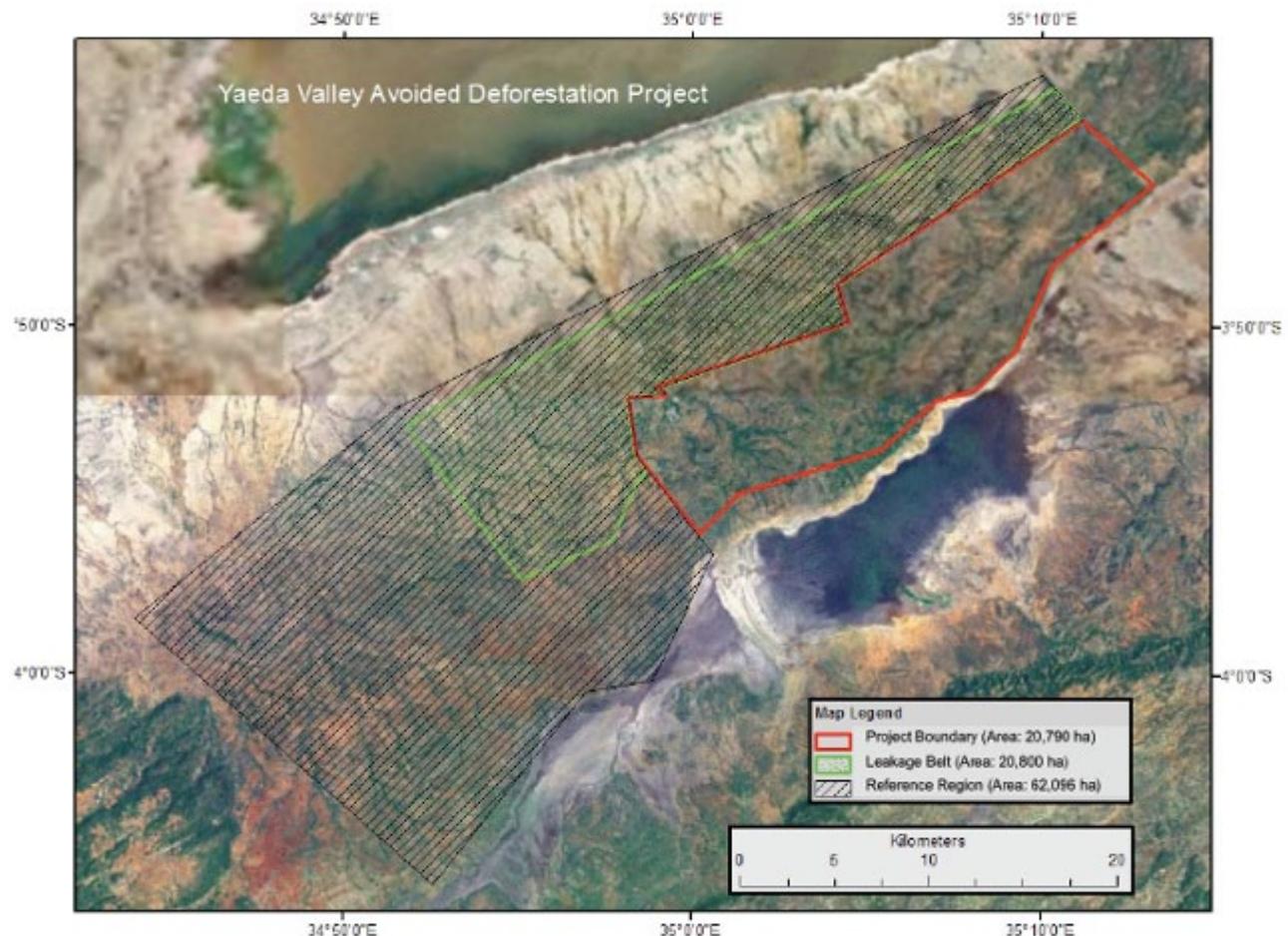
2. Description of the project area

Mbulu District has areas with semi-arid and sub-humid climates that receive annual rainfall of <400 mm and >1200 mm, respectively. The long rainy season occurs from March to mid-May and the short rainy period occurs from November to December. Relative humidity ranges from 55 to 75% and mean annual temperature ranges from 15 to 24°C.

The project area includes the Kidero hills, an area of woodland and granite outcrops which is the core land use zone for Hadzabe hunting and gathering activities and medicinal plant collection and also contains a wide range of important cultural and religious sites. The natural habitat within Mongo Wa Mono and Domanga is dominated by *Acacia-Commiphora* woodland, specifically *Acacia tortillis*, *Acacia kirkii* (lower areas), *Acacia mellifera*, *Commiphora* Spp, *Grewia* species and *Combretum* species, interspersed with areas of savanna grasslands and *Adansonia digitata* (Baobab) woodland (see photos, Annex 11).

Recent land use change within the project area consists predominantly of conversion from *Acacia-Commiphora* woodland to a form of slash and burn agriculture (see photos, Annex 11). This land intrusion, conversion and resulting deforestation are contrary to the village by-laws, the village land use plan and national laws governing land acquisition and utilization within Tanzania. The encroachment originates from outside the villages of Mongo Wa Mono and Domanga, from the neighboring villages of Eshkesh and Yaeda Chini (also spelt Yaida Chini) but mostly from more densely populated areas to the west (Meatu District), south (Mbulu District) and north (Karatu District). These areas are captured in the established leakage belt and reference region depicted in Figure 3.

Figure 3. Map of project area, reference region and leakage belt



Several rare and threatened large mammal species have been recorded within the project area. Wild Dog *Lycaon pictus* (IUCN⁶ Endangered) are regular visitors. This species is known to have a large home range and may be part of the same population that is found within the Maswa Game Controlled Area (GCA) and Ngorongoro Conservation Area to the northwest of Mongo Wa Mono and Domanga. Leopard *Panthera pardus* (IUCN Near Threatened) are resident to the area, and both Lion *Panthera leo* (IUCN Vulnerable) and Cheetah *Acinonyx jubatus* (IUCN Endangered) have been recorded but there is no data to support the presence of resident populations. All these large mammals are listed by CITES⁷ and protected under national and international laws. The project area supports seasonal populations of ungulates, including Thomson's Gazelle, Wildebeest, Impala,

⁶ IUCN (International Union for the Conservation of Nature) Red list of threatened species www.iucnredlist.org

⁷ CITES – Convention on the International Trade in Endangered Species. Species are listed according to population status, rate of decline and ability of range state to manage the population.

Zebra, Giraffe, Eland, Elephant (IUCN Vulnerable), and Cape Buffalo. Coke's hartebeest are also found in the area, but at very low numbers and are close to extirpation due to illegal hunting.

A total of 433 species of birds have been recorded within the reference area and adjacent wetlands, two of these species of birds are endemic to Tanzania; Ashy Starling *Cosmopsarus unicolor*, which is restricted to central Tanzania and north thereof and Grey-breasted Spurfowl *Francolinus rufopictus*, which is restricted to *Acacia-Commiphora* woodland in northern Tanzania (see avifauna species list, Annex 5). The project area borders the Yaeda Chini seasonal wetland, which is designated as an Important Bird Area (IBA) (IBA 79) by BirdLife International due to the presence of resident globally threatened species⁸. North of the project area is Lake Eyasi. With an area of 116,000 ha, this is one of the largest soda lakes in the Rift Valley complex and an important area for palearctic migrants. Lake Eyasi is also designated as an IBA (IBA 23) due to the presence of Lesser Flamingo (IUCN: Near threatened) and has 1% biogeographical population levels of eight resident and migratory wetland bird species, a criterion for designation as a Ramsar⁹ site. Above the rift, 35 km to the north/northwest is the Ngorongoro Conservation Area, a UNESCO World Heritage Site and world famous tourist destination. Bordering this is the Serengeti National Park, a 14,700 km² fully protected area and also a UNESCO World Heritage Site.

This project will promote the protection of indigenous species according to the national laws of Tanzania and international conventions to which Tanzania is a signatory. The strengthening of local boundaries, according to the land use plan and village by-laws, creates an enabling environment for local enforcement and protection of indigenous and endangered species from poachers. By preventing animal poaching, this project and the Hadzabe are helping to promote and conserve the natural ecosystems and mammal populations on which their way of life depends.

⁸ Baker N.E. and Baker E.M. (2002) Important Bird Areas in Tanzania: A First Inventory. Wildlife Conservation Society of Tanzania.

⁹ Ramsar is an internationally recognized designation for wetlands of global importance named after Ramsar, Iran where the Convention on Wetlands of International Importance was signed in 1971.

Section C: Community and Livelihood Information

1. Target communities/groups

The Hadzabe are one of Tanzania's most unique and threatened human cultures, with a deep reservoir of indigenous knowledge pertaining to natural resource use, which has enabled them to survive in a challenging environment. The Hadzabe are strictly hunter-gatherers and do not raise any livestock, although some do keep fields of domestic crops, mainly in Domanga village. As a group, the Hadzabe have been gradually displaced to remote and relatively inhospitable semi-arid areas, as other groups (or tribes) of people have taken over more productive lands and converted them to agriculture; this displacement and conversion has been most pronounced over the last century. Currently a total of approximately 1,000 Hadzabe survive in fragmented areas of Northern Tanzania. Mongo Wa Mono (meaning 'the mother of all villages') is the core of the Hadzabe lands and population.

According to the most recent Tanzanian Census of 2002, the average growth rate in Mbulu District is 3%, which is on par with the national average of 2.9%. The villages of Mongo Wa Mono and Domanga are mostly populated by people identifying themselves as Hadzabe and Sukuma, the latter of which being predominantly agropastoralists. The surrounding villages of Eshkesh and Yaeda Chini are populated by multiple tribal groups: Barabaig, Iraqu and Hadzabe. Barabaig and Iraqu are pastoralists and agropastoralists, respectively. These different groups live together without conflict.

2. Socio-economic context

Accurate demographic information on the Hadzabe is scarce and, in the context of money, difficult to quantify, however the Hadzabe are living at the extreme end of the poverty scale within Tanzania with no form of stable economic activities or income (significantly less than 1 USD/day). As a community, they are reliant on the environment for the majority of their daily needs, gathering honey and hunting for meat for subsistence. The Hadzabe's way of life only minimally impacts the environment that they occupy as they today continue their historical practices of sustainable natural resource use. The Hadzabe follow a spiritually based, minimalist religion which involves and relies on environmental connectivity.

The only notable communal income currently captured in Mongo Wa Mono and Domanga from natural resource activities is through Dorobo Safaris Ltd., a specialist ecotourism company based in Arusha, which focuses on low-impact walking and camping safaris. Dorobo Safaris established the Dorobo Fund¹⁰, which manages the benefit sharing process set up in collaboration with UCRT. The community shares a percentage of this revenue with the ward and district governments. The amount received by the communities varies according to tourism numbers. Income in 2011 is estimated at Tshs 6–7 million (3,500–4,100 USD) to each of the villages and Tshs 14–16 million (8,200–9,400 USD) to the Hadzabe (D. Petersen pers comm.).

The project activities include the provision of financial support for land use planning and the employment of walinzi wajadi, or "community guards"¹¹ as they are referred to hereafter, who are critical to the preservation of the protected area designated in the land use plan. Without the ability to generate revenue through the sale of Plan Vivo Certificates, the communities would be unable to secure and protect the forested project area, neither legally nor at the community level. This in turn would lead to the end of this ancient society.

¹⁰ www.dorobofund.org

¹¹ Walinzi wajadi, or community guards, are local private citizens and should not be mistaken for employees of the wildlife division or other government entities.

The project, like most community-based natural resource management (CBNRM) initiatives, necessarily involves maintaining the project area boundaries and restricting access by neighboring populations that have been responsible for the unsustainable natural resource use, in this case deforestation. The Hadzabe are legally empowered to impose such restrictions and must begin to protect their land if they are to survive. The project developers understand the potential hardship that this enforcement may cause for the neighboring villages and are therefore taking additional measures to mitigate the impact. These measures include training affected communities on improved/intensified agricultural practices to ensure that crop yields are not negatively impacted while at the same time curbing the key driver of the deforestation in and around the project area. The project will provide further opportunities for participation by neighboring villages as it expands beyond the pilot phase.

3. Ownership of carbon benefits (land-tenure)

There is currently no law or policy that specifically mentions the ownership of carbon rights within Tanzania. The new draft forest policy, yet to be enacted, does mention non-wood forest products (NWFP) and their potential; “*Payments for ecosystem services through carbon or watershed protection (PES) will be promoted to strengthen private sector and community investments*” (*draft National Forest Policy, 2011*). The current Forest Act (2002), which is the act governing forest utilization in Tanzania, clearly states that “*village or community forest reserves confer all ownership and user rights to the village or designated community*”.

The Tanzanian government, with technical and financial assistance from the Royal Government of Norway, has developed a National Framework and Strategy for REDD. This process incorporates a National Climate Change Steering Committee (NCCSC), a National Climate Change Technical Group and a National REDD Taskforce to ‘guide the implementation of climate change activities’. A number of Non-Governmental Organizations (NGOs), including Carbon Tanzania, are currently engaged with the government on issues related to carbon rights and how REDD might be implemented in Tanzania.

Land tenure in Tanzania is governed by the Land Act No. 4 of 1999, and the Village Land Act No. 5 of 1999. These laws classify all land within the boundaries of registered villages as ‘village land,’ which is held by the resident communities under customary rights of occupancy held in perpetuity. The Village Land Act designates the village councils and village assemblies as the statutory management authorities over these village lands. This land tenure framework, in combination with Tanzania’s local government structures, provides for the rights and responsibilities of the village councils and village assemblies and provides a strong foundation for participatory management of communal land and resources such as forests.

The government has recognized the Hadzabe as having special status and has granted them ownership of village lands, including the project area, within Mongo Wa Mono and Domanga. This land tenure allows the Hadzabe to enter into legal agreements pertaining to the land such as that required for this project. The communal nature of this land tenure is reflected in the supporting documents in which the central government deeded the land to four individual Hadzabe community members, two from each village (see land tenure and ownership documentation, Annex 8). These four people are recognized to represent the Hadzabe community as a whole and are the same four signatories to the contract with Carbon Tanzania, again reflecting community-wide agreement to the partnership.

Disputes most likely to arise relating to land tenure in this area will originate from members of neighboring villages. While ownership of the project area is not disputed it has been disregarded. In order to mitigate and combat potential land use conflicts, project activities involve the surrounding areas including training on improved/intensified agricultural land management in order to address

the primary driver of deforestation. Carbon Tanzania and UCRT engage with members of the surrounding communities and plan to include the neighboring villages as part of the efforts to scale-up the project. More information on the plans to scale-up can be found in section E8 of the PDD and the project coordinator will report subsequent progress on project expansion to Plan Vivo on an annual basis.

The pastoralist communities within these surrounding villages are often dependent on water resources within the project area, especially during the months of October and November prior to the beginning of the rainy season. The borders drawn into the land use plan purposefully allow for the largest source, Kukumako spring (see photos, Annex 11) to be utilized in a sustainable fashion by both hunter-gatherers and pastoralists, particularly in dry years when alternative sources are lacking. These years may become more frequent as climate change has a greater impact in the region making the protection of the project area and its resources all the more important. Protecting the project area as a refuge in difficult times increases the adaptive capacity of the larger community. Two other smaller water sources exist in the interior of the project area and are reserved for wildlife upon which the Hadzabe are dependent. The water available at these interior springs is minimal and the springs themselves are vulnerable to overuse and would likely disappear as a result of deforestation.

Should it be necessary, the process for conflict resolution within and between villages is outlined below and follows the Village Land Act and thus national land laws. Training on conflict resolution mechanisms has been an important part of UCRT's engagement with Mongo Wa Mono and Domanga as well as neighboring villages, with a focus on how the judicial system works and responsibilities within that system.

1. **Village Land Tribunal (baraza la ardhi la kijiji)** is the first step to resolve conflict of any type. This process includes members of the village government and is applicable to any activity contrary to local or national laws. Most conflicts between individuals are resolved at this level.
2. **Ward Land Tribunal (Baraza la ardhi la Kata)** is the second step for conflicts not settled by the village land tribunal, resolving a number of disputes between individuals from different communities.
3. **District Land and Housing Tribunal (Baraza la ardhi na nyumba la wilaya)** occurs when steps one and two have failed or when village and ward government representatives or communities feel that external mediation is required.
4. **High Court – Land Division (Mahakama kuu Kitengo cha Ardhi)** is for serious cases of land loss or misappropriation by internal or external sources.
5. **Court of Appeal (Mahakama ya Rufaa)** is for appealing decisions made in the high court or decisions that have been referred by the district to the high court.

The contract (Annex 4) also includes a structured system for conflict resolution between the signatories.

Section D: Project Governance and Community Participation

1. Project organizational structure

Carbon Tanzania (CT) is a registered business activity of the consultancy partnership Ecological Initiatives Ltd., incorporated under the company laws of the United Republic of Tanzania. CT aims to encourage the development of in-country, value added carbon offset projects which directly benefit communities and ensure biodiversity protection and secure livelihoods for communities threatened by climate change. Carbon Tanzania will serve as the project coordinator and take responsibility for project implementation and preparation of necessary documentation required for the issuance of Plan Vivo Certificates throughout the life of the project. Carbon Tanzania staff have extensive experience in forestry, conservation, biodiversity assessment and wildlife management. In addition, CT has relationships with individuals and institutions that provide technical support as necessary.

Ujamaa Community Resource Team (UCRT) is recognized as one of the best CBNRM organizations in Tanzania and has successfully pursued its mission of supporting community rights and ownership to ensure the viable and long-term conservation of human and biological diversity. UCRT will provide access to its local support team and provide knowledge of the local context to ensure that Carbon Tanzania is able to carry out the necessary field operations. UCRT has been working in Mongo Wa Mono for nine years and has established itself as a responsible and transparent partner with the Hadzabe communities. UCRT also works with the neighboring villages and is held in high regard by community members and district government alike.

This project is a community-based initiative and as such the relevant skills and experience not only come from the individuals working directly with Carbon Tanzania and UCRT, but also the Hadzabe who hold indigenous knowledge about the project's forest area and biodiversity. Mongo Wa Mono and Domanga village members have been involved in the planning of the project since its start and have agreed to carry out the activities necessary to ensure the preservation of the designated area.

Inline with the local nature of this project, the existing village structures will serve as a forum for representation of project participants and the community-at-large. The village assembly is a decentralized, democratic institution consisting of all male and female village members above the age of eighteen. This assembly meets on a bi-monthly basis and anyone is welcome to place an item on the agenda, including concerns relevant to this project. The ward, comprised of elected village leaders, will tend to issues that transcend the village. Village governance of this kind is ingrained in Tanzanian culture and embedded in law through the Local Government Act No 7 of 1982.

For further information on organizational structure, see organizational diagram (Figure 4), MoU between CT and UCRT (Annex 9) and CT and UCRT staff biographies (Annex 10). Table D.1 below further outlines the roles and activities of the participant groups.

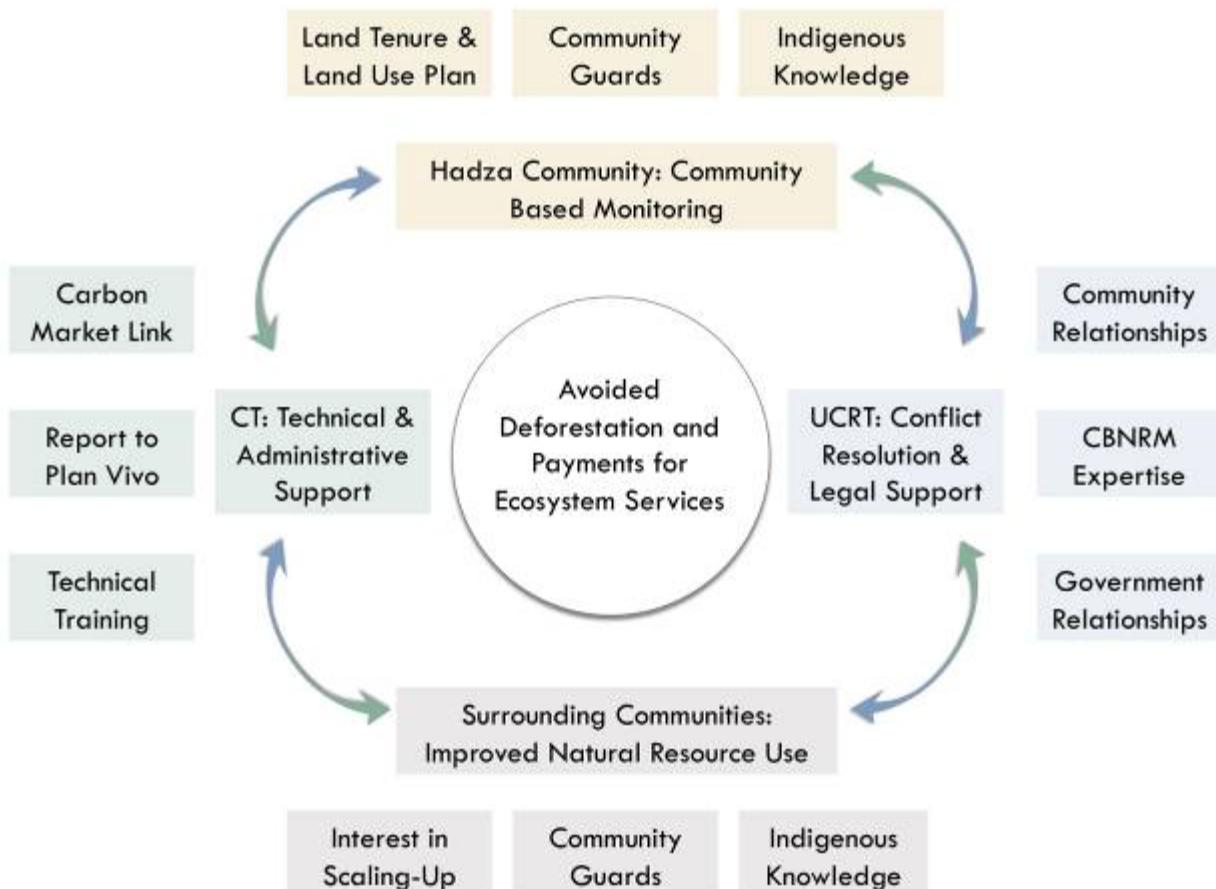
Table D.1: Project participants

Key Function	Organization / group(s) involved	Type of group / organization and legal status	Brief description of activities
Project administration	Carbon Tanzania	Project Coordinator Registered not-for-profit Business Project of Ecological Initiatives Ltd.	- Ensure project implementation in accordance with plan vivos, producer sale agreements and PDD - Review field data, track project developments - Plan scaling-up of project in partnership with other stakeholders and report to the Plan Vivo Foundation - Serve as key actor in dispute resolution

Table D.1: Project participants

Project technical operations	Carbon Tanzania Registered not-for-profit Business Project of Ecological Initiatives Ltd.	Project Coordinator	- Develop and monitor project cycle to ensure that it is in accordance with approved methodologies - Manage and support technical demands of project - Increase local capacity where possible
Community engagement / participation	Ujamaa Community Resource Team Registered not-for-profit company limited by guarantee	Community Partner	- Provide legal counsel to communities for the purpose of securing land tenure and entering into PES agreements - Provide knowledge of local context to ensure CT is able to carry out the necessary field operations - Organize meetings with ward and district officials - Engage with communities where project is expected to scale-up - Serve as key actor in dispute resolution
Forest management / monitoring	Hadzabe community Communities recognized by central government as holding land tenure rights in project area		- Develop land use plan and village by-laws - Serve as community guards and patrol, monitor and report on natural resource use in violation of the land use plan - Take action against violators in accordance with village by-laws and Village Land Act - Monitor biodiversity impacts - Provide information on socioeconomic impacts

Figure 4. Organizational diagram



2. Relationship to national organizations

Carbon Tanzania and Ujamaa Community Resource Team are both registered entities bound within the tax and business laws of Tanzania. Both organizations are audited and submit annual returns to national and regional regulatory bodies. Both Carbon Tanzania and Ujamaa Community Resource Team work in strict compliance with the laws of the United Republic of Tanzania and have a history of engagement at all levels with government agencies.

All operations regarding forest activities are carried out under the guidance of and in accordance with the Land Act (1999)¹² and, where relevant, in accordance with the Forest Act (2002). Carbon Tanzania and UCRT have been fully introduced and communicate with the district officials within the project area (see relevant letters and documentation, Annex 8). Further, Carbon Tanzania intends to propose to the central authorities appropriate taxation on the sale of carbon credits.

3. Community-led design and livelihood benefits

Land planning

The Hadzabe communities and village governments in Mongo Wa Mono and Domanga have been sensitized to the importance of understanding the land law and rights in relation to the Village Land Act. This process of information dissemination and training over the last 5 years has led to the understanding of ‘how’ the Hadzabe can protect their land. There has been no need to address the issue of ‘why’ the land has to be protected due to the connectivity that Hadzabe have to the land, both culturally and ecologically. UCRT started working with Mongo Wa Mono in 2002 with the aim of securing land tenure for the Hadzabe, a process that included the following legal steps:

1. The village council applied for and were granted a land certificate by the district council¹³.
2. The villages created a land use plan with assistance from UCRT.
3. The village council wrote by-laws on land protection and enforcement.
4. The district council approved the land use plan and by-laws thereby permitting enforcement.

Carbon project

The project was first introduced in October 2010 and, as is custom, required a two-day meeting with a quorum of the Hadzabe community (270 people). The project coordinator explained the concepts and benefits of the project to the community (in Swahili which was then translated into Hadzane¹⁴). At all stages of project development the project’s aims have been directly communicated to the Hadzabe community through informal training practices and through Richard Baallow, a community spokesmen who represents the Hadzabe community, as well as being the Secretary of the Yaeda-Chini Ward Development Committee. Project activities related to patrolling the project area and resolving conflicts with those who do not adhere to the land use plan as well as proposals for mitigating leakage were developed in a participatory fashion.

Community consultations will continue to take place throughout the lifetime of the project between all key stakeholders and target groups, including the district, ward and village governments, Carbon Tanzania, UCRT, the Hadzabe and the surrounding communities. To ensure an ongoing iterative process throughout the implementation of the project, the contract stipulates that all community members are to be provided with the opportunity to participate in the project and that Carbon Tanzania must provide reports every six months on the development of the project through the

¹² Two Land Acts exist, both enacted in 1999, we refer to the Village Land Act No. 5.

¹³ The district council is a decision making body consisting of the *Madiwani* (elected and appointed councilors of each of the wards, which can number 15), head of district departments for land, resource management and law, *Mkuragenzi* (district executive officer), the council is chaired by a councilor elected within the council.

¹⁴ Hadzane is not a written language but spoken vigorously – communicating project objectives is vocal only and discussed at great detail with a quorum of acceptance being the norm.

relevant committees and meetings. This contract serves as the producer sale agreement for this project and includes additional stipulations that the parties have agreed to. The signing of the contract represents the free, prior and informed consent (FPIC) by the communities who have the opportunity to review, discuss and revise its contents with legal guidance from UCRT.

Livelihood Benefits

The Hadzabe are fully supportive of the project and are an ideal population to engage with on such an initiative because they understand the importance of preserving their natural environment despite lacking the skills and knowhow to do so. As people who are dependent upon the land for their livelihood, they will benefit not only from the expanded and diversified income from the generation of offset credits but also from the enhanced protection of their land which supports their traditional way of life. Farmers in neighboring communities will be engaged via agricultural training to enhance the security of their livelihoods in the face of enduring challenges. Pastoralists in the region will benefit from the protection of the project area and its natural resources that will remain accessible for sustainable use. Expansion of the project through a scaling-up process will widen the benefits to a greater number of individuals and villages.

Scaling-Up

Carbon Tanzania and UCRT plan to again utilize participatory approaches to assess, plan and implement a wider project that includes the woodland areas set aside for pastoralist activities in Mongo Wa Mono and the neighboring village of Yaeda Chini. The project developers recognize the need for such a process given the differences between the pilot and expansion areas and the communities found within them. Progress toward scaling-up the project will be community-led and is expected to follow a similar trajectory as that of the pilot phase. See section E8 of the PDD for further information on the plans to scale-up the project.

4. Technology transfer and training

UCRT to Hadzabe and the Villages of Mongo Wa Mono and Domanga

Educating the community about land law, good governance and leadership responsibilities has been an ongoing process for UCRT; this is especially the case for the Village Land Act. While the Hadzabe are intimately connected to the land, the process of village mapping and the concept of land ownership were new to the community. The majority of this training has been directed at the 25 members of the village council and other traditional and influential community leaders, who then spread the information within the village, often through verbal and informal communication. Further training including how to engage with outsiders who fail to respect the land use plan will take place with community guards who patrol and monitor the project area. Community empowerment is a critical aspect to the project, as the Hadzabe will be relied upon to discourage and respond to natural resource use not in compliance with their land use plan and village by-laws. UCRT will facilitate this process in addition to educating the communities of their legal rights and appropriate conflict resolution and enforcement strategies.

Carbon Tanzania to Hadzabe and the Villages of Mongo Wa Mono and Domanga

Sensitizing the communities to the concept of climate change and the role of forests in mitigation and adaptation strategies is a slow process given the scientific nature of the issue, but efforts to improve the communities' understanding are ongoing. More important to the project's success is the enhancement of technical capacity of project participants. To this end, Carbon Tanzania conducted a 12-day participatory above ground biomass survey with fifteen Hadzabe from the 28th of March to the 9th of April and another 4-day survey from the 28th of November to the 1st of December. This process of collecting data on the carbon content within the project area was designed to be educational as the project developer introduced the participants to community-based carbon measurement and monitoring as well as the use of certain technologies such as global positioning systems (GPS). The community has also been made aware of certain key concepts of

carbon sequestration such as additionality and leakage. Community members active in the project will receive training pertaining to their roles in patrolling, data collection and monitoring of carbon stocks as well as socioeconomic and biodiversity impacts. One such example is the training of participants to use scientific approaches such as Timed Species Counts (TSC) to monitor biodiversity impacts. In order to obtain reliable data from this technique, a level of expertise is required and will be built up over time through continued engagement with participants.

Long-term roles

All community members, including those who are not directly involved in project activities, are aware of the project and will continue to be involved in its planning and implementation through a process of information dissemination included within the contract that ensures the main aims of the project are well known and understood (see producer agreement, Annex 4). As the project fieldwork becomes more ingrained in the regular activities of the Hadzabe, participants become more practiced at accurately measuring project indicators, and communities gain confidence in their ability to enforce their land use plan, the communities will take on a greater management role in project. However, given the desire amongst the Hadzabe to continue their traditional lifestyle, it is not practical to ask community members to take on the administrative responsibilities of the project. Additional legal support may also be required as the community exercises its rights. Support of this nature will continue to be provided by Carbon Tanzania and UCRT as required.

5. Project financial structure

Project Coordinator – Carbon Tanzania

Carbon Tanzania will manage all revenue flows from the year-on-year sale of offset credits, either brokered or sold in the “over-the-counter” (OTC) market, less any commissions and premiums demanded by the aggregators. Carbon Tanzania’s parent company, Ecological Initiatives, will retain a sales premium of 20% to cover administrative overhead, pay for research and monitoring of carbon markets and policy, and investment into new carbon offset projects. Carbon Tanzania will retain an additional 20% to cover project implementation costs such as those associated with project development, certification, the sale of credits, ongoing agricultural training, annual monitoring and reporting, and verification. The remaining 60% of carbon revenue will go to the producers. CT used the market average of \$5/tCO₂e¹⁵ to calculate payments to producers at \$3/tCO₂e. Surplus funds from the sale of credits above the \$5/tCO₂e rate will initially go towards recouping the project developers initial upstart and technical costs and to payment of the community guards, community coordinator and technical team carrying out ecological monitoring. After upstart costs are reimbursed, presumably in the first few years after certification, the surplus will be divided appropriately among the parties to maintain the 20% - 20% - 60% division of revenue over the whole of the crediting period (see financial flow diagram, figure 5). This means that, as time goes on, the producers may receive more than the agreed upon \$3/tCO₂e depending upon market forces. Carbon Tanzania will make payments to producers every six months based upon annual monitoring results as outlined in the producer sale agreement. These payments will be deposited directly into the two village accounts and two Jamii fund¹⁶ accounts listed in producer sale agreement (Annex 4).

Community Partner – Ujamaa Community Resource Team

UCRT serves as the intermediary between Carbon Tanzania and the community for the purpose of paying the community guards and community coordinator on a monthly basis. UCRT receives outside funding to carry out its mission and is self-sustaining. Should UCRT require financial

¹⁵ The \$5/tCO₂e is based on the average price representing a mid-range figure based on different “varieties” of carbon offsets (high-value, plantation, biodiversity linked) from the “State of the Voluntary Carbon Markets 2011” report published by Ecosystem Marketplace in June 2011.

¹⁶ These accounts are separate from village accounts that village councils manage and assess when proposing annual budgets to the district government. The Hadzabe may decide to allot some of these funds to the villages and, while UCRT may help to facilitate those decisions, it is not an official element of this project.

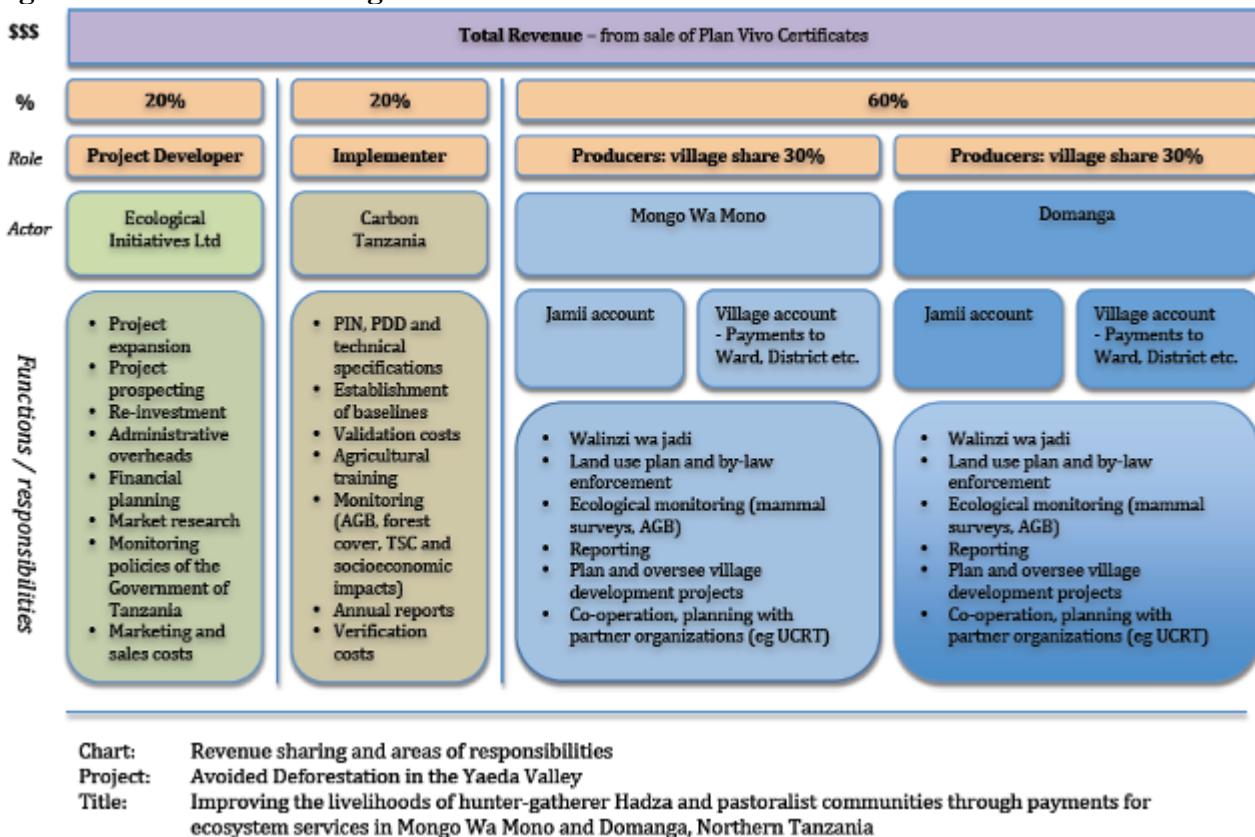
support to cover its costs associated with this project, Carbon Tanzania will factor that into its implementation costs.

Producers – Villages of Mongo Wa Mono and Domanga

The project coordinator has already made payments to community members involved in project planning through the customary payment of sitting allowances and to the technical team who took part in the aboveground biomass surveys. Carbon Tanzania, through UCRT, began making monthly payments to community guards in June of 2011 and to a community coordinator shortly thereafter. These payments will continue over the life of the project in accordance with the results based payment plan outlined in producer sale agreement, (Annex 4). Carbon Tanzania is currently paying Tshs 500,000 (roughly 300 USD) each month, an amount that is subject to adjustment should additional guards be required for the project's success. In an effort to spread benefits throughout the target group, different community members will be trained and employed as community guards and responsibilities will rotate among willing participants.

Carbon revenue payments, made on a biannual basis, will provide financial support for forest management as well as legal services beyond the scope of UCRT that may be required for land use enforcement. Payments in excess of what is needed to fulfill these purposes will be earmarked for community-wide development initiatives and be made available to individuals who apply for funds either in times of stress (i.e., illness) or for the purpose of increasing human capital (i.e., teaching or medical training) that will benefit the community-at-large. This approach to benefit sharing is modeled after a pre-existing village mechanism used to dispense funds generated from tourism.

Figure 5. Financial flow diagram



Section E: Project Activities and Impacts

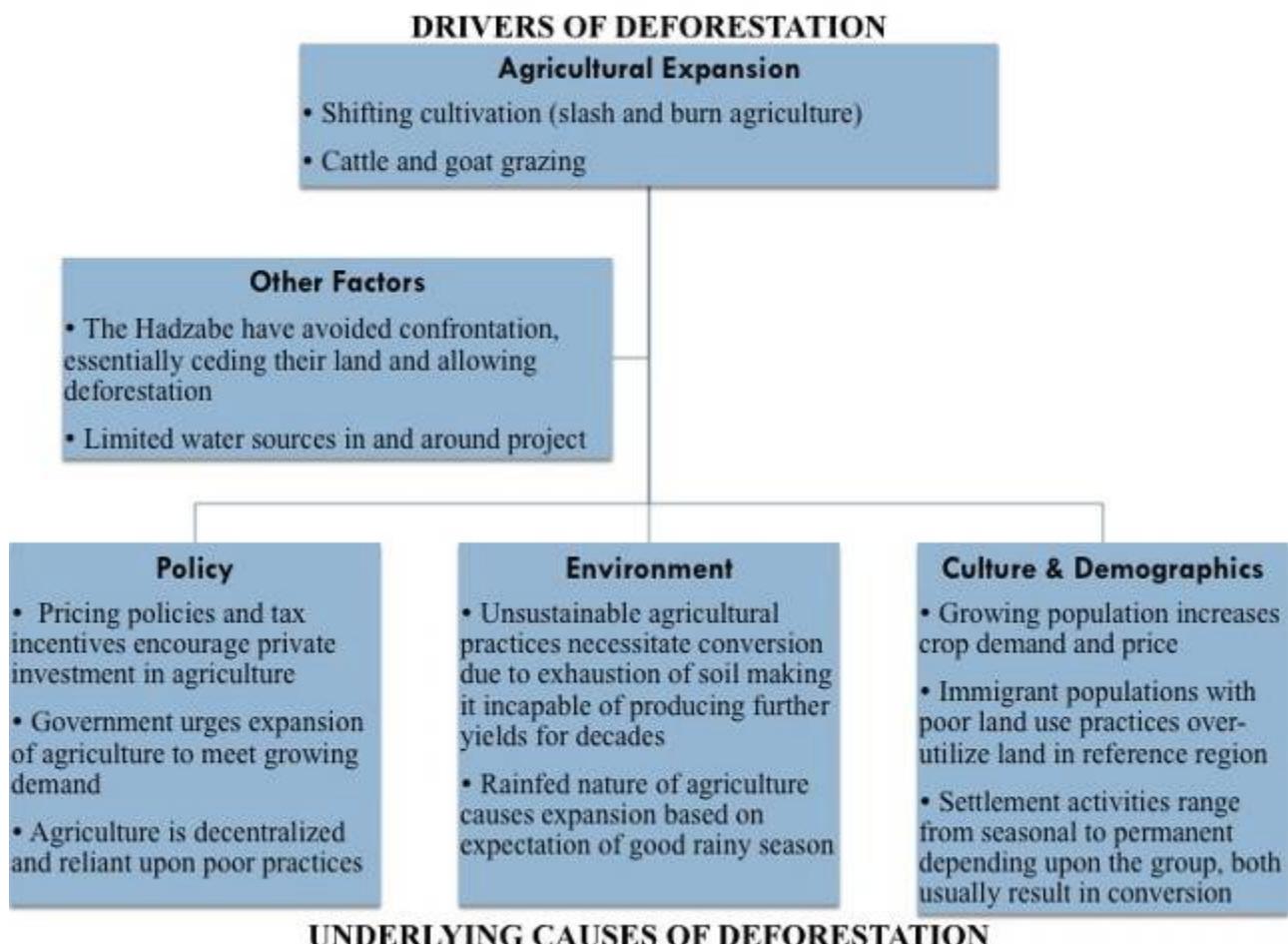
1. Description of the Plan Vivo technical specifications (methodologies)

Table E.1 Project activities

Title	Type of Activity	Objectives	Brief Description	Target Areas/Groups
Improved Land Use Planning and Management	Participatory land use planning and management through education and empowerment	<ul style="list-style-type: none"> - To protect traditional Hadzabe lifestyle by specifying areas for conservation, agriculture and pastoralist activities - To secure recognition of land rights and land tenure from the central government - To educate communities on the ecological and livelihood benefits of conservation 	<ul style="list-style-type: none"> - Facilitate community-led planning process to develop land use plan and by-laws that supports sustainable and diverse land uses - Apply for approval of land use plan and by-laws from district officials and secure title deed recognizing Hadzabe as owners - Develop educational materials for use in schools and community meetings that promote the ecological and livelihood benefits of conservation 	<ul style="list-style-type: none"> - Hadzabe population - Villages of Mongo Wa Mono and Domanga - Surrounding villages
Avoided Deforestation	Enforcement of district approved village land use plan and by-laws in accordance with national land laws	<ul style="list-style-type: none"> - To ensure the indigenous <i>Acacia-Commiphora</i> woodland remains owned and managed by Hadzabe and protected for traditional and cultural utilization - To reduce emissions in relation to the BAU scenario - To generate certified carbon credits to be sold and revenues realized by target population in the form of PES 	<ul style="list-style-type: none"> - Employ and train community guards to monitor forest disruption, land conversion and illegal poaching activities in project area - Report instances of incursion or other disturbances - Communicate with neighboring villages about prohibited land use and associated penalties - Enforce land use plan and by-laws through customary and legal dispute resolution mechanisms as necessary 	<ul style="list-style-type: none"> - Hadzabe population - Villages of Mongo Wa Mono and Domanga - Surrounding villages
Improved Agricultural Land Management	Training in improved agricultural techniques suitable to the conditions found in reference region to combat primary driver of deforestation	<ul style="list-style-type: none"> - To improve the capacity and technical know-how of farmers around project area - To mitigate leakage by tackling the key underlying cause behind deforestation in and around the project area - To improve the crop yields and livelihoods of communities surrounding project area 	<ul style="list-style-type: none"> - Contract with local agricultural specialist to facilitate training - Track results of farmers employing new techniques to serve as a model for farmers more resistant to change - Repeat and add to training as necessary 	<ul style="list-style-type: none"> - Agriculturalists in surrounding villages

Project activities have been developed based on the current drivers and underlying causes of deforestation in the reference region depicted in Figure 6. The drivers of deforestation may shift during the crediting period and the project will respond to those changes accordingly by adjusting or adopting new activities.

Figure 6. Drivers and underlying causes of deforestation



2. Duration of project activities and crediting period

Conceptualization of the project began in February 2010. A participatory and iterative process of project planning continued thereafter involving the target villages, UCRT and Carbon Tanzania. The project made great strides in 2011 as data was obtained from aboveground biomass (AGB) surveys and satellite imagery, project area carbon content and the historical deforestation rate were established, pilot activities began, and the central government granted the land title to the Hadzabe.

Carbon Tanzania submitted the Technical Specifications and PDD to Plan Vivo in February 2012. It is expected that third party validation will be completed in April 2012 to be followed by certification. This will mark the beginning of the 20-year crediting period used to calculate saleable, ex-ante carbon credits. The first verification of reduced emissions will take place 5 years after certification.

Payments for ecosystem services to participating communities will be structured over the 20-year crediting period as per the producer sale agreement. The rationale for this length of time is threefold. The crediting period is based on the historical deforestation rate and baseline projections detailed in the Technical Specifications (Annex 3). Secondly, since land use change takes place

over many years, and the risk of reversal is a real threat for biological sequestration, this project chose an extended period so as to be accountable to the threat of non-permanence. Additionally, the project is introducing novel concepts to participants which will require time to be adopted as the new norm. Specifically, it is understood that convincing people to accept new agricultural practices will be a slow process and requires evidence of success be shown to individual farmers until the more sustainable approach becomes the new conventional wisdom.

Carbon Tanzania and UCRT have already introduced the idea of scaling-up the project to Mongo Wa Mono and the neighboring village of Yaeda Chini who have responded favorably to the project concept. The project coordinator would like to see activities begin in these areas in June of 2012 but, as with any participatory project, this date will depend upon the situation on the ground. See section E8 of the PDD for further information on plans to scale-up.

3. Carbon benefits of project activities

Table E.2 summarizes the projected net carbon benefit attributable to this REDD project and the carbon eligible for crediting. As detailed in the Technical Specifications submitted to Plan Vivo (Annex 3), the historical annual deforestation rate in the reference region is 0.93%¹⁷ and the calculated area of woodland in the project area considered under threat of deforestation has been set at 19,750 ha. AGB surveys conducted in 2011 and belowground biomass calculations determined the existing carbon in the project area to be 33.4 tC/ha. The survey methods and calculation process is also explained in the Technical Specifications. The projected carbon benefits are based on a conservative estimate that the project will be successful in reducing deforestation in the project area by 85% compared to the baseline scenario. Non-permanence and leakage buffers have each been set at 10% as discussed in sections E6 and E7 of the PDD. Carbon has been converted to CO₂e by applying the molecular weight ratio of carbon to carbon dioxide.

Table E.2 Summary of baseline and project emissions reductions per hectare over crediting period

1. Area of woodland under threat in project area	19,750	ha	95% of total project area (20,790 ha)
2. Ha of woodland at end of 20-year crediting period without project	16,090	ha	Application of deforestation rate projects annual loss of 183 ha
3. Loss of habitat without project over 20-year crediting period	3,660	ha	= Row 1 – Row 2
4. Expected effectiveness of interventions	3,111	ha	= 85% of Row 3
5. Carbon benefit attributable to project (tC)	103,907	tC	= Row 4 * 33.4 tC/ha
6. Carbon benefit attributable to project (tCO ₂ e)	380,994	tCO ₂ e	= Row 5 * (44/12)
7. Carbon benefit eligible for crediting (deducting buffers)	304,795	tCO ₂ e	= 80% of Row 6
8. Annual carbon benefits of project eligible for crediting	15,240	tCO ₂ e	= Row 7 / 20 years

4. Livelihood and other socioeconomic impacts

Participating communities will benefit from increased income stemming from the PES element of the project. Beyond the surplus revenue from the project's generation and sale of carbon offsets, there are significant, additional livelihood impacts. Unique to the Hadzabe is the very real and substantial overlap between environmental and socio-economic impacts. As a population whose

¹⁷ The Tanzanian national deforestation rate is 1.2% equating to a loss of 412,000 ha annually. (United Republic of Tanzania, 2009)

livelihood depends on the land, the Hadzabe will benefit from the improved habitat resulting from project activities. Preventing deforestation, thereby preserving the natural habitat that the Hadzabe are dependent upon, will result in a sustained supply of food and other essential items. Additionally, project activities related to enforcing the land use plan will serve the purpose of protecting the watershed within the project area for the benefit of the Hadzabe, wildlife and pastoralists in the surrounding areas.

By preserving the area defined as protected area for utilization for cultural livelihoods by Hadzabe, this project enables them to maintain their unique lifestyle. As previously mentioned, a locally based ecotourism company has, for the last fifteen years, operated low impact safaris that highlight the Hadzabe's culture and way of life. The community benefits from revenue sharing as a result of this tourism but without protection of their land, this revenue stream would reduce and eventually disappear.

Surrounding the project area exist several communities who employ unsustainable land use practices such as slash and burn agriculture. These practices, which are taking place on poor soil to begin with, have produced a cycle of low crop yields, necessitating increased land incursion resulting in mosaic deforestation. The project will address the root causes of the problem by providing training on intensified/improved agricultural techniques. These activities are intended to ensure that agricultural yields are not negatively impacted and neighboring communities are not made worse off by the project. Upon scaling-up of the project, villages where the project is suitable will be included more extensively in both project activities and benefit sharing.

5. Ecosystem impacts

By protecting the traditional land of the Hadzabe through patrolling, the project simultaneously improves the habitat of the wildlife species native to the project area by preventing poaching. Protection of the woodland area will also maintain biodiversity by preserving habitat for native fauna and flora species. Adherence to the village land use plan will result in protection of the interior springs in the protected area. Additional activities with agriculturalists will prevent incursion and limit the loss of topsoil that is endemic to the slash and burn agriculture currently practiced.

Table E.3 Summary of expected impacts of project activities on key environmental services

Title of technical specification	Biodiversity Impacts	Water availability impacts	Soil conservation impacts	Other (Cultural)
Improved land use planning and management	Anti-poaching protects large mammal species	Kukumako spring accessible to hunter-gatherers and pastoralists, interior springs protected for wildlife and hunter-gatherers	Not applicable	Anti-poaching and protection of water sources increase availability of medium/large mammals for hunter-gatherers
Avoided deforestation	Preservation of habitat for wildlife and fauna	Preservation of catchment system in project area	Soil fertility preserved	Availability of food for hunter-gatherers preserved
Improved agricultural land management	Prevents land conversion and deforestation associated with slash and burn agriculture	Not applicable	Top soil is not lost due to slash and burn agriculture	Likelihood of land disputes arising from protection of project area reduces

6. Measures to address risks and ensure permanence

The project coordinator used the VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination¹⁸ to assess the project's risk level. Various factors were considered including the land tenure and management type, technical capacity of the project developer, net revenue to stakeholders compared to alternative land uses, infrastructure and natural resource extraction in and around the project area, population growth, incidence of natural disturbances and credibility of project financial plan. Careful evaluation of these criteria resulted in a low risk rating for the proposed project and so a risk buffer of 10% has been set.

The table below addresses context specific risks identified by the project coordinator, community partner and participating communities. It also describes measures taken to manage and minimize these risks.

Table E.4 Permanence risks and management measures		
Permanence Risks	Level of risk (low/medium/ high)	Management Measures
Slash and burn agriculture begins in the project area from within Mongo Wa Mono or Domanga	Low	Results-based payments are sufficient incentive to prevent agricultural activity outside of the designated agricultural zones. Improved habitats in project area support Hadzabe livelihoods that are nonagricultural.
Slash and burn agriculture increases in the project area from neighboring communities	Low	Implementation of the land use plan and enforcement of village by-laws restrict agricultural activity initiated from outside of the village. Conflict resolution mechanism is in place. Project will support improved agriculture practices in neighboring villages thereby reducing the need for further incursion.
Communities fail to realize revenue from carbon offsets and choose low scale agriculture in the project area	Low	Monthly payments are being made to communities from June 2011 for project activities. The communities recognize the benefit of avoided deforestation and developed their own land use plan, which includes designated areas for low scale agriculture outside of the project area.
Hadzabe choose to extricate themselves from the plan vivo and sale agreements with Carbon Tanzania	Low	Project has been developed through open communication and participatory planning and therefore reflects the long-term goals of the target groups. Conflict resolution mechanism is in place and equitable to both parties. Community partner has a long history of involvement in project area.
National or District Government change the laws regarding land use and encourage agriculture	Low	Project has ensured that all land laws have been followed and is monitoring policy developments. Laws are decentralized and ownership conferred to the community. Land is poor for large-scale agriculture.

¹⁸ <http://www.v-c-s.org/program-documents/tool-afolu-non-permanence-risk-analysis-and-buffer-determination>

Table E.4 Permanence risks and management measures

National or District Government create laws which centralize revenue from Payments for Ecosystem Services.	Low	Forest Act (2002) states that all user and ownership of forests is conferred to village and community. New forest policy builds on this to encourage PES and private sector involvement in forest conservation.
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7. Measures to address leakage

Understanding the type and magnitude of potential leakage resulting from the project is essential to the success of this undertaking. For this reason, Carbon Tanzania engaged in a series of conversations with community members to determine probable sources of leakage and to develop a strategic response to it. The project will mitigate leakage wherever it is possible and cost effective to do so and discount when mitigation is not a viable strategy. Cost effectiveness is determined by the level of leakage and carbon density of the area where leakage takes place as well as the short and long term costs and likely success of proposed interventions. A 10% buffer has been included within the project's accounting for discounting purposes by which low levels of leakage can be absorbed.

The project's primary strategy to prevent leakage involves tackling the underlying causes of the historic deforestation pattern and scaling up of project activities. To this end, the project coordinator will contract with an agricultural specialist in sustainable agriculture to provide the neighboring villages with an alternative to continued land conversion. This training will introduce the community to alternative methods of farming which are expected to improve their yields despite the challenging setting. This will, in turn, improve their livelihoods and minimize the potential for conflict with the Hadzabe who have begun to enforce their land use plan. It is expected that leakage will reduce over time as a result of successful interventions and by engaging a greater number of villages in PES for avoided deforestation. As a result, it is likely that leakage will be positive rather than negative in the long-term.

Areas outside of the project boundary where leakage could occur have been identified and are included in the leakage belt to be monitored on an annual basis to measure leakage resulting from project activities (Figure 3).

Table E.5 Leakage risks and management measures

Leakage Risks	Level of risk (low/medium/high)	Management Measures
Displacement of agricultural activity to other land within the reference region	Medium	Participatory rural appraisal (PRA) to estimate scale of leakage due to project activities. Additional project activities aimed at reducing underlying cause of deforestation. Monitoring of reference region to establish land use change.
Displacement of biomass collection	Low	Biomass collection is currently not a major driver of deforestation, however, PRA to establish scale of leakage due to project activities
Displacement of charcoal manufacture	Low	Charcoal is currently not a problem however this is likely to change within the lifetime of the project.
Revenue is not realized in neighboring communities	Low	Project is planning to scale-up into neighboring villages to increase opportunities for benefit sharing.

8. Additional activities to be supported by the project

Plans to scale up the project are already in progress. The concepts of this REDD project have already been introduced to the neighboring communities who see the benefits of strengthened land tenure, sustainable natural resource use and resulting PES. After completing an initial assessment of the viability of expanding the project in different areas, Carbon Tanzania and UCRT are now working with additional communities within Mongo Wa Mono and the neighboring village of Yaeda Chini. Both villages have created district approved land use plans and have been granted land tenure by the central government. Plans are underway for a Village Land Forest Reserve (VLFR) that will incorporate pastoralist areas within the two villages, constituting an additional 25,000 ha of woodland.

By expanding the project, a greater area of woodland will be protected from deforestation pressures, sustainable land use will be more widely adopted, and additional villages and households will benefit from the resultant socioeconomic and environmental impacts. Scaling up the project will involve much of the same processes as the pilot phase including participatory planning, capacity building and the development of appropriate community-based monitoring plans. An additional element of environmental education in the primary schools of the surrounding areas, as requested by the ward education officer, will also be added to the project activities. Lessons on the carbon cycle and the wider ecosystem will be developed and taught by an experienced environmental education teacher who works within the Tanzanian school system.

The process of engagement continues with these communities as well as the village of Eshkesh. Eshkesh is in the process of solving boundary issue and may become more involved with the project at a later date once that is resolved. The project coordinator would like to see activities begin in Yaeda Chini in June of 2012 and will report the progress of these expansion efforts to Plan Vivo in the annual reports.

Section F. Additionality of Project and Project Activities

Legal and Regulatory Test

This project has not been initiated to fulfill any government policies, regulations or standards. As detailed in section H, the government of Tanzania promotes community-based management but it encourages rather than obligates sustainable land use and forest management.

Financial and Economic Barriers

There is no commercial interest in the preservation of the habitat in the project area. Without the revenue generated through the sale of carbon credits there would be no ability to compensate for the opportunity costs associated with avoided deforestation. Carbon finance incentivizes conservation, funds patrolling, monitoring and enforcement activities, and finances activities related to curbing drivers of deforestation such as environmental education and the training of farmers on sustainable land use practices. Funding from carbon finance will also be necessary to defend the land use plan and village by-laws in court should that prove necessary to keep poachers or other intruders out of the project area.

Social Barriers

This project works to empower the Hadzabe to protect their remaining land and lifestyle. This has been a significant barrier since the population has traditionally been very passive in its interactions with outsiders. Their ceding of land and eventual displacement into less hospitable areas over the last century evidences this. Building capacity within the Hadzabe community to defend and protect their remaining land is critical to the success of this project.

Cultural Barriers

Convincing local farmers to adopt new practices is a significant barrier that this project must overcome in order to address the root causes of deforestation in the region. The organizations collaborating on this project are well suited to work with local agriculturalists in terms of training, providing support on new practices as well as monitoring the rate of their adoption by local communities. Carbon financing will be required to carry out these activities and curb the rate of deforestation.

Ecological Barriers

The essential problem of deforestation that the project is working to solve stems from unsustainable land use practices on the part of agriculturalists utilizing slash and burn techniques and pastoralist communities overgrazing in and around the project area. The project addresses these problems by engaging farmers and pastoralists through education, training and project expansion. Specific to agricultural communities are the poor soil condition, variation in weather conditions and extended dry season. Engagement with farmers on improved practices will help them to overcome these barriers to ensure that the REDD project does not negatively impact agricultural yields.

Institutional and Political Barriers

The project has already surpassed the political barriers of facilitating the creation of a land-use plan and having it approved by the proper authorities thereby securing land tenure for the Hadzabe. While it is now legally-binding there is no enforcement by authorities outside of the village structure and therefore falls to the community. This project will focus on strengthening the villages' natural resource committee and other village institutions to enhance their ability to uphold their land use plan and by-laws.

Technical Barriers

Substantial effort has been put into building the technical capacity of the Hadzabe community in terms of monitoring carbon, environmental and socioeconomic benefits of the project. This is an ongoing process that transfers more responsibility and ownership of the project to the local producers over time. This training encompasses all aspects of project monitoring such as conducting AGB surveys, tracking the presence of wildlife, conducting timed species counts and learning survey techniques.

Section G: Monitoring and Technical Support Plan

1. Monitoring of carbon indicators

The project will utilize three indicators to measure carbon content throughout the crediting period.

1. The rate of incursion and deforestation within the project area will be continuously monitored by community guards. They will report this information to the community coordinator who will record the data and relay it to Carbon Tanzania for tracking purposes. Aerial photography, obtained yearly, will be utilized to authenticate and verify data provided by project participants and will be used to assess carbon benefits for the sake of annual reporting and credit issuance.
2. The historical deforestation rate in the reference region, which includes the leakage belt, was determined by analysis and ground-truthed satellite imagery. This process will take place every five years as required for verification and will use the same or improved techniques employed to establish the baseline.
3. Aboveground biomass surveys will be carried out biennially to assess change in the carbon stock over time. Local producers have been trained and had opportunities to practice this methodology and will increasingly be responsible for this aspect of monitoring.

Additional indicators related to the production of carbon benefits will be observed to measure the effectiveness of project interventions. These include the number of instances of incursion (expected to reduce over time), amount of time spent by UCRT in informal conflict resolution with individuals and villages who do not abide by the Hadzabe land use plan (expected to reduce over time), and the number of farmers implementing improved/intensified agricultural techniques after training (expected to increase over time).

2. Monitoring of environmental impacts of the proposed activities

Data on the biodiversity impacts of the project will be collected in two ways and analyzed to determine change over time. Timed Species Counts (TSC) will be conducted on an annual basis to monitor the change in avifauna species along a 33 km track inside the project area and in a deforested agricultural area along the southwest border of Mongo Wa Mono. Low-density, large mammal species subject to seasonal movement, specifically Lion, Wild Dog, Zebra, Eland, Cheetah and Elephant, will be monitored using community-based approaches. The community coordinator will record the presence of these mammals based on reports from hunter-gatherers who observe them in the project area. This information will be collected on a monthly basis and used to assess the presence and frequency of these species in the project area over time. These species were chosen because their presence is both indicative of a healthy ecosystem and relevant to the lifestyle of the target group.

Monitoring thresholds are not applicable to a REDD project that has the aim of protecting the existing habitat rather than improving a degraded environment. The project will therefore consider year-on-year consistency of data related to environmental indicators in the project area to represent the project's success in preventing deforestation and habitat degradation. Similarly, the nature of the project is ill-suited for tracking water availability and soil conservation impacts as noted in the table below.

Table G.1. Methods of monitoring environmental impacts of proposed activities

Impacts	Baseline	Methods and Thresholds
Biodiversity Impacts: Avifauna	Avifauna species list and baseline found in Annex 5	a. Timed Species Counts (TSC) conducted annually within and outside project area b. Expect to have consistent data year on year in project area as result of protected habitat. Variation between project area and degraded area is evidence of environmental impacts of project
Biodiversity Impacts: Mammals	Census data is currently being collected to establish baseline for the presence and frequency of Lion, Wild Dog, Zebra, Eland, Cheetah and Elephant.	a. Ongoing community-based monitoring of specific mammals species. b. Aim of REDD project is to preserve habitat thereby maintaining population levels over time, continuity is threshold
Water availability impacts	Project activities will preserve catchment system but changes to water availability are reliant upon climatic conditions rather than success of REDD project	Not applicable to REDD project
Soil conservation impacts	Project activities will avoid the loss of top soil resulting from slash and burn agriculture practices but monitoring not relevant to a REDD project	Not applicable to REDD project

3. Monitoring livelihood and socio-economic impacts

As previously described in section E4, the socioeconomic impacts of this project are, to a large degree, directly related to the environmental impacts due to the traditional lifestyle of the Hadzabe. There will, of course, be additional impacts as a result of the revenue generated through the sale of carbon credits. Payment records will indicate increased income for individuals participating in the measurement, monitoring and patrolling activities. The project will assess these records to ascertain the concentration of benefits and will take steps to ensure benefit sharing across a variety of diverse stakeholders. In addition to individual stipends for carrying out specific project activities, surplus revenue will be transferred to the pre-existing Jamii funds and village accounts and distributed as described in section D5 of the PDD. Due to the community's high level of autonomy in terms of use of these funds, it is premature to identify specific metrics for assessing socioeconomic impacts. Carbon Tanzania and UCRT are currently engaged in a participatory process with the village populations in their entirety and specific smaller groups therein to both determine methods of tracking socioeconomic data and identify appropriate indicators of wellbeing and security in the realms of human, financial, social, physical and natural capital as they relate to socioeconomic impacts in the context of the project site and surrounding areas. Indicators related to agricultural interventions will also be established and measured. A credible baseline assessment of the participating village populations will be carried out in the first half of 2012. Going forward, socioeconomic impacts attributable to the project will be monitored in accordance with how the community chooses to allocate and invest the revenue. Expected socioeconomic impacts and measurement methods are outlined in the table below.

Table G.2. Methods of measurement of expected socio-economic impacts

Area of Impact	Baseline	Method of measurement
Reliable individual incomes	Few, if any, community members have a reliable income source	Monthly payment records
Additional community development funds	The community currently receives income from tourism totaling a few thousand USD annually	Account records including deposits and approved disbursements
Increased human capital	Few Hadzabe have any formal training or education	Number of individuals with specialized training in health, education, natural resource management or other technical skills
Improved or steadied crop yields	Declining crop yields due to poor agricultural practices force farmers to relocate and convert woodland to agricultural land	Survey of farmers to determine how many are utilizing improved techniques introduced in training and outcomes in terms of crop yields Aerial photography/satellite imagery to monitor land conversion

4. Technical support and review

Carbon Tanzania will provide ongoing support to project participants to build their capacity to monitor carbon, biodiversity and socioeconomic impacts. The project will contract with an agricultural specialist for local training on improved/intensified agriculture techniques to enhance the sustainability and productivity of farmers outside of the project area. These support functions will continue or repeat as necessary.

UCRT and Carbon Tanzania maintain open channels of communication with the community and receive feedback regularly, albeit often informally. In addition to this, project administration will be monitored using the same methods as socioeconomic data, most likely through focus groups or household surveys. Participants will be asked their opinion of the work of the project coordinator, community partner and those individuals and organizations providing additional education and training to producers. The communities will be asked about instances of conflict arising from the project, regularity of payments and fund transfers, satisfaction with level of community ownership, and understanding of, and commitment to, project aims. This information will help Carbon Tanzania and UCRT improve and self-correct in terms of project administration as well as adapt to the situation on the ground in a timely and effective manner.

Section H. Compliance with the Law

The following natural resource management laws will apply to the project activities:

The Forest Act 2002: This piece of legislation governs all aspects of forestry in Tanzania, from forested habitat within National Protected Areas to locally managed reserve areas such as Village Land Forest Reserves (VLFRs) and Community Forest Reserves (CFRs). The act covers the definition of what constitutes a forest, the development of management plans for forests, definitions of Forest Reserves, jurisdiction over reserve management and general rules and protocols relating to extraction, trade and commerce in forest products.

At present the Act does not mention the terms “Carbon Rights” or “Carbon Trading”, or indeed any other phrase concerning the leveraging of finance through non-extractive forest management activities. Tanzania’s National Forest Policy is currently being revised and any subsequent legislation that either amends or repeals the Forest Act 2002 may affect the management of the forest area within the project area.

However the following policy statements illustrate that future developments in respect to carbon rights are clearly integrated into the government’s policy on forest management.

Policy statement (5): To enable sustainable management of forests on village lands, those forests that communities wish to retain will be reserved and accorded clear ownership, user rights and incentives under REDD+.

Policy statement (7): Private and community forestry including management of existing natural forests, afforestation and reforestation initiatives with carbon trade opportunities and other benefits will be promoted and supported.

The Village Land Act 1999: The legal tenure over the project area will be conferred on the target community through the Village Land Act which allows traditional communities to apply for Customary Rights of Occupancy over areas used to support their traditional lifestyles. In this way the area under protection will be defined by this land deed, and the obligations of land and resource management outlined under this same law.

The Environmental Management Act 2004: This law governs and regulates all activities that may have significant impacts on the environment. It requires any project that will impact the environment to be subject to an environmental impact assessment process, and further defines the kinds of projects that qualify for this scrutiny. The management and protection of natural habitat by local communities is not subject to these regulations, but the Act does give the national regulatory body (in this case The National Environment Management Council (NEMC)) powers to monitor the impact of any intervention that may affect the environment.

The Local Government Authorities Act 1982: This law governs the way that local government interacts with outside bodies, such as investors and not-for-profit organizations. It outlines codes of practice for administering and implementing projects within villages and governs the way that responsibilities and revenue are shared in accordance with the project activities. Any habitat protection activities that are tied to payments for ecosystem services (i.e., a carbon finance project for woodland conservation such as this) are governed by this law in terms of village participation. This ensures that the mechanisms that are put in place are in agreement with Tanzanian law at both a national and local level, rather than imposed by an outside body. It is recognized that sustainability is greatly increased in the scenario where local government is the main stakeholder in the implementing and governing of project activities.

Section I. Certification or Evaluation to Other Standards

This REDD project in the villages of Mongo Wa Mono and Domanga has not been involved in any form of certification or evaluation under other standards.

The project coordinator began to sell ex-ante carbon credits in 2007, prior to certification, for the purpose of raising start-up capital for project development. These credits were sold to high-end tourism companies operating within Tanzania that were interested in offsetting their unavoidable emissions resulting from company activities. Purchasers of these credits were given options as to which emissions sources they were interested in offsetting based on their individual corporate social responsibility (CSR) goals or mandates. Carbon Tanzania has used an internal tracking system (Annex 6) of these sales, totaling to date 3,157.6 tCO₂e. These credits will be retired upon certification so as to prevent double-selling of carbon benefits. A blank sample invoice is shown in Figure 7.

Figure 7. Invoice used by Carbon Tanzania for ex-ante carbon credit sales prior to certification

Conserving Natural Habitats - Economic development for rural communities - Reducing carbon dioxide emissions						
carbon tanzania			Invoice for Carbon Offset Carbon Tanzania P.O. Box 425 Arusha, Tanzania TIN 100-169-789			
Company Name			Pax in group	Guide		
International Flights	Basis of unit	Amount	Units	pax	Equivalent tCO ₂	Totals
International Flights	US West Coast = US\$35			0	0	\$0.00
	US East Coast = US\$25					
	Europe = US\$20					
Domestic flights	Per seat per hour	0.5		0	0	\$0.00
Private Charter flights	per hour (Cessna C208)	6			0	\$0.00
Third party hotels and lodges	per night	2.2		0	0	\$0.00
Mobile Camps	per night	2.4		0	0	\$0.00
Offset total					0	\$0.00
VAT @ 18%						\$0.00
Invoice Total					0	\$0.00
You have offset 0 tonnes of Carbon Dioxide produced by your safari activities.						

Your offset payment can be made via our website or directly in Tanzania. For more information please contact our team at the address below:

info@carbontanzania.com



Thank you for supporting Carbon Tanzania. Your annual offset fee will be shown as tonnes of carbon sold in our audit. This carbon audit will be provided at the end of the year to all contributors showing you how your money has been spent.

Annex 1: List of responsible parties and contact information

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Speaks Swahili and Hadzane, no English

Annex 2: Information on Public and Other Sources of Co-funding

This project has not received any funding from sources other than through the sale of ex-ante carbon credits outlined in section I of the PDD. The project is grateful for the in-kind support received from The Nature Conservancy (TNC) and Brandeis University. TNC provided analysis of satellite imagery for the purpose of establishing the historical deforestation rate and assisted with mapping activities. Master's Candidates in Sustainable International Development from Brandeis University provided project planning and programmatic support.

Annex 3: Technical Specifications (without Annexes)



Reducing Emissions from Deforestation and Forest Degradation in the Yaeda Valley, Northern Tanzania

Improving the livelihoods of indigenous hunter-gatherer and pastoralist communities by protecting land from conversion while delivering substantial social and biological co-benefits



Technical Specifications Plan Vivo Application

**Authors: Jo Anderson, Marc Baker and Jessica Bede
Carbon Tanzania**

February 2012

Abbreviations and Acronyms

AGB	Aboveground Biomass
AMSL	Above Mean Sea Level
BGB	Belowground Biomass
CITIES	Convention on the International Trade in Endangered Species
CO ₂ e	Carbon Dioxide Equivalent
CT	Carbon Tanzania
dbh	Diameter at Breast Height
GCA	Game Controlled Area
GPS	Global Positioning System
IBA	Important Bird Area
IUCN	International Union for the Conservation of Nature
PDD	Project Design Document
PES	Payment for Ecosystem Services
REDD	Reducing Emissions from Deforestation and Forest Degradation
tC/ha	Tonnes Carbon per Hectare
tCO ₂ e/ha	Tonnes Carbon Dioxide Equivalent per Hectare
TSC	Timed Species Count
UCRT	Ujamaa Community Resource Team

A. Summary of Technical Specifications

1. Project Activities and Objectives

This project works with hunter-gatherer Hadzabe and pastoralist communities in Mongo Wa Mono and Domanga villages. By working in conjunction with traditional leaders, the elected village governments and a team of community members, Carbon Tanzania (CT) and Ujamaa Community Resource Team (UCRT) aim to establish a system of results-based payments for ecosystem services (PES) through the sale of certified carbon offset credits. This REDD project strengthens land tenure, management capacity and local natural resource management, enhances and diversifies local incomes, and contributes to local, national and global environmental conservation aims. Successful avoided deforestation will be achieved through a series of interventions including reinforcing the implementation of the approved village land use plan and associated village by-laws, improving forest conservation and management activities and addressing the primary driver of deforestation, slash and burn agriculture.

Reducing Emissions from Deforestation and Forest Degradation (REDD) means different things to different people. In the context of this project, REDD refers to avoiding deforestation and forest degradation while promoting sustainable natural resource use on the part of land users and managers. This REDD project, planned with the indigenous Hadzabe community, delivers significant socioeconomic co-benefits to the participants and surrounding populations as well as positive biodiversity impacts to the larger ecosystem that the project area helps to support.

2. Scope and Land Type Targeted

The project area covers 20,790 ha of *Acacia-Commiphora* woodland collectively owned by the Hadzabe of Mongo Wa Mono and Domanga. After years of encroachment and displacement, village members created a land use plan denoting the project area as protected for the utilization for cultural livelihoods by the Hadzabe. The Hadzabe are one of Tanzania's most unique and threatened human cultures, with a deep reservoir of indigenous knowledge pertaining to natural resource use. The Hadzabe communities within the villages of Mongo Wa Mono and Domanga collectively own this land under the land laws of Tanzania.

3. Baseline and Monitoring Methodology

The baseline, or without project scenario, was established from the historical deforestation rate determined through analysis of ground-truthed Landsat and Google Earth imagery, with technical assistance from The Nature Conservancy, and calculation of the carbon content from aboveground biomass (AGB) surveys following the Winrock methodology. Monitoring of carbon stocks will be carried out on an annual basis using aerial photography and AGB surveys on permanent plots.

4. Carbon Benefit

The project applied species and genus specific allometric equations to the AGB data and determined the belowground biomass (BGB) from a root-to-shoot ratio for woodland provided in the IPCC Good Practices Guidance for Land Use Land Use Change and Forestry document. The carbon content of the project area is 33.4 tC/ha, or 122.5 tCO₂e/ha. The project's total carbon benefit eligible for crediting has been calculated at 304,795 tCO₂e over the 20-year crediting period with an annual carbon benefit of 15,240 tCO₂e.

B. Scope of Project

1. Description of Project Area

The East African country of Tanzania covers 970,000 km² of land, of which approximately 38%¹⁹ is forested²⁰. The villages of Mongo Wa Mono and Domanga are situated at 34°30'E/03°30'S in the Central Rift Valley, at an altitude of 1200-1400 m AMSL, in the southwest of Mbulu District, Manyara Region, Northern Tanzania (see map, Figure 1).

Figure 1. Map of Northern Tanzania

The red circle indicates the project area situated on the southwest corner of Lake Eyasi.



Mbulu District has areas with semi-arid and sub-humid climates that receive annual rainfall of <400 mm and >1200 mm, respectively. The long rainy season occurs from March to mid-May and the short rainy period occurs from November to December. Relative humidity ranges from 55 to 75% and mean annual temperature ranges from 15 to 24°C. The natural habitat within Mongo Wa Mono and Domanga is dominated by *Acacia-Commiphora* woodland, specifically *Acacia tortillis*, *Acacia kirkii* (lower areas), *Acacia mellifera*, *Commiphora* Spp, *Grewia* species and *Combretum* species, interspersed with areas of savanna grasslands and *Adansonia digitata* (Baobab) woodland.

¹⁹ FAO, 2011, State of the World's Forests

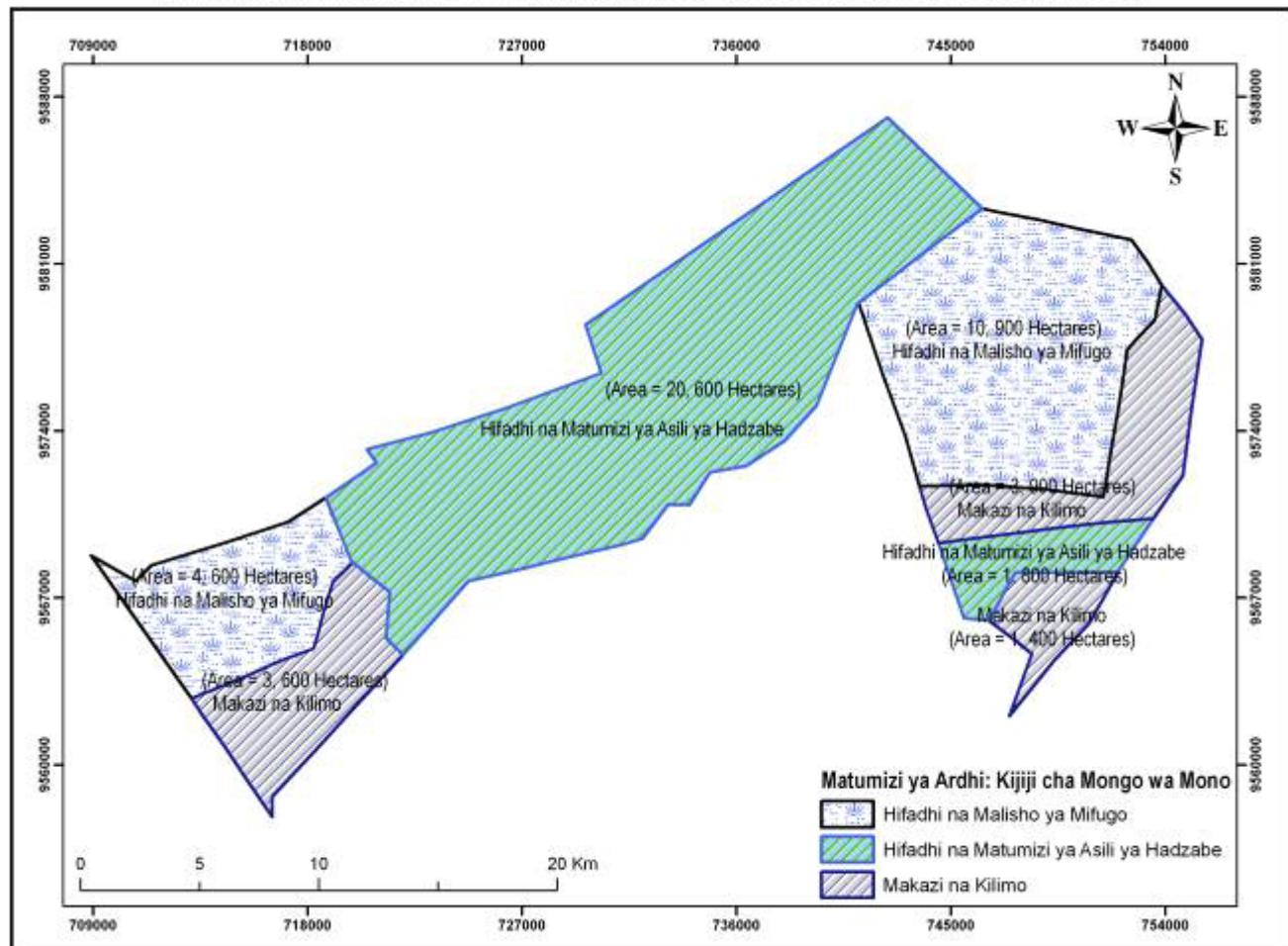
²⁰ The Forest Act (2002) defines forest as any area of land with at least 10% tree crown cover and includes all forest reserves regardless of tree cover or vegetation. In reality much of Tanzania's 'forest' is woodland ranging from dry *Acacia-Commiphora* in the North of the country to *Brachystegia* woodland in the South and West of Tanzania.

The adjacent villages of Mongo Wa Mono and Domanga cover a total area of 46,800 ha (468 km²). A land use plan, developed by the villages²¹, divides the area into seven land use zones each designated as one of three land use types: housing and farming, grazing, and protected areas²². The project boundary is the 20,600 ha²³ *Acacia-Commiphora* woodland denoted as protected area for utilization for cultural livelihoods by the Hadzabe in Figure 2.

Figure 2. Land use plan for the villages of Mongo Wa Mono and Domanga

The key below the map shows the translation from Swahili to English.

MATUMIZI YA ARDHI: KIJINI CHA MONGO WA MONO (WILAYA YA MBULU)



Map datum and Projection: WGS 1984, Zone 36 S: Map drawn by UCRT, 2010

Key

Hifadhi na malisho ya mifugo

(Protected area with grazing for domesticated animals)

Hifadhi na matumizi ya Asili ya Hadza

(Protected area for utilization for cultural livelihoods by Hadza)

Makazi na kilimo

(Area designated for housing and farming)

²¹ The villages of Mongo Wa Mono and Domanga constituted a single village at the time when the land use plan was created. The plan endured after they became two separate entities.

²² These areas are designated as protected for the utilization by Hadza at a village level and should not be confused with any nationally designated protected areas such as national parks or game reserves, which are under central government authority.

²³ The government resurveyed the land prior to issuing the land deed and the area was determined then to be 20,790 ha.

Several rare and threatened large mammal species have been recorded within the project area. Wild Dog *Lycaeon pictus* (IUCN²⁴ Endangered) are regular visitors. This species is known to have a large home range and may be part of the same population that is found within the Maswa Game Controlled Area (GCA) and Ngorongoro Conservation Area to the northwest of Mongo Wa Mono and Domanga. Leopard *Panthera pardus* (IUCN Near Threatened) are resident to the area, and both Lion *Panthera leo* (IUCN Vulnerable) and Cheetah *Acinonyx jubatus* (IUCN Endangered) have been recorded but there is no data to support the presence of resident populations. All these large mammals are listed by CITES²⁵ and protected under national and international laws. The project area supports seasonal populations of ungulates, including Thomson's Gazelle, Wildebeest, Impala, Zebra, Giraffe, Eland, Elephant (IUCN Vulnerable), and Cape Buffalo. Coke's hartebeest are also found in the area, but at very low numbers and are close to extirpation due to illegal hunting.

A total of 433 species of birds have been recorded within the reference area and adjacent wetlands, two of these species of birds are endemic to Tanzania; Ashy Starling *Cosmopsarus unicolor*, which is restricted to central Tanzania and north thereof and Grey-breasted Spurfowl *Francolinus rufopictus*, which is restricted to *Acacia-Commiphora* woodland in northern Tanzania. The project area borders the Yaeda Chini seasonal wetland, which is designated as an Important Bird Area (IBA) (IBA 79) by BirdLife International due to the presence of resident globally threatened species²⁶. North of the project area is Lake Eyasi. With an area of 116,000 ha, this is one of the largest soda lakes in the Rift Valley complex and an important area for palearctic migrants. Lake Eyasi is also designated as an IBA (IBA 23) due to the presence of Lesser Flamingo (IUCN: Near threatened) and has 1% biogeographical population levels of eight resident and migratory wetland bird species, a criterion for designation as a Ramsar²⁷ site. Above the rift, 35 km to the north/northwest is the Ngorongoro Conservation Area, a UNESCO World Heritage Site and world famous tourist destination. Bordering this is the Serengeti National Park, a 14,700 km² fully protected area and also a UNESCO World Heritage Site.

This project will promote the protection of indigenous species according to the national laws of Tanzania and international conventions to which Tanzania is a signatory. The strengthening of local boundaries, according to the land use plan and village by-laws, creates an enabling environment for local enforcement and protection of indigenous and endangered species from poachers. By preventing animal poaching, this project and the Hadzabe are helping to promote and conserve the natural ecosystems and mammal populations on which their way of life depends.

2. Description of Target and Surrounding Communities

The Hadzabe are one of Tanzania's most unique and threatened human cultures, with a deep reservoir of indigenous knowledge pertaining to natural resource use, which has enabled them to survive in a challenging environment. The Hadzabe are strictly hunter-gatherers and do not raise any livestock, although some do keep fields of domestic crops, mainly in Domanga village. As a group, the Hadzabe have been gradually displaced to remote and relatively inhospitable semi-arid areas, as other groups (or tribes) of people have taken over more productive lands and converted them to agriculture; this displacement and conversion has been most pronounced over the last century. Currently a total of approximately 1,000 Hadzabe survive in fragmented areas of Northern Tanzania. Mongo Wa Mono (meaning 'the mother of all villages') is the core of the Hadzabe lands and population.

²⁴ IUCN (International Union for the Conservation of Nature) Red list of threatened species www.iucnredlist.org

²⁵ CITES – Convention on the International Trade in Endangered Species. Species are listed according to population status, rate of decline and ability of range state to manage the population.

²⁶ Baker N.E. and Baker E.M. (2002) Important Bird Areas in Tanzania: A First Inventory. Wildlife Conservation Society of Tanzania.

²⁷ Ramsar is an internationally recognized designation for wetlands of global importance named after Ramsar, Iran where the Convention on Wetlands of International Importance was signed in 1971.

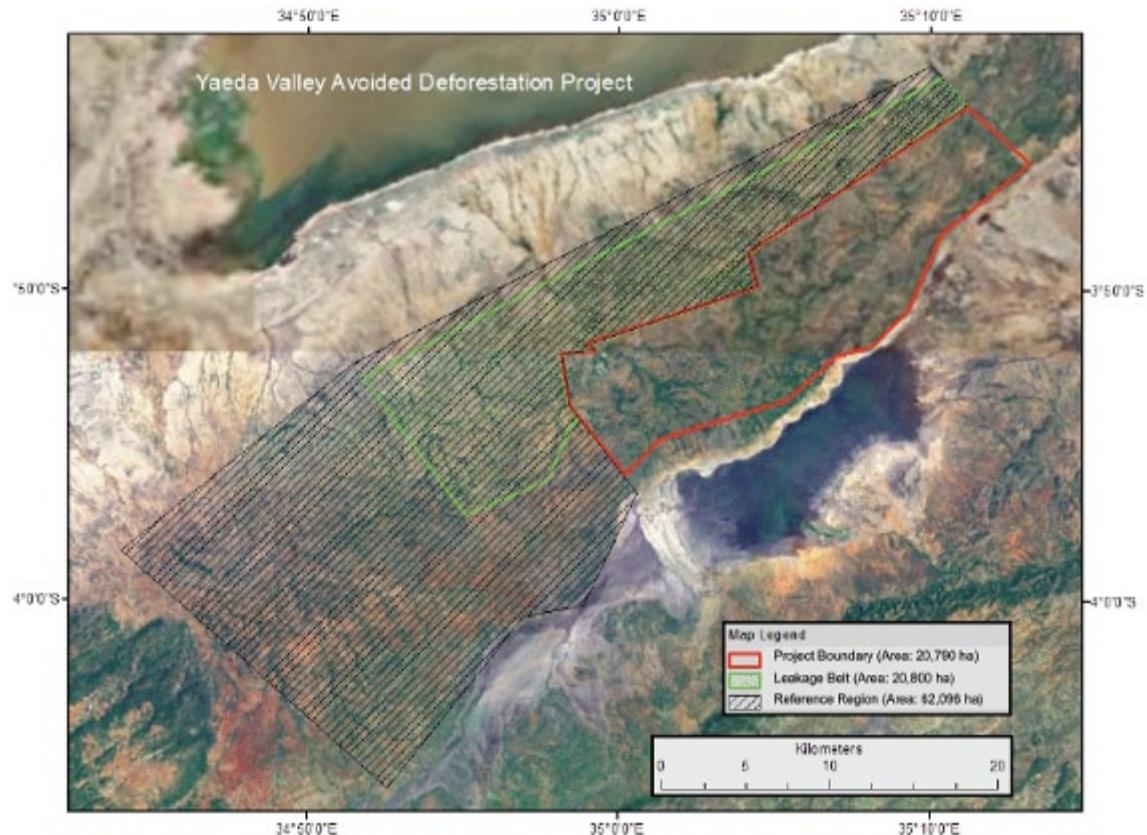
Accurate demographic information on the Hadzabe is scarce and, in the context of money, difficult to quantify, however the Hadzabe are living at the extreme end of the poverty scale within Tanzania with no form of stable economic activities or income (significantly less than 1 USD/day). As a community, they are reliant on the environment for the majority of their daily needs, gathering honey and hunting for meat for subsistence. The Hadzabe's way of life only minimally impacts the environment that they occupy as they today continue their historical practices of sustainable natural resource use. The Hadzabe follow a spiritually based, minimalist religion which involves and relies on environmental connectivity.

According to the most recent Tanzanian Census of 2002, the average growth rate in Mbulu District is 3%, which is on par with the national average of 2.9%. The villages of Mongo Wa Mono and Domanga are mostly populated by people identifying themselves as Hadzabe and Sukuma, the latter of which being predominantly agropastoralists. The surrounding villages of Eshkesh and Yaeda Chini are populated by multiple tribal groups: Barabaig, Iraqu and Hadzabe. Barabaig and Iraqu are pastoralists and agropastoralists, respectively. These different groups live together without conflict.

3. Local Drivers of Deforestation

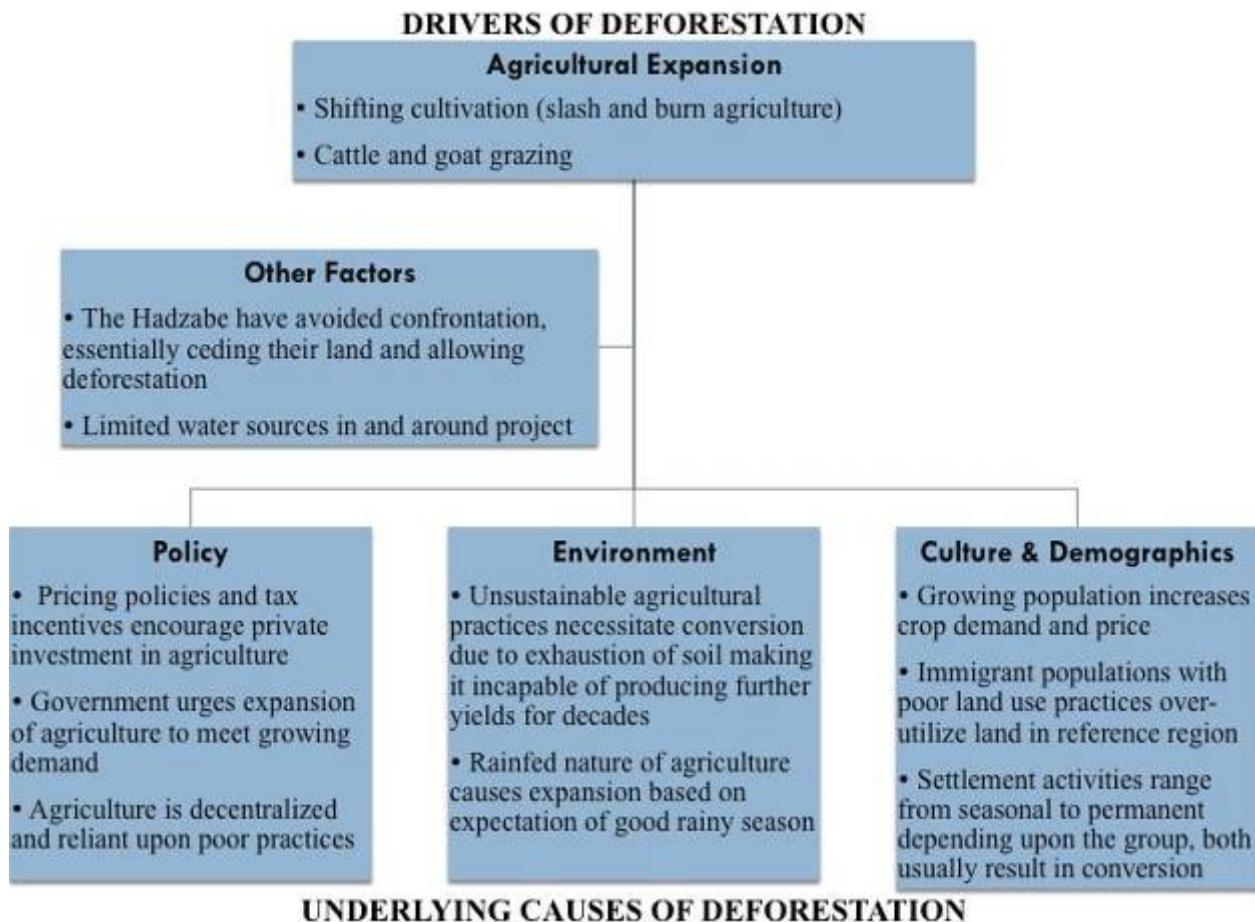
Recent land use change within the project area consists predominantly of conversion from *Acacia-Commiphora* woodland to a form of slash and burn agriculture. This land intrusion, conversion and resulting deforestation are contrary to the village by-laws, the village land use plan and national laws governing land acquisition and utilization within Tanzania. The encroachment originates from outside the villages of Mongo Wa Mono and Domanga, from the neighboring villages of Eshkesh and Yaeda Chini (also spelt Yaida Chini) but mostly from more densely populated areas to the west (Meatu District), south (Mbulu District) and north (Karatu District). These areas are captured in the established leakage belt and reference region depicted in Figure 3.

Figure 3. Map of project area, reference region and leakage belt



A causal model identifying drivers and underlying causes of deforestation in the reference region is depicted in Figure 4.

Figure 4. Causal model of deforestation

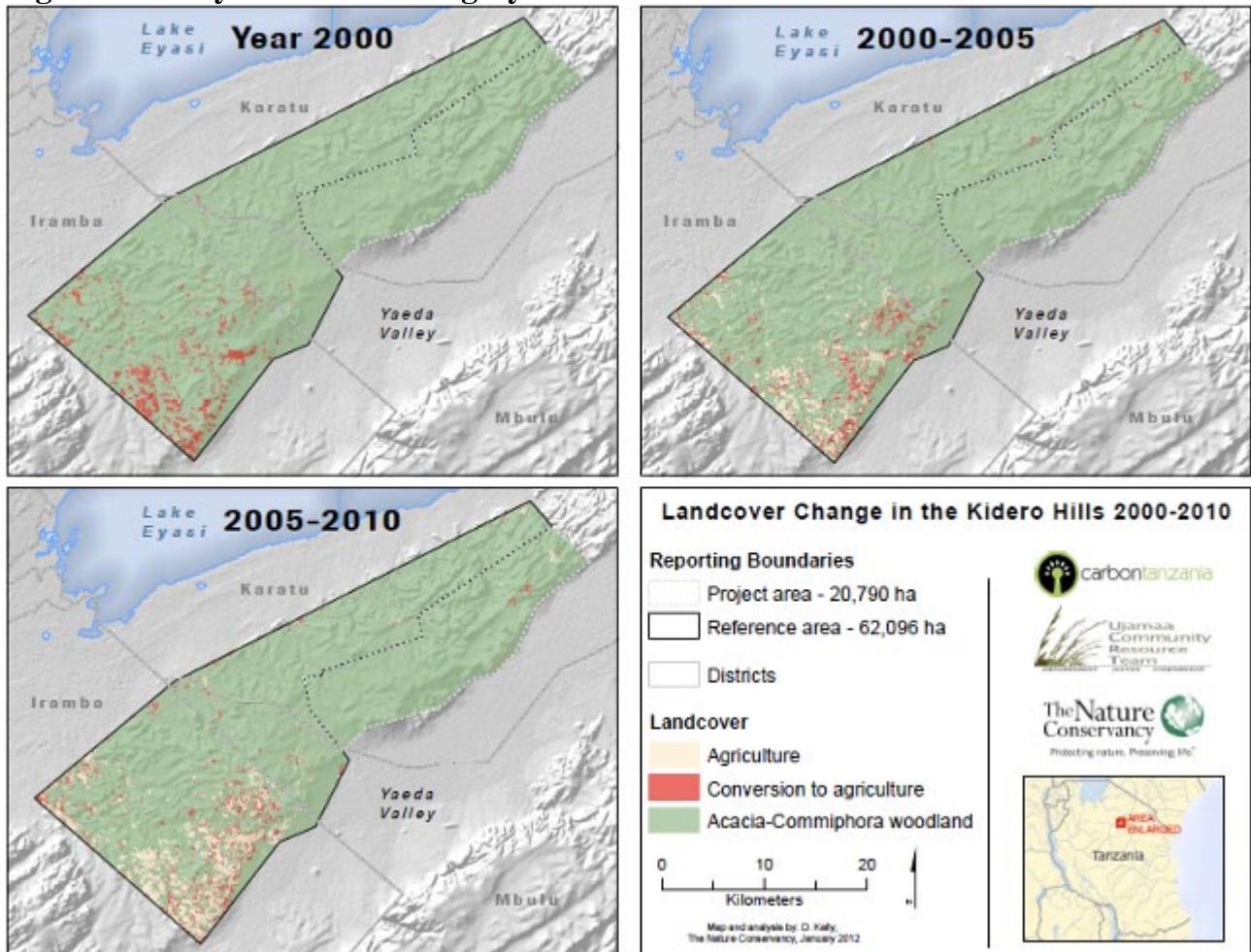


C. Baseline and Baseline Scenario

1. Analysis of Deforestation Rate & Baseline Scenario

The deforestation rate in the reference region, which includes the leakage belt, was determined through analysis of ground-truthed Landsat and Google Earth imagery with technical assistance from The Nature Conservancy²⁸. The total land area of the reference region is 62,096 ha. Of this area, 58,838.4 ha of *Acacia-Commiphora* woodland existed in 2000 which was then reduced to 53,380.8 ha by 2010 (see analyzed satellite imagery, Figure 5) due to conversion and expansion of agriculture. This average annual loss of 545.8 ha reflects a historical deforestation rate of 0.93%²⁹.

Figure 5: Analyzed satellite imagery



The baseline, or without project scenario, was determined by applying the historical rate of deforestation in the reference area to the land within the project area that is likely to be cleared without the intervention. The assumption that the deforestation rate going forward would remain at least as high as the historical rate is justified by the following:

- 1) The deforestation rate was calculated by averaging the total loss over ten years even though the conversion rate has been increasing over that period.
- 2) The demand for agricultural land is intense, demonstrated by the conversion of woodland to agriculture in the reference region despite the generally poor soil prevalent throughout the area, and is expected to increase as demand for food grows along with the population.

²⁸ The Nature Conservancy is a U.S. based not-for-profit organization operating in more than 30 countries around the globe. The Tanzanian division of TNC provides technical support to a variety of community-based conservation efforts.

²⁹ The Tanzanian national deforestation rate is 1.2% equating to a loss of 412,000 ha annually. (United Republic of Tanzania, 2009)

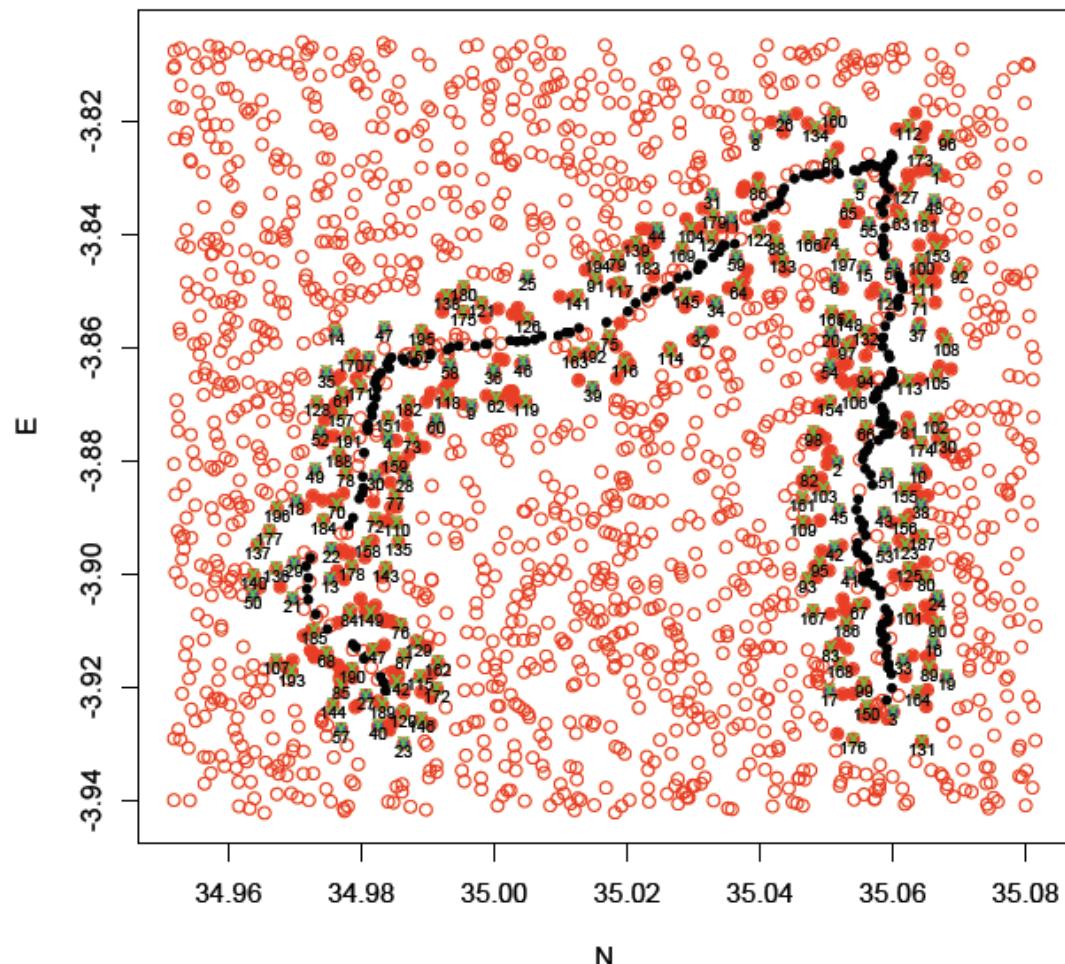
- 3) The project area is the next likely area for conversion to agriculture as farmers will follow the soil type eastward into the Hadzabe's land.
 - 4) The area continues to attract new settlements which is expected to persist as the benefits of protecting the habitat and watershed in the project area are realized and the economic status of participating communities improves. This pattern of migration was evident in Yaeda Chini after the recent opening of a new school.
 - 5) While charcoal manufacturing is not currently a driver of deforestation in the area, it is likely that it could develop during the lifecycle of this project as other areas are depleted.

2. Method for Quantifying Existing Carbon Stocks

Per the Plan Vivo Foundation's recommendation, the project has used the Winrock aboveground biomass (AGB) methodology³⁰ to calculate the existing carbon stocks in the project area utilizing plot sampling.

In preparation for carrying out the surveys, the project consulted with statistician Colin Beale, affiliated with the University of York. The statistical analysis tool R was used to randomize plot selection and calculate carbon content from the survey results. The track in the project area was mapped using a Garmin GPS and downloaded using Mapsource. This track of 35.2 kilometers, shown in black in Figure 6, served as the transect line and plots were randomly generated using the following criteria: more than 300m away from each other, more than 200m away from the track and no more than 1000m away from the track.

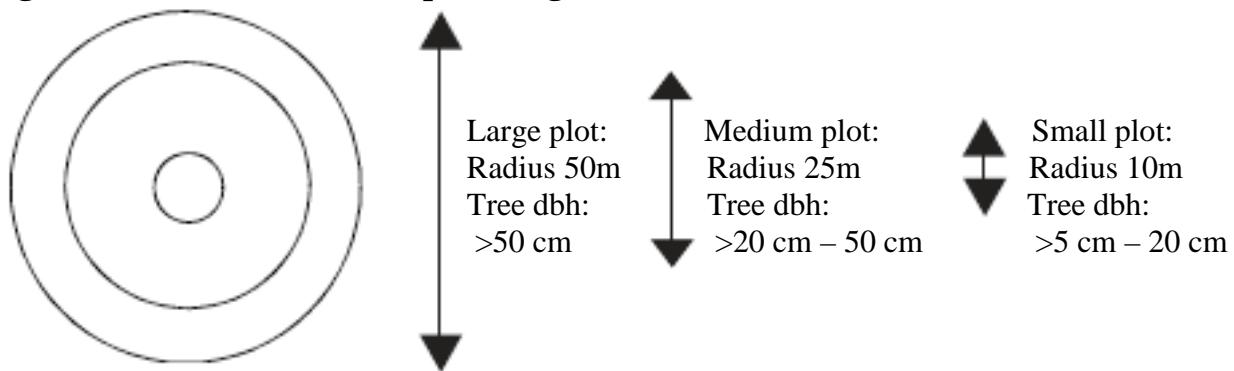
Figure 6. The transect line showing the random points.



³⁰ http://www.planvivo.org/wp-content/uploads/LULUCF_Sourcebook_compressed11.pdf

A three-nest circular plot design was chosen. Different sized trees, determined by diameter at breast height (dbh), were measured in each concentric circle as depicted in Figure 7.

Figure 7. Three-nest circular plot design



A preliminary survey using temporary plots was carried out to determine how many plots should be sampled in a full survey and whether stratification was necessary. The results of this initial survey determined that 62 plots should be sampled and that stratification was not applicable to the project area due to the relative homogeneity of the species and carbon stocks within it. Two AGB surveys were conducted in 2011, 44 plots were sampled in the first and an additional 26 in the second, for a total of 70 plots. Field teams surveyed a total of 1,401 trees and recorded 48 species. Baobab trees were excluded from the survey since they generally remain standing in converted land while all other trees are removed.

Allometric equations, obtained from the Kasigau Corridor REDD project³¹ in Kenya, were used to calculate the tonnes of carbon per tree based on its dbh. Species specific equations were used when available, if no species specific equation was available, a genus specific equation was used. These equations are listed in Table 1, where y = tonnes carbon and x = dbh.

Table 1. Species and Genus Specific Allometric Equations

Tree Species or Genus	Allometric Equation
Acacia bussei	$y = 3.054x^{1.6692}$
Acacia hockii	$y = 1.7392x^{1.8478}$
Acacia nilotica	$y = 0.7075x^{2.1742}$
Acacia tortilis	$y = 3.6225x^{1.4924}$
Acacia	$y = 2.0276x^{1.761}$
Boscia coriacea	$y = 0.3641x^{2.1587}$
Boswellia neglecta	$y = 0.1521x^{2.526}$
Commiphora africana	$y = 0.5533x^{1.978}$
Commiphora campestris	$y = 0.0792x^{2.7284}$
Commiphora confusa	$y = 0.1987x^{2.461}$
Commiphora	$y = 0.1661x^{2.4862}$
Lannea alata	$y = 0.6561x^{2.0275}$
Lannea rivae	$y = 0.5053x^{2.1106}$
Lannea	$y = 0.5898x^{2.0566}$

³¹ Annex 3 of Kasigau Corridor REDD Project PDD accessible at <http://www.climate-standards.org/projects/>

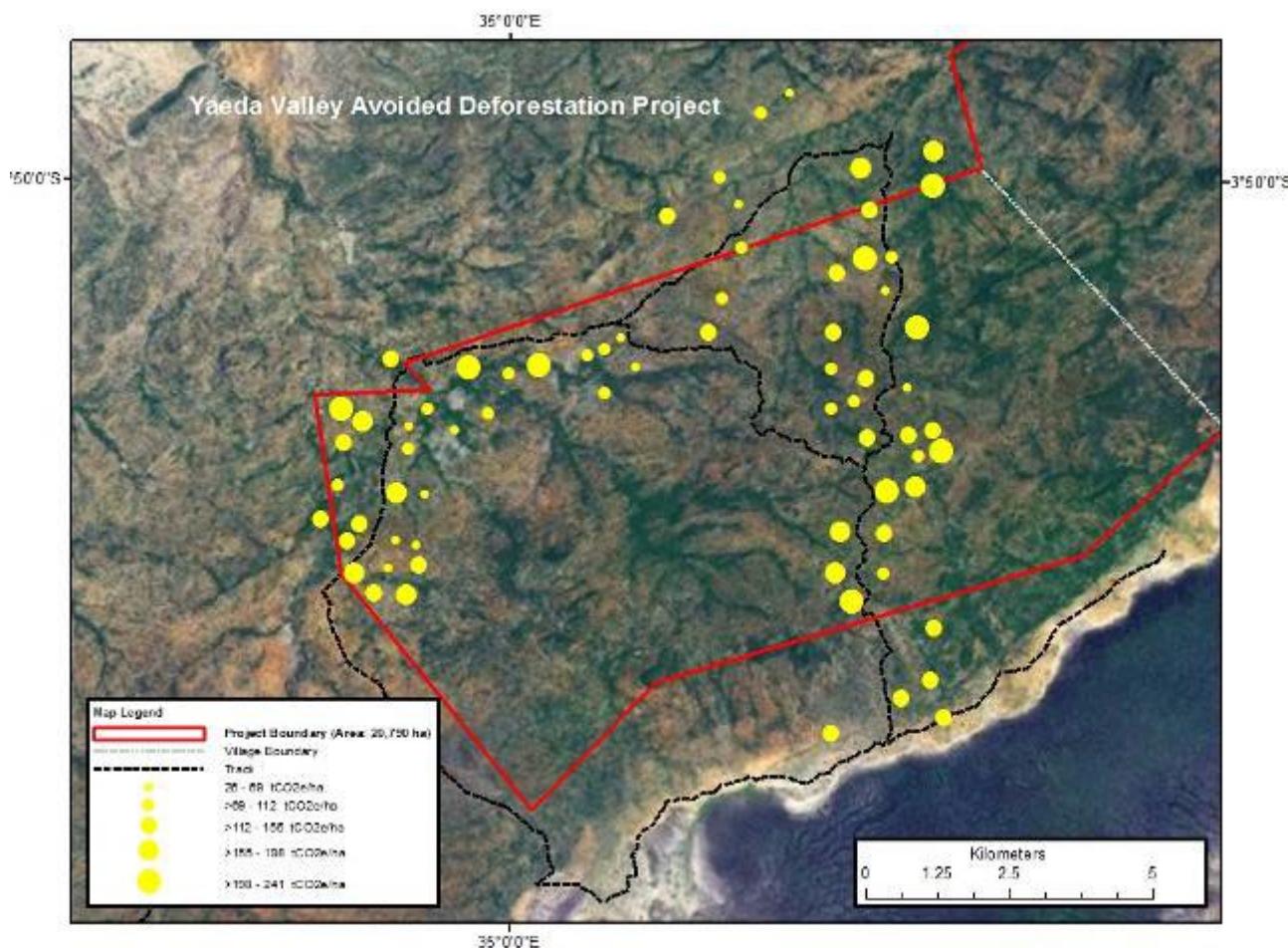
In cases where neither species nor genus specific equations were available, one of two generic functions was used depending on the dbh. These equations are listed in Table 2, where y = tonnes carbon and x = dbh.

Table 2. Generic Allometric Equations

Tree Size	Allometric Equation
dbh <35 cm	$y = 0.5217x^{2.1393}$
dbh >35 cm	$y = 0.574x^2 + 9.8184x - 73.186$

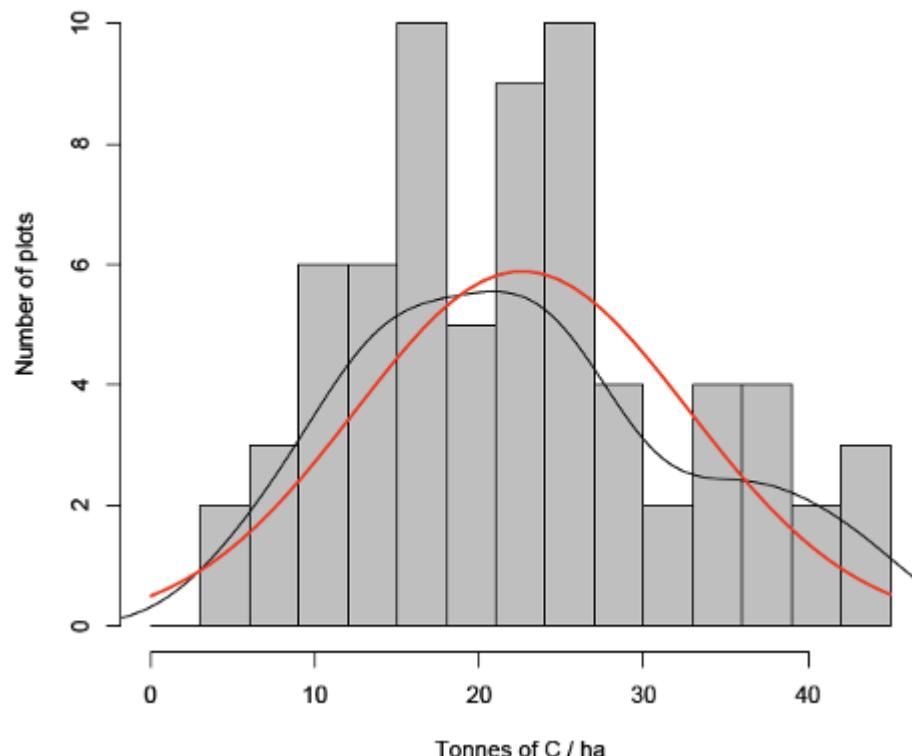
The results of the AGB survey are represented in terms of carbon content per sample plot in the map in Figure 8.

Figure 8. Carbon content per sample plot



The distribution of carbon measured in the sampled plots is represented in a histogram chart in Figure 9.

Figure 9. Histogram chart of sampled carbon stocks



Model-based clustering revealed that despite the variance between the plots that there are not distinct groups, confirming the preliminary survey results that stratification is not applicable. Applying a 95% confidence interval, the field samples determined the existing carbon content of AGB in the project area to be 22.6 ± 19.9 tC/ha.

Belowground biomass (BGB) was calculated based on the root-to-shoot, also known as root to stem, ratio for woodland provided in the IPCC Good Practice Guidance on Land Use, Land Use Change and Forestry³² of 0.48 ± 0.19 . This ratio, applied to the results of the AGB survey, produced a BGB carbon content of 10.8 ± 4.29 tC/ha.

³² Available at http://www.ipcc-nppip.iges.or.jp/public/gpglulucf/gpglulucf_contents.html

D. Quantification of Carbon Benefits

1. Carbon Pools Considered

Aboveground biomass and belowground biomass were the only carbon pools considered when calculating the likely carbon benefits resulting from project interventions. Due to the difficulty of measuring additional carbon pools in the context of community based monitoring, the project has opted to exclude soil carbon, leaf litter, deadwood, and grass biomass. By not including these carbon pools in the calculations, the projected carbon benefits are assuredly conservative despite the high level of variance in the carbon content of the project area.

2. Method for Calculating Carbon Benefits

The following steps were taken to determine the carbon benefits attributable to the project:

i. Define the land area within the project boundary that is under threat of deforestation

The project area is the 20,790 ha of land designated in the village land use plan as protected area for utilization for cultural livelihoods by Hadzabe. Nearly the entire project area is considered under threat of deforestation and conversion to agricultural land. This assessment is based on the estimates of local stakeholders, observations from the surrounding area and the expert advice of Ekko Oosterhuis of QFP-Agro (see letter, Annex 4). The area considered not to be under threat is the uncultivable area such as granite hilltops. These uncultivable areas, when added together, still account for less than 5% of the total land in the project area. Land determined to not be under threat has been left out of the analysis of carbon benefits attributable to the project. 95% of the project area, 19,750 ha are therefore eligible for carbon crediting by this project.

ii. Determine baseline scenario using historical deforestation rate

Application of the historical deforestation rate in the reference region, 0.93%, to the land under threat in the project area results in a projected loss of 183 ha per year. After 20 years, the remaining *Acacia-Commiphora* would be reduced to 16,090 ha, a loss of 3,660 ha from the project start.

iii. Assess expected effectiveness of project intervention

Acknowledging that it is unlikely that the project will be successful at completely preventing all deforestation in the project area, the project benefits are based on a 85% reduction in deforestation relative to the baseline scenario. The avoided deforestation that can therefore be attributed to the project is 3,111 ha.

iv. Calculate the carbon benefit

The existing carbon content, 33.4 tC/ha is calculated from the AGB surveys and application of the BGB root-to-shoot ratio. Applied to the 3,111 ha of conserved *Acacia-Commiphora*, the carbon benefit of the project is 103,907 tC. Carbon is converted to CO₂e by multiplying the carbon by 44/12, the molecular weight ratio of carbon to carbon dioxide. The carbon benefits of this project are 380,993 tCO₂e.

v. Deduct permanence and leakage buffers

The project has set a 10% risk buffer as a protective measure in the case of non-permanence and another 10% to be held as a leakage buffer. An explanation of how these figures were set can be found in section D4 of this document. Creditable carbon benefits are therefore 80% of 380,993 tCO₂e, 304,795 tCO₂e.

vi. Calculate annual carbon benefit eligible for crediting

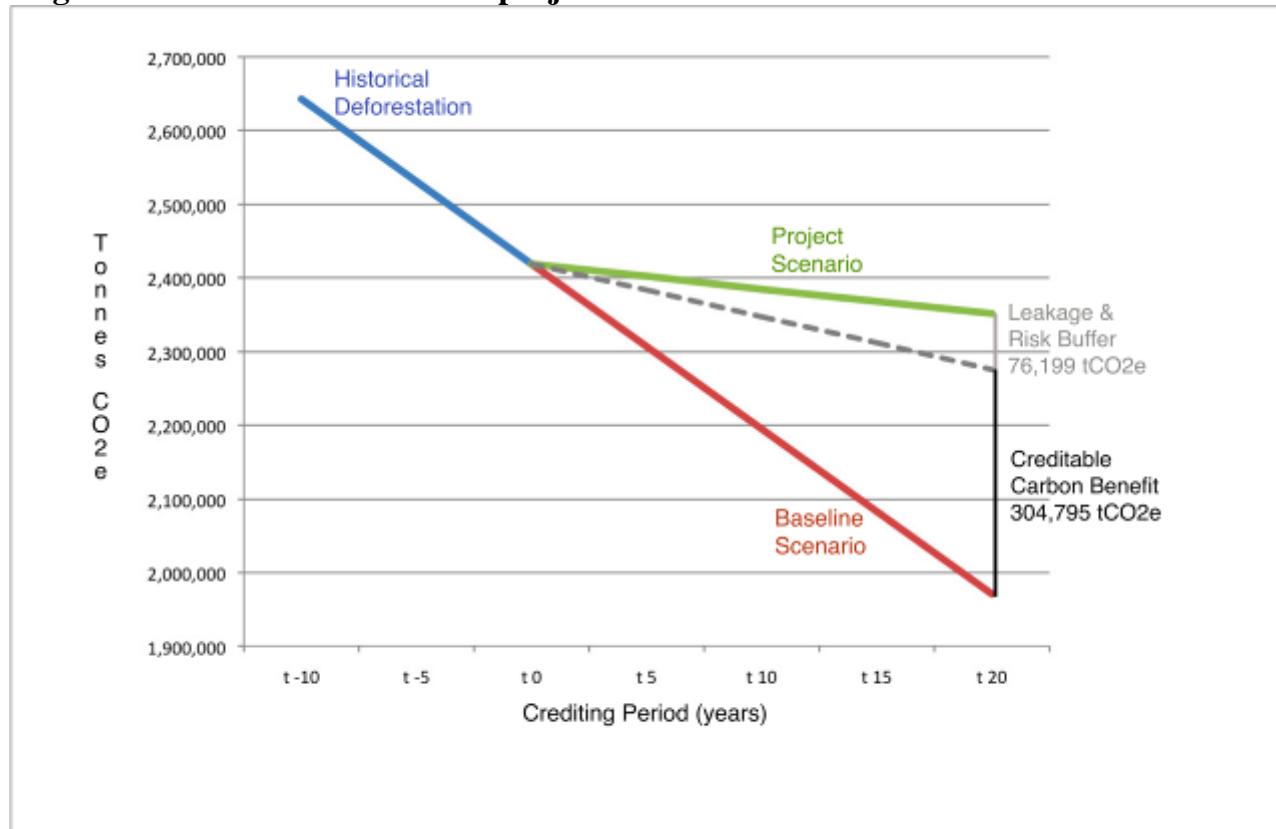
The project's total creditable carbon benefit, 304,795 tCO₂e, when divided over the 20-year crediting period equates to 15,240 tCO₂e each year.

The calculation of the expected carbon benefit from the project is depicted in Table 3 and visually represented in Figure 10.

Table 3. Summary of baseline and emissions reductions per hectare over crediting period

1. Area of woodland under threat in project area	19,750	ha	95% of total project area (20,790 ha)
2. Ha of woodland at end of 20-year crediting period without project	16,090	ha	Application of 0.93% deforestation rate, annual loss of 183 ha
3. Loss of habitat without project over 20-year crediting period	3,660	ha	= Row 1 – Row 2
4. Expected effectiveness of interventions	3,111	ha	= 85% of Row 3
5. Carbon benefit attributable to project (tC)	103,907	tC	= Row 4 * 33.4 tC/ha
6. Carbon benefit attributable to project (tCO2e)	380,994	tCO2e	= Row 5 * (44/12)
7. Carbon benefit eligible for crediting (deducting buffers)	304,795	tCO2e	= 80% of Row 6
8. Annual carbon benefits of project eligible for crediting	15,240	tCO2e	= Row 7 / 20 years

Figure 10: Carbon benefit from project



3. Crediting Period

The crediting period for this project is 20 years. Payments for ecosystem services to participating communities will be structured over the 20-year crediting period as per the producer sale agreement. The rationale for this length of time is twofold. First, since land use change takes place over many years, and the risk of reversal is a real threat for biological sequestration, this project chose an extended period so as to be accountable to the threat of non-permanence. Additionally, the project is introducing novel concepts to participants which will require time to be adopted as the new norm. Specifically, it is understood that convincing people to accept new agricultural practices will be a slow process and requires evidence of success be shown to individual farmers until the more sustainable approach becomes the new conventional wisdom.

4. Assessment of Permanence and Leakage Risks

Permanence

The project coordinator used the VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination³³ to assess the project's risk level. Various factors were considered including the land tenure and management type, technical capacity of the project developer, net revenue to stakeholders compared to alternative land uses, infrastructure and natural resource extraction in and around the project area, population growth, incidence of natural disturbances and credibility of project financial plan. Careful evaluation of these criteria resulted in a low risk rating for the proposed project and so a risk buffer of 10% has been set. Context specific risks identified by the project coordinator, community partner and participating communities are addressed in Table 4. Measures taken to manage and minimize these risks are also described.

Table 4. Permanence risks and management measures

Permanence Risks	Level of risk (low/medium/high)	Management Measures
Slash and burn agriculture begins in the project area from within Mongo Wa Mono or Domanga	Low	Results-based payments are sufficient incentive to prevent agricultural activity outside of the designated agricultural zones. Improved habitats in project area support Hadzabe livelihoods that are nonagricultural.
Slash and burn agriculture increases in the project area from neighboring communities	Low	Implementation of the land use plan and enforcement of village by-laws restrict agricultural activity initiated from outside of the village. Conflict resolution mechanism is in place. Project will support improved agriculture practices in neighboring villages thereby reducing the need for further incursion.
Communities fail to realize revenue from carbon offsets and choose low scale agriculture in the project area	Low	Monthly payments are being made to communities from June 2011 for project activities. The communities recognize the benefit of avoided deforestation and developed their own land use plan, which includes designated areas for low scale agriculture outside of the project area.
Hadzabe choose to extricate themselves from the plan vivo and producer sale agreement with Carbon Tanzania	Low	Project has been developed through open communication and participatory planning and therefore reflects the long-term goals of the target groups. Conflict resolution mechanism is in place and equitable to both parties. Community partner has a long history of involvement in project area.

³³ <http://www.v-c-s.org/program-documents/tool-afolu-non-permanence-risk-analysis-and-buffer-determination>

National or District Government change the laws regarding land use and encourage agriculture	Low	Project has ensured that all land laws have been followed and is monitoring policy developments. Laws are decentralized and ownership conferred to the community. Land is poor for large-scale agriculture.
National or District Government create laws which centralize revenue from Payments for Ecosystem Services.	Low	Forest Act (2002) states that all user and ownership of forests is conferred to village and community. New forest policy builds on this to encourage PES and private sector involvement in forest conservation.

Leakage

Understanding the type and magnitude of potential leakage resulting from the project is essential to the success of this undertaking. For this reason, Carbon Tanzania engaged in a series of conversations with community members to determine probable sources of leakage and to develop a strategic response to it (see Table 5). The project will mitigate leakage wherever it is possible and cost effective to do so and discount when mitigation is not a viable strategy. Cost effectiveness is determined by the level of leakage and carbon density of the area where leakage takes place as well as the short and long term costs and likely success of proposed interventions. A 10% buffer has been included within the project's accounting for discounting purposes by which low levels of leakage can be absorbed (see Table 3).

The project's primary strategy to prevent leakage involves tackling the underlying causes of the historic deforestation pattern and scaling up of project activities. To this end, the project coordinator will contract with an agricultural specialist in sustainable agriculture to provide the neighboring villages with an alternative to continued land conversion. This training will introduce the community to alternative methods of farming which are expected to improve their yields despite the challenging setting. This will, in turn, improve their livelihoods and minimize the potential for conflict with the Hadzabe who have begun to enforce their land use plan. It is expected that leakage will reduce over time as a result of successful interventions and by engaging a greater number of villages in PES for avoided deforestation. As a result, it is likely that leakage will be positive rather than negative in the long-term.

Areas outside of the project boundary where leakage could occur have been identified and are included in the leakage belt to be monitored on an annual basis to measure leakage resulting from project activities (see Figure 3).

Table 5. Leakage risks and management measures

Leakage Risks	Level of risk (low/medium/high)	Management Measures
Displacement of agricultural activity to other land within the reference region	Medium	Participatory rural appraisal (PRA) to estimate scale of leakage due to project activities. Additional project activities aimed at reducing underlying cause of deforestation. Monitoring of reference region to establish land use change.
Displacement of biomass collection	Low	Biomass collection is currently not a major driver of deforestation, however, PRA to establish scale of leakage due to project activities
Displacement of charcoal manufacture	Low	Charcoal is currently not a problem however this is likely to change within the lifetime of the project.
Revenue is not realized in neighboring communities	Low	Project is planning to scale-up into neighboring villages to increase opportunities for benefit sharing.

E. Project Activities & Management Plan

The project activities are broken into three categories. The specific tasks and objectives for each activity type are outlined below in Tables 6-8. The drivers of deforestation may change during the crediting period and the project will respond to those changes accordingly by adjusting or adopting new activities.

1. Improved Land Use Planning and Management

Table 6. Improved land use planning and management activities

Type of Activity	Objectives	Brief Description	Target Groups
Participatory land use planning and management through education and empowerment	<ul style="list-style-type: none"> - To protect traditional Hadzabe lifestyle by specifying areas for conservation, agricultural and pastoralist activities - To secure recognition of land rights and land tenure from the central government - To educate communities on the ecological and livelihood benefits of conservation 	<ul style="list-style-type: none"> - Facilitate community-led planning process to develop land use plan and by-laws that supports sustainable and diverse land uses - Apply for approval of land use plan and by-laws from district officials and secure title deed recognizing Hadzabe as owners - Develop educational materials for use in schools and community meetings that promote the ecological and livelihood benefits of conservation 	<ul style="list-style-type: none"> - Hadzabe community - Villages of Mongo Wa Mono and Domanga - Surrounding villages

2. Avoided Deforestation

Table 7. Avoided deforestation activities

Type of Activity	Objectives	Brief Description	Target Groups
Enforcement of district approved village land use plan and by-laws in accordance with national land laws	<ul style="list-style-type: none"> - To ensure the indigenous <i>Acacia-Commiphora</i> woodland remains owned and managed by Hadzabe and protected for traditional and cultural utilization - To reduce emissions in relation to the BAU scenario - To generate certified carbon credits to be sold and revenues realized by target population in the form of PES 	<ul style="list-style-type: none"> - Employ and train community guards to monitor forest disruption, land conversion and illegal poaching activities in project area - Report instances of incursion or other disturbances - Communicate with neighboring villages about prohibited land use and associated penalties - Enforce land use plan and by-laws through customary and legal dispute resolution mechanisms as necessary 	<ul style="list-style-type: none"> - Hadzabe community - Villages of Mongo Wa Mono and Domanga - Surrounding villages

3. Improved Agriculture Land Management

Table 8. Improved agricultural land management activities

Type of Activity	Objectives	Brief Description	Target Groups
Training in improved agricultural techniques suitable to the conditions found in reference region to combat primary driver of deforestation	<ul style="list-style-type: none"> - To improve the capacity and technical know-how of farmers around project area - To mitigate leakage by tackling the key underlying cause behind deforestation in and around the project area - To improve the crop yields and livelihoods of communities surrounding project area 	<ul style="list-style-type: none"> - Contract with local agricultural specialist to facilitate training - Track results of farmers employing new techniques to serve as a model for farmers more resistant to change - Repeat and add to training as necessary 	<ul style="list-style-type: none"> - Agriculturalists in surrounding villages

4. Governance Plan

The project participants and their role in the project activities are articulated in Table 9. Project activities have been developed based on the current drivers and underlying causes of deforestation in the reference region and project area (see Figure 3).

Table 9. Project activities by participants

Key Function	Organization / group(s) involved	Type of group / organization and legal status	Brief description of activities
Project administration	Carbon Tanzania	Project Coordinator Registered not-for-profit Business Project of Ecological Initiatives Ltd.	- Ensure project implementation in accordance with plan vivos, producer sale agreements and PDD - Review field data, track project developments - Plan scaling-up of project in partnership with other stakeholders and report to the Plan Vivo Foundation - Serve as key actor in dispute resolution
Project technical operations	Carbon Tanzania	Project Coordinator Registered not-for-profit Business Project of Ecological Initiatives Ltd.	- Develop and monitor project cycle to ensure that it is in accordance with approved methodologies - Manage and support technical demands of project - Increase local capacity where possible
Community engagement / participation	Ujamaa Community Resource Team	Community Partner Registered not-for-profit company limited by guarantee	- Provide legal counsel to communities for the purpose of securing land tenure and entering into PES agreements - Provide knowledge of local context to ensure CT is able to carry out the necessary field operations - Organize meetings with ward and district officials - Engage with communities where project is expected to scale-up - Serve as key actor in dispute resolution
Forest management / monitoring	Hadzabe community	Communities recognized by central government as holding land tenure rights in project area	- Develop land use plan and village by-laws - Serve as community guards and patrol, monitor and report on natural resource use in violation of the land use plan - Take action against violators in accordance with village by-laws and Village Land Act - Monitor biodiversity impacts - Provide information on socioeconomic impacts

A description of the project participants, the land deed certificate and the MoU between Carbon Tanzania and UCRT are attached as annexes to this document.

F. Likely Non-Carbon Benefits

1. Environmental Impacts

By protecting the traditional land of the Hadzabe through patrolling, the project simultaneously improves the habitat of the wildlife species native to the project area by preventing poaching. Protection of the woodland area will also maintain biodiversity by preserving habitat for native fauna and flora species. Adherence to the village land use plan will result in protection of the interior springs in the protected area. Additional activities with agriculturalists will prevent incursion and limit the loss of topsoil that is endemic to the slash and burn agriculture currently practiced.

2. Socioeconomic Impacts

Participating communities will benefit from increased income stemming from the PES element of the project. Beyond the surplus revenue from the project's generation and sale of carbon offsets, there are significant, additional livelihood impacts. Unique to the Hadzabe is the very real and substantial overlap between environmental and socioeconomic impacts. As a population whose livelihood depends on the land, the Hadzabe will benefit from the improved habitat resulting from project activities. Preventing deforestation, thereby preserving the natural habitat that the Hadzabe are dependent upon, will result in a sustained supply of food and other essential items. Additionally, project activities related to enforcing the land use plan will serve the purpose of protecting the watershed within the project area for the benefit of the Hadzabe, wildlife and pastoralists in the surrounding areas.

Surrounding the project area exist several communities who employ unsustainable land use practices such as slash and burn agriculture. These practices, which are taking place on poor soil to begin with, have produced a cycle of low crop yields, necessitating increased land incursion resulting in mosaic deforestation. The project will address the root causes of the problem by providing training on intensified/improved agricultural techniques. These activities are intended to ensure that agricultural yields are not negatively impacted and neighboring communities are not made worse off by the project. Upon scaling-up of the project, villages where the project is suitable will be included more extensively in both project activities and benefit sharing.

G. Monitoring Plan

1. Carbon Benefits

The project will utilize three indicators to measure carbon content throughout the crediting period.

4. The rate of incursion and deforestation within the project area will be continuously monitored by community guards. They will report this information to the community coordinator who will record the data and relay it to Carbon Tanzania for tracking purposes. Aerial photography, obtained yearly, will be utilized to authenticate and verify data provided by project participants and will be used to assess carbon benefits for the sake of annual reporting and credit issuance.
5. The historical deforestation rate in the reference region, which includes the leakage belt, was determined by analysis and ground-truthed Landsat and Google Earth imagery. This process will take place every five years as required for verification and will use the same or improved techniques employed to establish the baseline.
6. Aboveground biomass surveys will be carried out biennially to assess change in the carbon stock over time. Local producers have been trained and had opportunities to practice this methodology and will increasingly be responsible for this aspect of monitoring.

Additional indicators related to the production of carbon benefits will be observed to measure the effectiveness of project interventions. These include the number of instances of incursion (expected to reduce over time), amount of time spent by UCRT in informal conflict resolution with individuals and villages who do not abide by the Hadzabe's land use plan (expected to reduce over time), and the number of farmers implementing improved/intensified agricultural techniques after training (expected to increase over time).

2. Environmental Impacts

Data on the biodiversity impacts of the project will be collected in two ways and analyzed to determine change over time. Timed Species Counts (TSC) will be conducted on an annual basis to monitor the change in avifauna species along a 33 km track inside the project area and in a deforested agricultural area along the southwest border of Mongo Wa Mono. Low-density, large mammal species subject to seasonal movement, specifically Lion, Wild Dog, Zebra, Eland, Cheetah and Elephant, will be monitored using community-based approaches. The community coordinator will record the presence of these mammals based on reports from hunter-gatherers who observe them in the project area. This information will be collected on a monthly basis and used to assess the presence and frequency of these species in the project area over time. These species were chosen because their presence is both indicative of a healthy ecosystem and relevant to the lifestyle of the target group. Avoided deforestation projects aim to preserve existing habitat and the project will therefore consider year-on-year consistency of data related to environmental indicators in the project area to represent the project's success in preventing deforestation and habitat degradation.

3. Socioeconomic Impacts

As previously described, the socioeconomic impacts of this project are, to a large degree, directly related to the environmental impacts due to the traditional lifestyle of the Hadzabe. There will, of course, be additional impacts as a result of the revenue generated through the sale of carbon credits. Payment records will indicate increased income for individuals participating in the measurement, monitoring and patrolling activities. The project will assess these records to ascertain the concentration of benefits and will take steps to ensure benefit sharing across a variety of diverse stakeholders.

In addition to individual stipends for carrying out specific project activities, surplus revenue will be transferred directly into two Hadzabe community accounts, one for each village, known as the Jamii fund and the two village accounts. These payments, made on a biannual basis, will provide financial

support for forest management as well as legal services beyond the scope of UCRT that may be required for land use enforcement. Payments in excess of what is needed to fulfill these purposes will be earmarked for community-wide development initiatives and be made available to individuals who apply for funds either in times of stress (i.e., illness) or for the purpose of increasing human capital (i.e., teaching or medical training) that will benefit the community-at-large. This approach to benefit sharing is modeled after a pre-existing village mechanism used to dispense funds generated from tourism.

Due to the community's high level of autonomy in terms of use of these funds, it is premature to identify specific metrics for assessing socioeconomic impacts. Carbon Tanzania and UCRT are currently engaged in a participatory process with the village populations in their entirety and specific smaller groups therein to both determine methods of tracking socioeconomic data and identify appropriate indicators of wellbeing and security in the realms of human, financial, social, physical and natural capital as they relate to socioeconomic impacts in the context of the project site and surrounding areas. Indicators related to agricultural interventions will also be established and measured. A credible baseline assessment of the participating village populations will be carried out in the first half of 2012. Going forward, socioeconomic impacts attributable to the project will be monitored in accordance with how the community chooses to allocate and invest the revenue.

4. Project Administration

UCRT and Carbon Tanzania maintain open channels of communication with the community and receive feedback regularly, albeit often informally. In addition to this, project administration will be monitored using the same methods as socioeconomic data, most likely through focus groups or household surveys. Participants will be asked their opinion of the work of the project coordinator, community partner and those individuals and organizations providing additional education and training to producers. The communities will be asked about instances of conflict arising from the project, regularity of payments and fund transfers, satisfaction with level of community ownership, and understanding of, and commitment to, project aims. This information will help Carbon Tanzania and UCRT improve and self-correct in terms of project administration as well as adapt to the situation on the ground in a timely and effective manner.

H. Additionality

Legal and Regulatory Test

This project has not been initiated to fulfill any government policies, regulations or standards. As detailed in section H of the PDD, the government of Tanzania promotes community-based management but it encourages rather than obligates sustainable land use and forest management.

Financial and Economic Barriers

There is no commercial interest in the preservation of the habitat in the project area. Without the revenue generated through the sale of carbon credits there would be no ability to compensate for the opportunity costs associated with avoided deforestation. Carbon finance incentivizes conservation, funds patrolling, monitoring and enforcement activities, and finances activities related to curbing drivers of deforestation such as environmental education and the training of farmers on sustainable land use practices. Funding from carbon finance will also be necessary to defend the land use plan and village by-laws in court should that prove necessary to keep poachers or other intruders out of the project area.

Social Barriers

This project works to empower the Hadzabe to protect their remaining land and lifestyle. This has been a significant barrier since the population has traditionally been very passive in its interactions with outsiders. Their ceding of land and eventual displacement into less hospitable areas over the last century evidences this. Building capacity within the Hadzabe community to defend and protect their remaining land is critical to the success of this project.

Cultural Barriers

Convincing local farmers to adopt new practices is a significant barrier that this project must overcome in order to address the root causes of deforestation in the region. The organizations collaborating on this project are well suited to work with local agriculturalists in terms of training, providing support on new practices as well as monitoring the rate of their adoption by local communities. Carbon financing will be required to carry out these activities and curb the rate of deforestation.

Ecological Barriers

The essential problem of deforestation that the project is working to solve stems from unsustainable land use practices on the part of agriculturalists utilizing slash and burn techniques and pastoralist communities overgrazing in and around the project area. The project addresses these problems by engaging farmers and pastoralists through education, training and project expansion. Specific to agricultural communities are the poor soil condition, variation in weather conditions and extended dry season. Engagement with farmers on improved practices will help them to overcome these barriers to ensure that the REDD project does not negatively impact agricultural yields.

Institutional and Political Barriers

The project has already surpassed the political barriers of facilitating the creation of a land-use plan and having it approved by the proper authorities thereby securing land tenure for the Hadzabe. While it is now legally-binding there is no enforcement by authorities outside of the village structure and therefore falls to the community. This project will focus on strengthening the villages' natural resource committee and other village institutions to enhance their ability to uphold their land use plan and by-laws.

Technical Barriers

Substantial effort has been put into building the technical capacity of the Hadzabe community in terms of monitoring carbon, environmental and socioeconomic benefits of the project. This is an ongoing process that transfers more responsibility and ownership of the project to the local

producers over time. This training encompasses all aspects of project monitoring such as conducting AGB surveys, tracking the presence of wildlife, conducting timed species counts and learning survey techniques.

Annex 4: Producer/Group Agreement Template

The contract below serves as the producer sale agreement for this project. The format differs from the traditional Plan Vivo sale agreement while still including all of the required elements and conforming to the legal norms of Tanzania for entities entering into agreements with a village.

Contract agreement between

Carbon Tanzania / Ecological Initiatives Enterprises,

The village(s) of , and

Jamii ya Hadzabe

Date Month Year

This agreement is between:

Carbon Tanzania/Ecological Initiatives Enterprises, hereinafter referred to as “**Carbon Tanzania**”, a designated not-for-profit Tanzanian owned company, registered under the laws of the United Republic of Tanzania.

The Village Council of Mongo Wa Mono hereinafter referred to as “**The Village**”, meaning the village government corporate and its demarcated boundaries, as registered under the laws of the United Republic of Tanzania.

Jamii ya Hadzabe, hereinafter after referred to as “**Jamii**”, meaning the community of Hadzabe, who have secure land tenure of the project area as recognized under the laws of the United Republic of Tanzania.

This agreement concerns the initiation of a carbon based forest management project, involving forest conservation measures for the reduction of unsustainable and destructive forest use, and facilitating the instigation of long-term sequestration of carbon dioxide through community based management, implemented through a partnership between **Carbon Tanzania, The Village and Jamii**.

1. Objectives and Roles

The overall objectives of this contract are as follows:

- a) To enable **Jamii** to generate revenue from the legal sale of carbon offsets, which are non-timber forest products, to be used for the benefit and general economic and social development of the community.
- b) To ensure continued and strengthened customary ownership and management of the land remains with **Jamii** according to the Village Land Act No 5 of 1999, subsequent acts and other relevant laws of the United Republic of Tanzania.
- c) To improve the environmental conditions and sustainability of natural resource uses in **The Village** according to the land use plan and by-laws (Annex 4).
- d) To reduce emissions of carbon dioxide and therefore contribute to global climate initiatives in line with Tanzania’s national policies.
- e) To strengthen the sustainable management of forest and other natural habitats according to Forest Act No 12 of 2002, the National Forestry Policy, subsequent acts and relevant village by-laws.
- f) To reduce unsustainable forest use, destruction and degradation resulting from activities which are not in accordance with the area demarcated as protected area for the traditional and cultural use by Hadzabe. (Eneo la Hifadhi na Matumizi ya Asili ya Hadzabe) in the approved and adopted land use plan.
- g) To enable **The Village/Jamii** to derive revenue from the provision of ecosystem services in the form of carbon offsets through improved land use planning and sustainable forest management.

1.1 Mutual and general responsibilities

- a) All parties shall adhere to the Forest Act No 12 of 2002 and subsequent acts relating to forest protection and management in Tanzania and conduct all activities according to the laws of the United Republic of Tanzania.
- b) All parties shall, with due diligence, commit to work to minimize the transfer of activities that are contrary to the aims of the project, primarily conversion of woodland to agricultural

land, to adjacent areas outside of the project area (a process known as leakage). Excessive leakage outside of the project area will result in reduced revenue for all parties.

- c) All parties shall commit to monitoring how much carbon has been stored or lost within the project area.
- d) All parties shall commit to monitoring the socioeconomic changes in **The Village** and surrounding areas as a result of the initiative.
- e) All parties may review and, when necessary, agree to adjust payments and expenditures as required to meet the aims of the project.
- f) All parties shall take steps to ensure that village members and **Jamii** understand and know their responsibilities in relation to this project and are provided with the opportunity to participate.

1.2 The responsibilities of Carbon Tanzania

Carbon Tanzania shall hereby:

- a) Provide expert services, training and support to **The Village/Jamii** as necessary for successful joint implementation of the forest carbon project, including mapping, habitat assessment, measurement of carbon content, and other processes required by **The Village/Jamii** to meet their aims of sustainable forest management.
- b) Secure appropriate buyers for the carbon stored in the project area as a result of the efforts of **The Village/Jamii**.
- c) Compensate **The Village/Jamii** US\$3/tCO₂ if conservation targets are met in accordance with the results based payment plan (Annex 2). If targets are achieved, deposits to the Mongo Wa Mono and Domanga Jamii Fund accounts and both village accounts will be made every six months in accordance with the payment distribution plan (Annex 3).
- d) Pay Tshs 500,000 per month to walini wajadi and community coordinator for activities that achieve the aims of the project, avoided deforestation. Payment amount is subject to change in accordance with the results based payment plan (see Annex 2).
- e) Provide **The Village/Jamii** with reports every six months on the development of the project through relevant committees and meetings.

1.3 The responsibilities of The Village/Jamii

The Village/Jamii shall hereby:

- a) Ensure forest conservation through the implementation of the approved and adopted land use plan and by-laws, which protect the forest area for the benefit of all community members and future generations (see Annex 4).
- b) Diligently partner in forest conservation through improved forest management, monitoring and enforcement activities in accordance with the forest management activity timeline (Annex 1).
- c) Take steps to ensure that village members understand and know their responsibilities in relation to this project and are provided with the opportunity to participate.
- d) Refrain from selling carbon to any other person or entity in respect of the same piece of land covered by the land use plan attached.

2. Undertakings

The Village/Jamii shall ensure that any information provided to **Carbon Tanzania** under this agreement is truthful and accurate, and **The Village/Jamii** shall inform **Carbon Tanzania** of any valid changes resulting in reports that are no longer truthful or accurate. The undertakings by **The Village/Jamii** in order to ensure the good management and success of this project include:

- a) **The Village/Jamii** shall partner faithfully in the project by meeting all requirements including the creation of any committee required by law for the purposes of managing the project area according to the village land use plan.
- b) **The Village/Jamii** agrees that the area of the village demarcated for the purposes of *matumizi ya asili ya hadzabe* (*area protected for the traditional and cultural use by hadzabe*) as shown in the land use plan remains protected for the period stated under the titled lease agreement(s).
- c) **The Village/Jamii** agrees to partner with **Carbon Tanzania** to prevent any activities that contradict the village land use plan and by-laws or national policies and laws including in the Forest Act No 12 2002.

3. Terms of Contract

3.1 Contract Validity

This contract will be implemented over a 20 (twenty) year period starting on the date of signing of this agreement and shall expire after this period of 20 (twenty) years.

The parties may renegotiate or amend this contract at any time upon agreement by all parties for the purposes of extending or reducing the contract's expiry date. However any valid amendment or renegotiation shall be effected in writing and through all parties appending their signatures.

3.2 Opting out or breaking the agreement

Should either party fail to meet their obligations as described in this agreement, the contract shall be considered invalid.

3.3 Amendments

This agreement can only be amended or improved in writing as shall be mutually agreed and through appending the signatures of all parties, **Carbon Tanzania, The Village and Jamii**.

3.4 Dispute resolution

In the event of any dispute that may arise between the parties in relation to this contract, all parties will meet to discuss how to resolve the dispute. If one party remains unsatisfied or if the parties fail to reach an agreement, they will refer their dispute to the Appeal and Complaints Committee. The Committee will be constituted of the following people:

1. A representative or representatives of Ujamaa Community Resource Team (UCRT)
2. A representative from Carbon Tanzania.
3. An elected representative from each of the villages participating in the forest conservation programme.
4. A representative of Jamii ya Hadzabe from each of the villages participating in the forest conservation programme.
5. Two persons of appropriate qualifications and expertise chosen by both parties to represent them.

3.5 Issues beyond normal human control / force majeure

None of the parties to this contract shall be liable for any failure to perform its obligations where such failure is as a result of acts of nature including fire, flood, earthquake, storm, hurricane or other natural disaster, war, invasion, act of foreign enemies, hostilities (whether war is declared or not), civil war, rebellion, revolution, insurrection, military or usurped power or confiscation,

terrorist activities, nationalisation, government sanction, blockage, embargo, labour dispute, strike, lockout or interruption or failure of electricity.

The party, **Carbon Tanzania, The Village, or Jamii**, asserting force majeure as an excuse shall have the burden of proving that reasonable steps were taken (under the circumstances) to minimise delay or damages caused by the foreseeable events, that all non-excused obligations were substantially fulfilled, and that the other party was timely notified of the likelihood or actual occurrence which would justify such an assertion, so that other prudent precautions could be contemplated.

This agreement is hereunder signed by both parties of this contract and so witnessed this day in the month of in the year and has been concluded in the Village of in the ward of in the district of

A: On behalf of Carbon Tanzania

1. Name..... Position..... Signature.....

B. On behalf of The Village

1. Name..... Position..... Signature.....

2. Name..... Position..... Signature.....

C. On behalf of Jamii

1. Name..... Position..... Signature.....

2. Name..... Position..... Signature.....

3. Name..... Position..... Signature.....

4. Name..... Position..... Signature.....

D. Witnessed

1. Name..... Position..... Signature.....

2. Name..... Position..... Signature.....

3. Name..... Position..... Signature.....

Annex 1: Forest Management Activity Timeline

Activity	Responsible Party	Timeline
Patrol project area for forest disturbances and activities in violation of land use plan and village by-laws.	Walinzi wajadi: Jamii, Mongo wa Mono and Domanga village members employed on a rotating monthly basis	Ongoing
Utilize camera and GPS technology to record disturbances and violations; provide narrative report to community coordinator	Walinzi wajadi	Ongoing, as necessary
Report observed presence of large mammals (Zebra, Eland, Lion and Wild Dog populations) to community coordinator	Village members/Jamii	Ongoing, as necessary
Collect reports from walinzi wajadi and village members and relay monitoring information to Carbon Tanzania and UCRT	Community coordinator	Monthly basis; egregious violations shall be relayed to Carbon Tanzania/UCRT as soon as possible.
Utilize conflict resolution mechanisms as outlined in the Village Land Act for land and land use disputes	The Village/Jamii	As necessary
Work with Carbon Tanzania to measure carbon stock in project area	Village members/Jamii	Biennially
Provide Carbon Tanzania with information on how surplus revenue is spent and its impacts	Signatories to Jamii Fund	Annually

Annex 2: Results Based Payment Plan

The project's revenue is directly correlated to attainment of certain carbon storage targets. It is expected that these targets will be met if activities are implemented and monitored in accordance with the project activity timeline (Annex 1). Alternatively, if **The Village/Jamii** fail to adhere to the project plan, less carbon will be stored resulting in less revenue. Given that, the semi-annual payments to the Jamii fund and village accounts and the monthly payments to walinzi wajadi and the community coordinator outlined in section 1.2 will comply with the results based payment plan in the table below. Deforestation rates will be assessed on an annual basis.

Deforestation Indicator	Payment Response/ Adjustment	Conservation Targets and Payment Amounts
Deforestation reduced by >85% compared to baseline	Payments continues as per schedule	<u>Payment for Conservation</u> <ul style="list-style-type: none"> - 155.55+ ha conserved per year - 124.44 ha eligible for crediting per year 122.47 tCO2 stored in each ha - 15,240 tCO2 eligible to sell per year - Purchased at US\$3/tCO2 - US\$45,720 per year paid to Villages/Jamii Funds <u>Payment to Walinzi Wajadi and Community Coordinator</u> <ul style="list-style-type: none"> - 155.55+ ha conserved per year - Payments continue as per 1.2d of contract
Deforestation reduced by 25-85% of baseline	Payments reduced until corrective measures are taken and evidenced as effective in next annual assessment	<u>Payment for Conservation</u> <ul style="list-style-type: none"> - 45.75 – 155.55 ha conserved per year - 36.6 – 124.44 ha eligible for crediting per year - 122.47 tCO2 stored in each ha - 4,482 – 15,240 tCO2 eligible to sell per year - Purchased at US\$3/tCO2 - US\$13,447 – US\$45,720 per year paid to Villages/Jamii Fund <u>Payment to Walinzi Wajadi and Community Coordinator</u> <ul style="list-style-type: none"> - 45.75 – 155.55 ha conserved per year - Payments outlined in 1.2d of contract reduced by 50% until corrective measures are taken and evidenced as effective in next annual assessment
Deforestation reduced by <25% of baseline	Payments suspended until corrective measures are taken and evidenced as effective in next annual assessment	<u>Payment for Conservation</u> <ul style="list-style-type: none"> - 0 – 45.75 ha conserved per year - No credits purchased and US\$0 paid to Villages/ Jamii Fund until corrective measures are taken and evidenced in next annual assessment <u>Payment to Walinzi Wajadi and Community Coordinator</u> <ul style="list-style-type: none"> - 0 – 45.75 ha conserved - Payments outlined in 1.2d of contract suspended until corrective measures are taken and evidenced as effective in next annual assessment

Annex 3: Payment Distribution Plan for Carbon Payments

Mongo Wa Mono Village Account (% of Carbon Payments)

Bank Name:

Account Number:

Domanga Village Account (% of Carbon Payments)

Bank Name:

Account Number:

Jamii Fund for Mongo Wa Mono (% of Carbon Payments)

Bank Name:

Account Number:

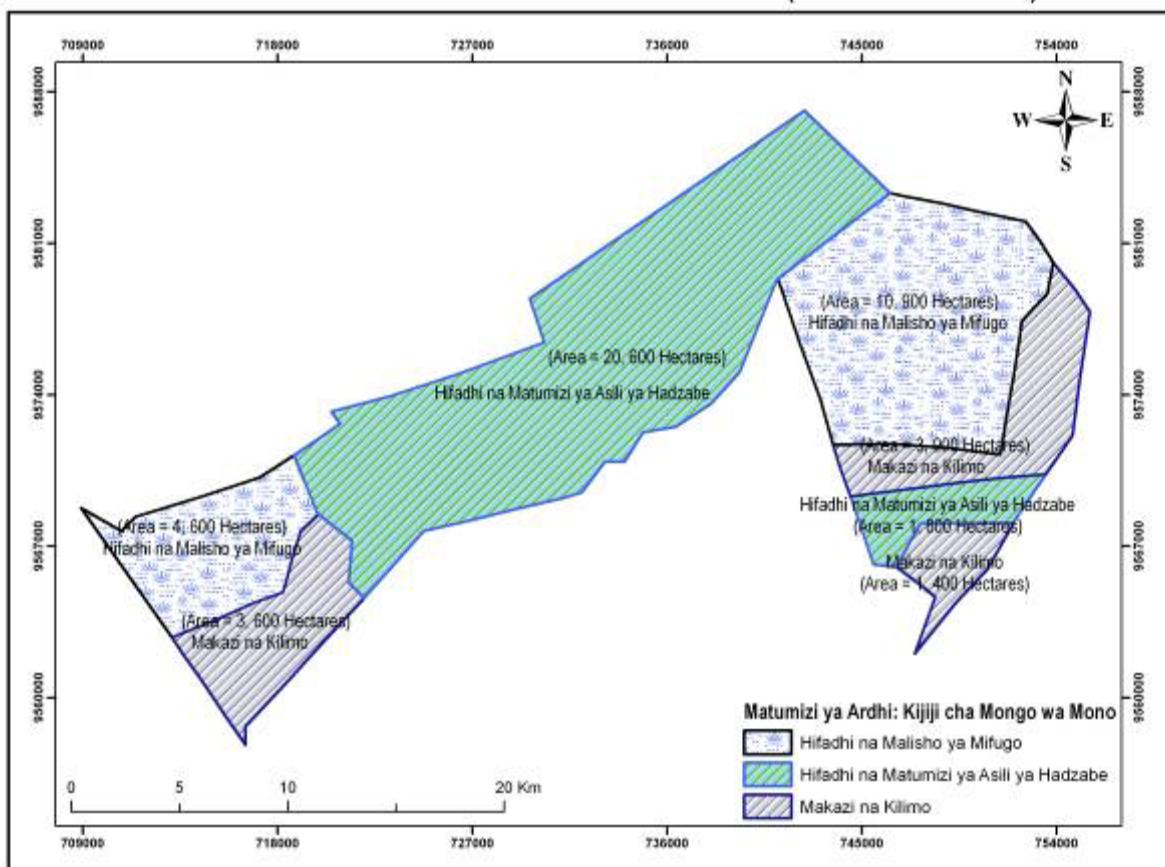
Jamii Fund for Domanga (% of Carbon Payments)

Bank Name:

Account Number:

Annex 4: Village Land Use Plan and By-Laws / Plan Vivo

MATUMIZI YA ARDHI: KIJII CHA MONGO WA MONO (WILAYA YA MBULU)



SHERIA ZA SERIKALI ZA MITAA.

(SERIKALI ZA VIJJI)

1982.

Zimetungwa chini ya kisehemu cha 120 (1) na 163.

Jina Sheria ndogo za kuhifadhi, kulinda na kutekeleza mpango wa matumizi bora ya ardhi, mazingira, maliasili na huduma mbalimbali za jamii katika kijiji cha Mongo wa Mono.

Matumizi Sheria ndogo hizi zitatumika katika eneo lote linalotawaliwa na kumilikiwa na serikali ya kijiji cha mongo wa Mono.

Madhumuni ya sheria hii Sheria ndogo hizi zina madhumuni ya kumtaka kila mwanakijiji kushiriki kikamilifu katika utekelezaji wa mpango wa kijiji wa matumizi bora ya ardhi, kuhifadhi mazingira, maliasili na shughuli zingine mbalimbali za maendeleo ndani ya kijiji.

Tarehe Sheria hizi zitaanza kutumika kuanzia 9 oktoba, 2001.

SEHEMU YA KWANZA

Tafsiri katika "Maeneo ya kijiji" Maana yake ni ardhi yote sheria hizi inayomilikiwa na kijiji cha Mongo wa Mono kufuatana na hati yao ya kumiliki Ardhi.

"Maliasili ya kijiji" Maana yake ni mali yote ya asili ndani ya kijiji cha Mongo wa Mono.

"Serikali ya kijiji" Maana yake ni Halmashauri ya Kijiji cha Mongo wa Mono.

"Mwenyekiti" Maana yake ni Mwenyekiti wa Halmashauri ya Kijiji cha Mongo wa Mono.

"Afisa Mtendaji" Maana yake ni Afisa Mtendaji wa Kijiji cha Mongo wa Mono.

"Kitongoji" Maana yake ni sehemu ya Kijiji cha Mongo wa Mono kama inavyofahamika na Mamlaka ya Halmashauri ya Wilaya ya Mbulu.

"Mwenyekiti wa kitongoji" Maana yake ni mtu ye yeyote anayeshikilia madaraka ya uenyekiti wa kitongoji katika Kijiji cha Mongo wa Mono.

"Kamati ya mali asili na mazingira" Maana yake ni kamati iliyeutiwa na kuundwa na Serikali ya Kijiji cha Mongo wa Mono kushughulikia masuala yote yanayohusu mali asili na mazingira katika Kijiji cha Mongo wa Mono.

"Mwanakijiji" Maana yake ni mtu ye yeyote aliyeandikishwa na Serikali ya kijiji cha Mongo wa Mono.

Kijiji" Maana yake ni Kijiji cha Mongo wa Mono.

SEHEMU YA PILI: MPANGO WA MATUMIZI BORA YA ARDHI
YA KIJJI CHA MONGO WAMONO.

A. Maeneo yaliyopangiwa matumizi maalum.

Kilimo
Ufugaji
Makazi
Misitu
Wanyama Pori
Maji
Biasbara na Huduma mbalimbali
Utalii

B. Mpango wa matumizi ya ardhi ngazi ya vitongoji.

Kitongoji cha Kilimo na Makazi ya kudumu - Mongo wa Mono, Isuzu,
Mongo wa Mono kusini-milima ya Nzala, kaskazini - Milima ya Masaganya,
magharibi
Milima ya Haraka hadi sisivo.
Wanyamapori - Ondoshi, Kwebe na Milima ya Haraka hadi Endeshi.
Maji - Hakuna chanzo chocohote cha maji.
Misitu - Ondoshi, Milima ya Haraka, Endeshi na Militimoko.
Utalii - Mgurembe

Kitongoji cha Makazi ya kudumu na kilimo kidogo - Domanga,
Domanga Ngw'asambega, Domanga Halamawazenga, Mitati, Masunja
Namba sita, Ihonga na Ikombo
Ufugaji - Utafanyika pamoa na kilimo.
Madini - Dondobii, Dundu na Ikombo.
Maji - Mugugu, Hukumako, Lakway, Msisiko, Idaya Ingerao na Gideru.
Misitu na Wanyama Pori - Mgidinko, Mahunda, Mrigaini, Ninga, Halasa, Wembeko, Gibonora Gisikiri, Alabao, Sisiyo, Umbeya, Sababa, Dondobii, Nyaraida na Omboi dedau.
Utalii - Kesemayango na Dumburikela.

Kitongoji cha Makazi ya kudumu na Kilimo.....
Endajaj Wanyama pori na Misitu.....
Ufugaji
Maji

Kitongoji cha Makazi ya kudumu na Kilimo -Saikobe,mashinoda, na
mashinoda Elmojan
Ufugaji – Saikobe, Mashinoda na Elmojan.
Maji – Visima vya Saikobe.
Wanyama pori na Misitu – Saikobe, Mashino na Elmojan.

Kitongoji cha Makazi ya kudumu na Kilimo.....
Mahaderar. Ufugaji.....
Maji
Wanyama Pori.....

SEHEMU YA TATU: SHERIA NDOGO

Kipengele Na. 1 Kilimo

Maelezo Maeneo yote ya kilimo ni kwa ajili ya kilimo cha mazao ya chakula na biasbara kidogo. Pia kilimo kitafanyika ndani ya eneo la makazi ya kudumu. Maeneo yote tajwa ya kilimo yatawekewa alama za kudumu ndani ya kila kitongoji. Serikali ya kijiji watashirikiana na kamati mbalimbali za kijiji na wanavitongoji wenye katika zoezi la kuweka mipaka na alama za kudumu.

Masharti a) Si ruhusa kabisa kwa mtu yeoyote kuchunga au kuingiza mifugo ya aina yeoyote ile kwenye shamba ambalo mazao ya kilimo hulimwa liwe shamba lake au mwininge.

b) Hairuhusiwi kulima nje ya maeneo yaliyotajwa na wakazi wa vitongoji vyote vya kijiji cha Mongo wa Mono.

c) Hairuhusiwi kulima au kutoa shamba zaidi ya ekari kumi (10), serikali ya kijiji kwa mujibu wa sheria za serikali za mitaa ina uwezo wa kutoa ndani ya eneo la kijiji kuanzia ekari 1 hadi 10 tu.

Adhabu Mtu atakayekiuka masharti haya atatowza faini ya sh.5,000/-
Kama ni shamba atatowza faini y sh. 5,000/- kwa kila ekari moja na kunyang'anywa.

Kipengele Na. 2: Mifugo (Ufugaji)

Maelezo Mifugo ni wanyama wote wafugwao kama vile ng'ombe, mbuzi, kondoo, punda na n.k.

Ufugaji utafanyika kulingana na mpango wa matumizi ya ardhi na shughuli za kiuchumi za wakazi wa kila kitongoji. Hakuna eneo maalum kwa ajili ya ufugaji kwenye vitongoji vya Mongo wa Mono na Domanga. Hivyo basi, ufugaji mdogo sana utafanyika kwenye eneo la makazi na kilimo katika vitongoji vya Domanga na Mongo wa Mono.
Ufugaji utafanyika katika vitongoji vya Endajaj, Mashinoda na Mohaderar.

Masharti a) Kuchungia mifugo katika maeneo yaliyofungwa na Halmashauri ya Kijiji (Kwa huduma ya jamii na uhifadhi yaani, shule, kanisa, misitu na wanyamapori) na pia katika mashamba ya watu binafsi ni kosa

b) Ni kosa kwa mtu yeoyote kuingiza au kufuga mifugo zaidi ya hamsini (50) katika vitongoji vya Mongo wa Mono na Domanga. Ufugaji mkubwa utafanyika katika vitongoji vya Endajaj, Mashinoda na Mohaderar.

c) Ni kosa kuchungia mifugo kwenye mashamba ya mazao.

d) Mtu yeoyote atakayeingiza mifugo katika eneo lilitotengwa kuwa Karantini ni kosa.

Adhabu Mtu yeoyote atakayekiuka sheria hii atakuwa ametenda kosa na adhabu yake faini sh. 50,000/- mtu yeoyote atakayeshindwa au kurudia kosa atashitakiwa na serikali ya kijiji.

Kipengele Na. 3: Makazi ya kudumu

Maelezo Haya ni maeneo yaliyo tengwa na wanavitongoji kwa lengo la wana vitongoji kuishi. Maeneo yote haya yamezungushiwa alama za kudumu kwa kutumia rangi nyeupe.

Masharti a) Ni kosa kujenga ama kuweka makazi ya kudumu nje ya mipaka iliyojajwa katika schemu ya matumizi bora ya ardhi, mazingira na maliasili kwa kila kitongoji.
b) Ni kosa kwa mtu yeoyote wa nje kuishi au kujenga katika maeneo hayo bila kuruhusiwa au kukubaliwa na serikali ya kijiji.

Adhabu Mtu yeoyote atakayekiuka sheria hii atatowza faini ya sh. 3,000/- na kufukuzwa kijijini

Kipengele Na. 4: Misitu

Maelezo Haya ni misitu yote ya kijiji kama ilivyoatajwa kwenye mpango wa matumizi ya ardhi ya kila kitongoji. Ukusanyaji wa matunda, madawa, mizizi na mazao mengine ya misitu kama asali itaruhusiwa kwa wenyeji kwa matumizi ya kawaida/nyumbani ya jamii bila vibali.

Kambi za watalii wapiga picha katika maeneo ya misitu yataruhusiwa kwa maelewano na serikali ya kijiji kinyume cha hapo rejea masharti hapo chini

Masharti a) Ni marufuku mtu yeoye au mwanaakijiji yeoye kukata miti kwa ajili ya biashara, kuchoma moto na kuchoma mkaa katika misitu iliyoko ndani ya mamlaka ya serikali ya kijiji bila kibali.

b) Ni marufuku kuweka makazi ya kudumu ,isipokuwa kambi za muda kwa wenyeji wawindaji/wakusanyaji katika maeneo yote ya misitu ya kijiji.

c) Ni kosa kulima au kuchunga katika maeneo yote yaliyohifadhi ndani ya kijiji.

d) Ni marufuku kuingia kwenye maeneo yote ya misitu na kufanya shughuli yeoye ya biashara kama kupiga kambi, picha au kufanya utafiti wowote bila idhini ya serikali ya kijiji.

Adhabu Atakayepatika na kosa atatozwa faini isiyopungua sh. 20,000/- au zaidi kulingana na kosa na kufikishwa mahakamani.

Kipengele Na. 5 Wanyama Pori

Maelezo Maeneo yote yaliyo tajwa katika sehemu ya pili ya sheria hii ni juu ni kwa ajili ya wanyama pori na siyo vinginevyo katika kanda cha juu kitongoji cha Domanga.

Uwindaji wa mila utafanywa na wenyeji (wawindaji/wakusanyaji) kwa kutumia upinde (silaha za jadi) na utakuwa ni uwindaji wa wanyama wadogo tu.

Uwindaji huu wa mila utaendelea kufuatana na azimio/ruksa waliopewa wawindaji/wakusanyaji na Rais wa Tanzania.

Uwindaji huu utafanyika bila vibali ila taratibu za uwindaji unaweza kupangwa na kubadilishwa kulingana na matakwa ya walengwa wenye kwa njia ya uamuza wa serikali ya kijiji kwa kufuata ushauri wa kamati ya wanyama pori, wataalamu wa ngazi ya kata na wilaya.

Wawindaji wawinde wanyama wadogo kwa ajili ya chakula tu.

Masharti 1) Ni marufuku kwa mtu yeoye kuingia maeneo ya kijiji na kuanza kuwindi bila kibali maalum kutoka Idara ya wanyapori Halmashauri ya Wilaya ya Mbulu na kupitia au kuidhimishwa na serikali ya kijiji na kuruhusiwa kufanya hivyo baada ya serikali ya pande/ngazi zote husika kuridhika na mtu huyo, Pia mtu huyo atalazimika kulipa/kuchangia mifuko wa maendeleo ya kijiji, kulingana na mapato yake. Makubaliano yatawekwa kati ya pande zote mbili zinazohusika.

2) Mwindaji ni lazima kibali chake ionyeshe orodha na aina ya wanyama anaotaka kuwinda, ni kosa kuwinda wanyama ambaa hapo kwenye orodha.

3) Ni marufuku mwindaji kuwinda jirani/karibu na makazi ya watu, lazima aonyeshwe na serikali ya kijiji eneo la kuwinda au kutega wanyama ili kuepuka athari ya kudhuru watu na mifugo.

4) Ni marufuku kwa mtu yeoye kuchukua wanyama hai, nyuki, ndege na mayai hapa kijijini bila kibali maalum kutoka idara ya wanyama pori wakishirikiana na Halmashauri ya wilaya na kijiji kupata ushauri kutoka kamati ya mazingira na maliasili ya kijiji cha Mongo wa Mono.

5) Ni marufuku kuwinda wanyama jike na adimu.

Adhabu Mwindaji au kampuni yeoye itakayokiuka sheria hii atafuzwa kijijini na kufikishwa mahakamani kwa mujibu wa sheria hii ndogo na sheria Mama ya wanyama pori ya Tanzania.

Kipengele Na. 6 Maji

Maelezo Mwenyekiti na Katibu wa kijiji wanao uwezo endapo wataridhika wa kuzuia matumizi ya chanzo chochote cha maji yaliyochafuli au ambayo yapo katika hatari ya kuchafuli na kwa hivyo kuweza kusababisha madhara ya afya za binadamu na wanyama.

Masharti Hakuna ruhusa kwa mtu yeoye kuchafua, kuchoma moto, kukata miti au kulima ndani ya eneo la mita 100m, kutoka chanzo vya maji (chemchem, visima na mito) ambayo ni kwa ajili ya matumizi ya binadamu na wanyama.

Adhabu Mtu yeoye atakayekiuka masharti haya atatozwa faini ya sh. 5,000/- na kama ni shamba atasimamishwa na kunyang'anya zana zake na kulipa gharama ya ucharibifu.

Kipengele Na. 7 Utalii

Maelezo Raia wote wa nje wanaopiga picha katika maeneo ya kijiji kama ilivyoelzeza kwenye sehemu ya pili ya matumizi bora ya ardhi.

Masharti 1) Ni marufuku kwa mtu yeoye kuingia kijijini na kuanza kufanya shughuli za kitalii na utafiti bila kuwa na mkataba na kijiji au kuwasiliana na kuruhusiwa na serikali ya kijiji.

2) Raia wa nje anayepiga picha katika maeneo ya kijiji atalazimika kuchangia mifuko ya maendeleo ya kijiji, aidha watafiti kutoka nje ya nchi, wanaofanya utafiti katika maeneo ya kijiji ya Mongo wa Mono, watawajibika kulingana na sheria hii kuchangia maendeleo ya Halmashauri ya kijiji na fedha hizo lazima zifunguliwe akaunti.

3) Raia wa nje kwa siku atachangia Sh.16,000/- au \$ 20 kwa wale watakojishughulisha na upigaji picha. Raia wa nje wanaofanya utafiti kwenye eneo na ndani ya jamii inayohusika atalazimika kulipa ada ya Tsh. 250,000/- kila baada ya miezi mitatu.

4) Mtu atakaye ruhusiwa na kijiji kufanya shughuli za kitalii kijijini ni lazima idadi ya wageni ifahamike, muda watakaokaa kijijini na mahali/sehemu watayoweka kambi na watalazimika kusaini kitabu cha wageni.

Adhabu: Mtu yeoye raia wa nje atakayekiuka sheria hii atatozwa faini isiyopungua 50,000/- na kufikishwa mahakamani (vyote kwa pamoja). Hakuna msamaha utakaotolewa.

Kipengele Na. 8 Biashara na Huduma mbalimbali

Maelezo Maeneo yote yaliyotajwa katika mpango wa matumizi bora ya ardhi Kitongoji cha Mongo wa Mono.

Masharti 1) Ni marufuku kufanya shughuli za biashara nje ya maeneo yaliyotajwa bila ruhusa ya serikali ya kijiji.

2) Ni marufuku mtu yeoye kutoka nje ya kijiji na kufanya biashara au shughuli yeoye katika eneo lilitotajwa bila kuruhusiwa na serikali ya kijiji.

3) Ni marufuku kuingiza au kufuga mifugo katika eneo hilo.

Adhabu Atakayekiuka sheria hii atatozwa faini isiyopungua sh. 3,000/- au kulingana na ucharibifu.

Kipengele Na. 9 Elimu

Maelezo Sheria ndogo hii itaitwa sheria ndogo ya Elimu ya 2000 ya Halmashauri ya kijiji cha Mongo wa Mono.

Kwa mujibu ya sheria ndogo hii ni kosa kwa kushindwa(kwa kutojali), kukataa kumpeleka shule mtoto aliyetimiza umri wa miaka saba.

Mtoto akishaanaza shule kumkataza kuhudhuria kila siku shule au kufanya vitendo ambavyo vitaathiri uwezekano wa mtoto kuhudhuria kila siku kama, kumtuma kazi yeoye badala ya kwenda shule, kumuuoza na au kumwingiza kwenye shughuli za biashara ya aina yeoye.

Masharti 1) Kila mzazi au mlezi ahakikishe kuwa kila mtoto mwenye umri wa kwenda shulen (6-7) apelekwe na anahudhuria masomo ya shule hiyo mpaka atakapomaliza masomo ya elimu ya msingi.

2) Ni marufuku kwa mtu yeoye kumwajiri mtoto wa shule kwenye kazi yeoye.

3) Kwa mujibu wa sheria hii ni kosa kumpa mtoto wa shule mimba au hata kumwandikia barua zinazohusu mambo ya mapenzi.

Adhabu Mtu yeoyete atakayekiuka sheria hii atakuwa na hatia na adhabu yake ni faini isiyozidi elfu kumi tu 10,000/-
Mzazi atakaye sababisha utoro wa mto shulenii atatozwa sh. 3,000/-

Kipengele Na. 10 Uhamiajji

Maelezo Uhamiaji ni kitendo cha mtu kuhama kijiji chake na kwenda kijiji kingine

Masharti 1) Mhamiaji ni lazima atume maombi yake kijijini kabl ya kuruhusiva kuingia, barua hiyo ionyeshe majina isiyi pungua matatua na iambatane na barua kutoka kijiji anako toka.

2) Mhamiaji haruhusiwi kuhamia kijijini bila kupata barua ya kukubaliwa au kukataliwa kijijini.

3) Mhamiajji ni lazima aonyeshe vibali vyake vya kijiji anayetoka na akubaliane na masharti ya wanakijiji iwapo ataruhusiwa kuhamia.

Adhabu Mtu atakayekiuka masharti haya atafukuzwa na kulipa uharibifu na għarama yevote aliyo sababha

Kipengele Na. 11: Madini

Maelezo Haya ni maeneo yote ndani ya kijiji ambayo madini ya aina yeyote yanapatikana.

Masharti Ni marufuku kwa mtu yeoye kufanya utafiti, kupegi au kuchimba madini katika sehemu yeoye kijiji ni bila kibali maalum kutoka serikali ya kijiji wakishirikiana na kata na wilaya. Mchimbaii atakave rubuswa kuchimba madini hapa kijiji ni lazima afuate masharti ya kijiji kama vile kulipa 50,000/- malipo ya kibali, pia atalipa asilimia thelasini (30%) ya mapato vake.

Adhabu Mtu au kampuni yevote atakavekiuka sheria hii atafukuzwa kiijinji na kufikiswaa mabakamani na kutozwa faini ya sh. 50,000/- au yvote kwa pamoja.

Kipengele Na. 12 Uchomaiji Moto oyvo

Maeleo Huu ni uchomaji moto holela usiozingatia taratibu za wenyeji na uhifadhi wa maliasili na mazingira. Uchomaji maalum ni kama vile kuchoma majani yaliyokoma ili kupata majani mapya kwa aili wanyama pori na mifugo ikiwa ni pamoja na kuu waduhu wanaoshambulia wanyama pori na mifugo kama vile kune na mbung'o.

Masharti Ni merufuku kuchorma moto ovvo katika maeneo yote ya kijiji vakiujewa maeneo meelum ya bifedhi ya wanja pori na misitu ya esili

Mtu statonus fairi us ab 10 000/- an lm fikishwa mahakamari.

Kipengele Na. 13 Uchomajii Mkaa

Maeleo Uchomaji mkaa ni kuteketeza na kuangamiza misitu yote ya asili katika mazingira wanayoishi wanadamu, wanyama na misitu ya asili isiyopandwa na mikono ya mwandanamu, hii ni zawadi kutokea kwa Mungu na mwandanamu banasi kuteketeza, kuharibuu au kuangamiza

Masharti Ni marufuku kwa mtu vevote kuchoma mkaa hapa kiiiiini, bila kibali kutoka serikali ya kiiiiini

Adhabu Mtu yvuto atakeyekiuju msharti haya statutoria faini ya sh. 50,000/- su zaidi kulingana na uheribifu aliyo sababisha na kuryang'anya wa mkaa.

SEHEMUYA NNE : Utaratibu wa kurebisha na kutekeleza mpango huu

1. Kamati ya mali asili na mazingira kwa kushirikiana na serikali ya kijiji kupitia maazimio ya mukutano mkuu wa kijiji inaweza kubadili, kurekebisha au kuzisahihisha sheria hizi ili kuongeza ufanisi endapo itaona kuna umuhimu wa kufanya hivyo. Endapo itaamuliwa katika mukutano mkuu wa kijiji ya kwamba sheria ndogo ama ifutwe au ibadilishwe maana yake, halmashauri ya kijiji inapwsa kuipeleka tena kwa halmashauri ya wilaya ili mabadiliko yaitishwe na kuidhinishwa.
 2. Litakuu jukumu la kijiji kutoa faini, kutoa vibali, na kutoa umuzi kwa shughuli zote zinazohusu sheria hizi ndogo. Lakini halmashauri ya kijiji inaweza kuagiza baadhi ya shughuli zote hizi kwa kamati ya mali asili na mazingira au ikibidi kwa Afisa Mtendaji, Mwenyekiti au mtu (watu) yeoyote. Kwa vyovoyte kamati au mtu aliyeqizwa atawajibika kwa halmashauri ya kijiji ambayo nayo itawajibika kwa mukutano mkuu wa kijiji
 3. Kamati ya mali asili na mazingira, itateuliwa na kubadilishwa na halmashauri/serikali ya kijiji na kuidhinishwa na mukutano mkuu wa kijiji - Kila baada ya miaka mitatu.
 4. Kamati ya mali asili na mazingira inaweza kuhakikisha ada zinalipwa vitakavystolewa. Fedha zote zitakazopatikana zitaingizwa katika akaunti ya kijiji na matumizi ya fedha yataamuliwa na serikali ya kijiji. Pia ni lazima serikali itoe taarifa/reporti ya mapato na matumizi kila baada miezi mitatu.
 5. Lazima itolewe stakabadhi ya nambari kwa ada zote, faini zote na mali zote zitakazotaifishwa.
 6. Kiongozi au mwaniakijiji yeoyote wa kijiji cha Mongo wa Mono anayo jukumu la kumkamata mtu yeoyote anayefanya kosa kinyume na sheria ya kijiji na kumfikisha katika serikali ya kijiji au kamati ya mali asili na mazingira.
 7. Ni wajibu wa kila mwaniakijiji kutoa taarifa ya ukiujiji wa sheria hizi kwa uongozi wa kijiji.
 8. Motisha itatolewa kwa mtu atakaye saidia kufichua uhalifu. Motisha itakuwa asilimia 25% ya chochote kitakachoo tozwa kama malipo.
 9. Kila kitongoji kitaweka utaritibu wa kulinda na kuthibiti matumizi mabaya ya mali asili na mazingira .(kamati ndogo ya watu wanne wa kile kitongoji)

Sheria hizi zitumike chini ya mamlaka ya Halmashauri au Serikali ya Kijiji cha Mono wa Mono kufuatana ma Hati ya Kumiliki Ardhi Na.

MUHURI WA HALMASHAURI YA
KIJII CHA MONGO WA MONO

(sahih)

(sahih)

Reuben Matayo
Mwenyekiti wa Serikali
ya Kijiji cha Mongo wa Mono.

Afisa Mtendaji wa Serikali
ya Kijiji cha Mongo wa Mono

Bryson Magombe

MUHURI WA HALMASHAURI YA WILAYA YA MBULU ULIWEKWA KULINGANA NA AZIMIO LILIPITISHWA NA KIKAO KILICHOKETI TAREHE 9 Oktoba, 2001
NA KUTHIBITISHWA NA:

Nakubali
(Sahihi)

Nakubali
(Sahihi)

Mhe. Issac D. Bayo
Mwenyekiti wa Halmashauri
(w) Mbulu.

Bw. Welhem L. Tsere
Mkurugenzi Mtendaji wa
Halmashauri (w) Mbulu.

MUHTASARI WA KIKAO CHA SERIKALI YA KIJIJI CHA MONGO WA MONO KILICHOKETI TAREHE - 26/05/ 2000.

Wajumbe waliohudhuria:

1.	Reuben Mathayo	-	Mwenyekiti.
2.	Bryicson I. Magombe	-	Katibu.
3.	Magandula Kizale	-	Mjumbe.
4.	Leocadiya Kampala	-	Mjumbe
5.	Anna Zengu	-	Mjumbe
6.	Joyce Zengu	-	Mjumbe
7.	Emiliana Tawashi	-	Mjumbe
8.	Laway Neema	-	Mjumbe
9.	Agustino Davi	-	Mjumbe
10.	Megasa Hangu	-	Mjumbe
11.	Gidamugaida Gidagwarda	-	Mjumbe
12.	Gidaburda Gayos	-	Mjumbe
13.	Msungu Gidag'awoga	-	Mjumbe
14.	Mkuyu Makanyange	-	Mjumbe
15.	Stephano Gimbi	-	Mjumbe

Wajumbe wasiohudhuria:

1.	Jiri Magombi
2.	Shabani Gidaguy
3.	Imbori Arusha
4.	Gidabude Gidahonda
5.	Gisaktaida Munik
6.	Samson Salimu
7.	Marta Salimu

Wakaribishwa (Wawezeshaji):

1.	Jovita Dukho	-	WEO Yaeda.
2.	Richard Baallow	-	CDA Yaeda.
3.	Danieli K. Ngoitiko	-	Tazama Dorobo, Arusha.
4.	Steven S. Mgomba	-	Kilimo, Mbulu.
5.	Dismas P. Meitaya	-	Tazama Dorobo, Arusha.

Agenda No. 1 Kufungua kikao
Kikao kilifunguliwa na mwenyekiti wa serikali ya kijiji mnamo saa 5:30 kwa kuwakaribisha wajumbe wote waliohudhuria na kuwataka kuchangia kwa makini agenda zilizo mbele yao. Pia
Mwenyekiti aliwapa pole wajumbe kutoka Vitongojini, Kata, Wilayani na Tazama Dorobo Arusha.

Agenda No. 2 Kusoma, kuchambua na kupitisha mpango wa kijiji wa
matumizi bora ya ardhi na sheria ndogo.

Kitibu Mtendaji wa Kijiji Bwana Bryceson I. Magombe alianza kwa kuwaelaza wajumbe wambua kwa muda mrefu tumekuwa tukijishughulisha na suala la uhifadhi wa mazingira na mpango wa
matumizi bora ya ardhi kijiji chetu. Kwa hiyo tumepeendekeza kuunda sheria ndogo za kijiji zifakazo saidia kulinda mipango yetu na kuratibu shughuli mbalimbali hapa kijijini. Mapendekezo
haya yanetokana na kazi kubwa iliyo fanywa na kamati ya mazingira na maliasili(KMM) ambayo iliweza kutembelea vitongoji vyote vya kijiji na kupata maoni yao iliyo peleka kuwepo na mpango
huu wa matumizi bora ya ardhi na kuundwa kwa sheria ndogo za kijiji. Mpango wote ulisomwa mbele ya wajumbe wa serikali ya kijiji na kueleza kipengele moja hadi kingine. Wajumbe
waliyachambua vipengele mbalimbali kwa kuboresha, kupunguza na kuongeza kama iliyoo nekana inafaa kufanya hivyo.
Baada ya uchambuzi wa kina iliyo fanywa na wajumbe, hatimaye mapendekezo ya vitongoji na kamati ya mazingira na maliasili kuhusu mpango wa matumizi bora ya ardhi, mazingira, maliasili na
huduma mbalimbali za jumii zilikubaliwa na kupitishwa na serikali ya kijiji kwa kauli moja.

Mwisho kikao kiliahirishwa na Mwenyekiti mnamo saa 10:30 jioni na kuwashukuru wote walioshiriki kwa michango yao ya dhati.

(sahihi)

(sahihi)

.....
Reuben Matayo
Mwenyekiti wa Kijiji cha
Mongo wa Mono

.....
Bryson Magombe
Afisa Mtendaji wa Kijiji cha
Mongo wa Mono

MUHTASARI WA MKUTANO MKUU WA KIJIJI CHA MONGO WA MONO ULIYOFANYIKA - 29/05/2000.

Waliohudhuria:

1.	Roben Matayo	-	Me
2.	Mahiya matulu	-	Me
3.	Isaya Meza	-	Me
4.	Malkia Mwengela	-	Me
5.	Samson Salimu	-	Me
6.	Gisena Nkinda	-	Me
7.	Paulo Marko	-	Me
8.	Muss Zenze	-	Me
9.	Matayo Mahiya	-	Me
10.	Emanueli Richard	-	Me
11.	Kassim Ibrahim	-	Me
12.	Manase Benjamin	-	Me
13.	Martini Gonga	-	Me
14.	Hamisi Martin	-	Me
15.	Marengereko Ngw'apo	-	Me
16.	Sanga Gudo	-	Me

17.	Mgere Gudo	-	Me
18.	Scania Martin	-	Me
19.	Saidi Zakayo	-	Me
20.	Mahiya Sandarwa	-	Me
21.	Jofrey makungu	-	Me
22.	Gryson Male	-	Me
23.	Paulo Mataturu	-	Me
24.	Marta Salimu	-	Ke
25.	Christina Salimu	-	Ke
26.	Raheli Paula	-	Ke
27.	Dorekas Doffu	-	Ke
28.	Elizabeth Lameck	-	Ke
29.	Herita Petro	-	Ke
30.	Halima Benjamin	-	Ke
31.	Eliwaza Philipo	-	Ke
32.	Mwangaza Mpanda	-	Ke
33.	Christina Paulo	-	Ke
34.	Milimo Marko	-	Ke
35.	Hadija Benjamin	-	Ke
36.	Veronika Kizale	-	Ke
37.	Soke Piwa	-	Ke
38.	Amina Martin	-	Ke
39.	Esther Martin	-	Ke
40.	Tatu Lengo	-	Ke
41.	Janeth Lukas	-	Ke
42.	Nyibara Fanu	-	Ke
43.	Teresia Mpanda	-	Ke
44.	Minja Marko	-	Me
45.	Piwa Ng'apo	-	Me
46.	Saitoti Isaya	-	Me
47.	Mile Kampala	-	Ke
48.	Sima Fanueli	-	Ke
49.	Selina Thomas	-	Ke
50.	Katarina Thomas	-	Ke
51.	Zablon Emanueili	-	Me
52.	Gidagutida Gemung'au	-	Me
53.	Gidagwaka Ng'aida	-	Me
54.	Manisi Gidahuya	-	Me
55.	Malamba Masawa	-	Me
56.	Agnes Mashimba	-	Ke
57.	Herita Emanuel	-	Ke
58.	Emiliaana Martin	-	Ke
59.	Tatu Abeli	-	Ke
60.	Gidagwakwa Gidali	-	Me
61.	Gidagwakwa Gidaungu	-	Me
62.	Gidale Gidawita	-	Me
63.	Esther Salimu	-	Ke
64.	Nyauda Burra	-	Me
65.	Gidakulaji Gaida	-	Me
66.	Gidagwakwa Gisagonga	-	Me
67.	Matayo Magha	-	Me
68.	Warin Ngurungu	-	Me
69.	Shanyad Gidahij	-	Me
70.	Gidamedebe Gitabega	-	Ke
71.	Gidamanida Gijaloda	-	Ke
72.	Udandi Gidabung'eda	-	Ke
73.	Joyce Zengu	-	Ke
74.	Kisima Gitabag	-	Ke
75.	Gitahaji Giliday	-	Ke
76.	Gileson Gasanoga	-	Me
77.	Gitando Gasanoga	-	Ke
78.	Ali Tarmo	-	Me
79.	Udametida Gayida	-	Ke
80.	Magisanga Hango	-	Ke
81.	Dahadeye Gasaku	-	Ke
82.	Malesh Nyedu	-	Ke
83.	Meambwe Gidale	-	Ke
84.	Hayuda Gidamaroj	-	Ke
85.	Gidamandita Gemung'au	-	Ke
86.	Udaweshweshida Ghaju	-	Ke
87.	Udauta Gongoro	-	Ke
88.	Marta Sanu	-	Ke
89.	Udawesh Tagino	-	Ke
90.	Udaghaduweda Gidagogo	-	Ke
91.	Majihexki Gilowe	-	Ke
92.	Udagabunga Gidamawenka	-	Ke
93.	Udabienjida Gidale	-	Ke
94.	Utu Name	-	Ke
95.	Ununu Nyudende	-	Ke
96.	Hawasi Gasanog	-	Ke
97.	Maghay Musungu	-	Ke
98.	Udagabunga Mashine	-	Ke
99.	Masiketa Gweku	-	Ke
100.	Fanus Tawashi	-	Me
101.	Danieli Kunuta	-	Me
102.	Jonson Emanuel	-	Me
103.	Magandula Kizale	-	Me
104.	Elinoli Yesaya	-	Ke
105.	Raeli Issa	-	Ke
106.	Soki Issa	-	Ke
107.	Charles Mpanda	-	Me
108.	Abas Muhina	-	Me
109.	Zephania Athumanzi	-	Me
110.	Siagi Philipo	-	Me
111.	Martin Nangay	-	Me
112.	Samson Kampala	-	Me
113.	Jumapili Makungu	-	Me
114.	Joseph Petro	-	Me
115.	Gidasena Gisina	-	Me
116.	Hotay Hagichan	-	Me
117.	Zakayo Rupande	-	Me
118.	Axwiso Danglish	-	Me
119.	Gimbi Saidi	-	Me
120.	Gafachu Mada	-	Me
121.	Iyaya sengwa	-	Me

122.	Sarawili Philipo	-	Me
123.	Ingita Siaga	-	Me
124.	Yohona Sarawili	-	Me
125.	Daniel Bilauri	-	Me
126.	Issak Maganga	-	Me
127.	Sqina Masangu	-	Me
128.	Maduru Philipo	-	Me
129.	Saidi Mlekwa	-	Me
130.	Juma Isaya	-	Me
131.	Fabiano Ingita	-	Me
132.	Masandawe Juma	-	Me
133.	Gidametida Majungu	-	Me
134.	Gadie Kwaslema	-	Me
135.	Balawa Gidahongwa	-	Me
136.	Karatuu Ako	-	Me
137.	Gisada Bokida	-	Me
138.	Gidale Momoya	-	Me
139.	Makanda Gidandete	-	Me
140.	Awaki Gidasangu	-	Me
141.	Ralea Diloda	-	Me
142.	Ine Warin	-	Me
143.	Gidamildi Giselsi	-	Me
144.	Gasambeda Gidaxoma	-	Me
145.	Daniel Duri	-	Me
146.	Mika Salasini	-	Me
147.	Dahaye Sungwa	-	Me
148.	Maloba Masungu	-	Me
149.	Kazana Zekayo	-	Me
150.	Bariheda Hiloga	-	Me
151.	Seghe Gidamubale	-	Me
152.	Gidaburida Dayosi	-	Me
153.	Gisagasi Matle	-	Me
154.	Haydahau Gimawe	-	Me
155.	Bashageda Gidadel	-	Me
156.	Hanje Gemoshi	-	Me
157.	Barie Malengeso	-	Me
158.	Gidakugede Langu	-	Me
159.	Gidabalaw Gamunga	-	Me
160.	Emanueli Geso	-	Me
161.	Martha Mpanda	-	Ke
162.	Soke Tulangi	-	Ke
163.	Gidamedu Bilos	-	Me
164.	Demay Gasaghe	-	Me
165.	Philipo Subaya	-	Me
166.	Lehada Gidahab	-	Me
167.	Magwer Masaelda	-	Me
168.	Seleli Uba	-	Me
169.	Amina Zengu	-	Ke
170.	Mogoshi Heghon	-	Me
171.	Juliana Athuman	-	Ke
172.	Mede Nangay	-	Ke
173.	Kaangwa Saidi	-	Ke
174.	Lameck Lukas	-	Me
175.	Maria Marko	-	Ke
176.	Raheli Zakayo	-	Ke
177.	Emiliana Tawash	-	Ke
178.	Gesha Tawash	-	Ke
179.	Mendi Hashi	-	Ke
180.	Mando Axweso	-	Ke
181.	Leocadiya Masangu	-	Ke
182.	Udagaramungu Genda	-	Ke
183.	Udanisho Gisohosi	-	Ke
184.	Usabarab gidahab	-	Ke
185.	Udamasahud Haghican	-	Ke
186.	Udamalele Manonga	-	Ke
187.	Udahabod Jokoda	-	Ke
188.	Unuwas Aweda	-	Ke
189.	Daati Matle	-	Ke
190.	Ngway Jonson	-	Ke
191.	Esther siagi	-	Ke
192.	Sefu Sangwa	-	Ke
193.	Nsalu Juma	-	Ke
194.	Sabina Siagi	-	Ke
195.	Gidamuswada Gidanulele	-	Me
196.	Jatoshitia Gisada	-	Me
197.	Gwatojan Dawita	-	Me
198.	Gidamusada Gidanyule	-	Me
199.	Gidamisi Balela	-	Me
200.	Gidabuger Heghon	-	Me
201.	Girigris Gitakayad	-	Me
202.	Gidashangi Hando	-	Me
203.	Nasto Giray	-	Me
204.	Mkuyu Makanyange	-	Me
205.	Naji Shangembe	-	Ke
206.	Ng'aida Dumel	-	Ke
207.	Majalu Axweso	-	Ke
208.	Hando Amsi	-	Me
209.	Xwasau Dagho	-	Me
210.	Udagutageta Gidahab	-	Ke
211.	Udabasati Hakwe	-	Ke
212.	Udamasau Sagwere	-	Ke
213.	Manamba Akonay	-	Me
214.	Golida Akonay	-	Me
215.	Polisi Akonay	-	Me
216.	Bulkhay Baran	-	Me
217.	Bdamaba Gidamani	-	Me
218.	Basati Susa	-	Me
219.	Boay Matle	-	Me
220.	Boay Sikay	-	Me
221.	Bude Gidanonda	-	Me
222.	Gidamisi Gidamadini	-	Me
223.	Qamunga Matle	-	Me
224.	Gitarda Lengu	-	Me
	Gidahayde Heghon	-	Me

225.	Habiba Marsel	-	Ke
226.	Saenga Gisagonga	-	Me
227.	Haldajota Tluway	-	Me
228.	Dapapai Gilosi	-	Me
229.	Hudayu Gidamti	-	Me
230.	Meitu Sungu	-	Me
231.	Bahili Darabe	-	Me
232.	Munyau Gidabota	-	Me
233.	Washin Sarau	-	Me
234.	Hhakwala Maganga	-	Me
235.	Bogali Roka	-	Me
236.	Gilanya Dawita	-	Me
237.	Gitalsu Gisamo	-	Me
238.	Gidabeka Gidafulada	-	Me
239.	Lohay Maganga	-	Me
240.	Bifa Akonay	-	Ke
241.	Bei Baso	-	Ke
242.	Dodo Kibaya	-	Me
243.	Shigabe Mahungwe	-	Ke
244.	Gidagan Gidawita	-	Ke
245.	Umboy Axwesso	-	Ke
246.	Tonga Masango	-	Ke
247.	Dumida Igamba	-	Ke
248.	Gidasada Gusili	-	Me
249.	Shabani Gidaguy	-	Me
250.	Gidabarida Nangai	-	Ke
251.	Gidang'eri Gidagurja	-	Ke
252.	Mandai Shingaded	-	Ke
253.	Minga Jacob	-	Ke
254.	Gaseri Giwako	-	Me
255.	Giloxoma Gidiko	-	Me
256.	Sarme Bariye	-	Me
257.	Alexander Gisajay	-	Me
258.	Gidakway Gidagurja	-	Me
259.	Gidawashi Darasi	-	Me
260.	Gidabaki Gidagurja	-	Me
261.	Slaa Giya	-	Me
262.	Gasmay Mangai	-	Me
263.	Arusha Mangai	-	Me
264.	Doho Gidodo	-	Me
265.	Salaini Amsi	-	Me
266.	Kibagi Hahanda	-	Ke
267.	Faustini Agustino	-	Me
268.	Salamu Chombe	-	Me
269.	Qanno Deleku	-	Ke
270.	Safari Siasi	-	Me
271.	Thehay Lala	-	Me
272.	Kwathema Dawi	-	Me
273.	Juma Nada	-	Me
274.	Baran Musaku	-	Me
275.	Samaki Gidauta	-	Me
276.	Safari Tarmo	-	Me
277.	Mamaao Gemush	-	Ke
278.	Majuma Axweso	-	Ke
279.	Guseri Gusse	-	Ke
280.	William Motte	-	Me
281.	Donali Ilianga	-	Me
282.	Masangu Mugunga	-	Me
283.	Gidamosh Shomonge	-	Ke

Wakaribishwa (Wawezeshaji):

1.	Jovita Dukho	-	WEO Yaeda
2.	Mh. Yonas Assecheck	-	Diwani Yaeda
3.	Richard Baalow	-	CDA Yaeda
4.	Daniel K. Ngoitiko	-	Tazama Dorobo - Arusha
5.	Steven S. Mgomba	-	Kilimo Mbulu
6.	Dismas P. Meitaya	-	tazama Dorobo - Arusha

Agenda No. 1 Kufungua kikao

Mwenyekiti wa kijiji aliwakaribisha wanakijiji wote na kuwaomba wajadili kwa makini mada iliyopo mbele yao.

Agenda No. 2 kupitia, kuchambua na kupitisha mpango wa kijiji wa matumizi bora ya ardhi na sheria ndogondogo.

Kitibu wa serikali ya kijiji alianza kusoma mpango huu mbele ya alaiki ya wanakijiji, alisoma kipengele moja hadi kingine. Wanakijiji walichangia sana katika kuboresha, kupunguza na kuongeza kwenye vipengele mbalimbali. Baada ya michango mbalimbali ya mawazo wanakijiji walipitisha kwa pamoa mpango wa matumizi bora ya ardhi, mazingira na maliasili kama mpango wa kijiji kizima.

Kikao kilihairishwa na Mwenyekiti yapata 11:00 jioni kwa kuwashukuru wanakijiji kwa uvumilivu wao na mchongo wao wa mawazo. Pia aliwashukuru wawezeshaji kwa mchongo wao wa kipekee wa kitaalamu kuelimisha wanakijiji juu ya mpango huu.

(sahihii)

(sahihii)

Sahihii ya Mwenyekiti wa
Kijiji cha Mongo wa Mono
JEDWALI A

Sahihii ya Afisa Mtendaji wa
Kijiji cha mongo wa mono

KITONGOJI	WAKAZI	SHUGHULI
1. Mongo wa Mono	Wahadzabe	Uwindaji na Ukusanyaji
2. Endajaj	Watatoga	Ufugaji
3. Mashinoda	Watatoga na Wairaq	Ufugaji na Ukulima
4. Mohaderar	Watatoga	Ufugaji
5. Domanga	Wahadzabe	Uwindaji na Ukusanyaji

JEDWALI B

KIPENGELE	KOSA	ADHABU
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1. Kilimo	Kulima nje ya maeneo yaliyotengwa	Sh. 5,000/- kwa kila ekari moja
2. Ufugaji	Kuchingia mifugo nje ya maeneo yaliyotengwa	Sh. 50,000/- au kufikiswa mahakamani
3. Makazi	Kuvunja masharti ya makazi	Sh. 3,000/- au kufukuzwa kijijini kama ni mtu wa nje
4. Misitu	Kuvunja sheria ndogo ya misitu	Sh. 20,000/- au kufikiswa mahakamani
5. Wanyama Pori	Kuvunja sheria ndogo ya wanyama pori	Kufukuzwa kijijini na kufikiswa mahakamani
6. Maji	Kuvunja sheria ndogo ya maji	Sh. 5,000/- na kulipa gharama za uharibifu
7. Biashara na Huduma	Kuvunja sheria ndogo ya Biashara na Huduma	Sh. 3,000/- au zaidi kulingana na uharibifu
8. Utalii	Kuvunja sheria ndogo ya utalii	Sh. 50,000/- na kulipa gharama za uharibifu au kufikiswa mahakamani.

JEDWALI C

KITONGOJI	MAKAZI YA KUDUMU	MAKAZI YA MUDA
1. M/Mono		
2. Endajaj		
3. Mashinoda		
4. Mohaderar		
5. Domanga		

MUHTASARI WA KIKAO CHA KAMATI YA MAENDELEO YA KATA(WDC) YA YAEDA CHINI KILICHOKETI - 02/06/2000.

Wajumbe waliohudhuria:

1.	Yonas Assecheck	-	M/kiti wa Kikao, (Diwani Kata)	
2.	Jovita Dukho	-	Katibu wa Kikao, (WEO Yaeda)	
3.	Bryson Isaac	-	Mwenyekiti wa CCM Kata	Mjumbe
4.	Juma H. Omari	-	Mwenyekiti kijiji Yaeda chini	Mjumbe
5.	Paulo Gutnok	-	Katibu kijiji Yaeda chini	Mjumbe
6.	Amosi G. Buay	-	Katibu kijiji	Mjumbe
7.	Reuben Matayo	-	Mwenyekiti kijiji cha Mongo	Mjumbe
8.	Tunzo Elangwa	-	NGO Assistant Yaeda	Mjumbe
9.	Nanagi Gisagas	-		Mjumbe
10.	Laurence Baynit	-	Mwl. Mkuu Yaeda	Mjumbe
11.	Mosses Lameck	-	CDC Yaeda	Mjumbe

Wajumbe Wasiohudhuria:

1.	Richard Baalow	-	CDA	-	Taarifa.
2.	Obedi Lionile	-	RMA	-	Taarifa.
3.	Manjano Mahiya	-	CDA	-	Mgonjwa.

Waliojokaribishwa:

1.	Nelson Ndutu	-	Katibu CCM Kata.
2.	S.S. Mgomba	-	Mwezeshaji, Kilimo Mbulu.
3.	D.P. Meitaya	-	Mwezeshaji, Tazama Dorobo - Arusha.
4.	D.K. Ngoitiko	-	Mwezeshaji, Tazama Dorobo - Arusha.

Agenda No. 1 Kufungua kikao

Mwenyekiti wa kikao aliwakaribisha wajumbe wote na kuwaomba kujadili kwa makini mada iliyo mbele yao.

Agenda No. 2 Kusoma, kuchambua na kupitisha mipango ya matumizi bora ya ardhi na sheria ndogo za vijiji vya Eshkesh, Mongo wa mono na Yaeda Chini.

Katibu wa kikao cha WDC Ndg. Jovita Dukho aliwasilisha mbele ya mukutano wa WDC mipango ya matumizi bora ya ardhi na sheria ndogo za vijiji vya Mongo wa Mono, eshkesh na Yaeda chini. Akianza alisema, mipango hii imeandalifi na kamati ya mazingira na maliasili ya kila kijiji washirikiana na wavezeshaji kutoka kata, wilaya na Tazama Dorobo na wanavitongoji wa vijiji tajwa juu. Aliwaeleza washiriki wote kuwa mpango huu tarayi umekubalika na kupitishwa katika ngazi za vitongoji, vilevile serikali ya vijiji husika imeshapitisha mipango hii.

Katibu wa WDC aliwasilisha kwa utaratibu wa kusoma mpango wa kila kijiji na baadaye kutoa nafasi kwa washiriki kujadili kwa kufanya masahihisho na marekebisho mbalimbali (Kuboresha, Kuongeza na kamati ya mazingira na maliasili ya kila kijiji washirikiana na wavezeshaji kutoka kata, wilaya na Tazama Dorobo na wanavitongoji wa vijiji tajwa juu. Aliwaeleza washiriki wote kuwa mpango huu tarayi umekubalika na kupitishwa katika ngazi za vitongoji, vilevile serikali ya vijiji husika imeshapitisha mipango hii.

Mhe.Yonas G. Assecheck
Mwenyekiti wa
WDC Yaeda Chini

Bw. Jovita Dukho
Katibu wa WDC
Yaeda Chini.

Annex 5: Monitoring Plan

**Attachment 1: Form for tracking land use information provided by community guards
(English added for the benefit of the PDD)**



Fomu ya taarifa ya kila mwezi kwa ajili ya shughuli maluum katika eneo la mradi ya carbon (*form for important activities related to the carbon project*)

Mwesi.....(month)

Mabadiliko ya matumizi ya ardhi (tarehe, eneo)
(*changes in land use, date and place*)

1.

2.

3.

Ujangili na uwindaji haramu (tarehe, eneo)
(*illegal poaching, date and place*)

1.

2.

3.

Hatua gani zilizochukuliwa?
(*Who was this reported to / by*)

1.

2.

3.

**Attachment 2: Form for monitoring the presence of large mammal species in project area
(English added for the benefit of the PDD)**



 carbon tanzania

Fomu ya taarifa ya kila mwezi kuhusu wanyama wakubwa (*Monthly form for monitoring large mammals*)

Mwesi (Month).....

Attachment 3: Timed Species Count (TSC) Data Sheet



 carbon tanzania

Timed Species Count data sheet Location / Atlas Sq.....

Date..... Start time..... Coord.....

Attachment 4: Avifauna Species List in Mongo Wa Mono and Domanga

Key

B	Breeding Activity
X	Suspected Breeding
/	Observed Presence
Bold Font	Species Endemic to Tanzania or East Africa

bno	species	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
1	Ostrich		/	/			/	/	/	/	/		
3	Black-necked Grebe	B	B	X						/			
4	Little Grebe	/	/	/			/			/		/	
11	White Pelican	/	/	/	/	/	/	/	/	/	/	/	
12	Pink-backed Pelican	/	/	/	/	/	/		/	/		/	
17	Long-tailed Cormorant	/	/	/	/	/	/	/	/	/			/
18	Greater Cormorant	/	/		/	/	/		/	/		/	
25	Grey Heron	/	/	/	/	/	/	/	/	/			
26	Goliath Heron			/									
27	Black-headed Heron	/	/	/	/	/	/		/	/	/	/	/
28	Purple Heron	/		/									
30	Squacco Heron	/	/	/	/	/	/		/			/	
31	Rufous-bellied Heron	/											
32	Cattle Egret	/	/	/	/	/	/	/	/	/	/	/	/
33	Green-backed Heron	/						/				/	
34	Great White Egret	/	/	/	/	/	/	/	/	/	/	/	
35	Black Heron	/		/									
36	Little Egret	/	/	/	/	/	/		/	/	/	/	/
38	Yellow-billed Egret	/	/	/		/	/	/	/	/	/		
40	Night Heron				/	/	/						
42	Hamerkop	/	/	/	/	/	/	/	X	/	/	/	/
43	Open-billed Stork	/	/	/	/	/	/		/	/	/	/	/
44	Abdim's Stork	/	/	/									
45	White Stork	/	/	/			/	/		/	/	/	/
46	Woolly-necked Stork	/	/										
47	Black Stork	/											
48	Saddle-billed Stork	/			/								
49	Marabou Stork	/	/	/			/	/		/	/	/	/
50	Yellow-billed Stork	/	/	/	/	/	/	/	/	/	/	/	/
51	Hadada Ibis	/		/	/		/	/			/	/	
53	Glossy Ibis	/	/	/	/	/	/	/	/	/	/	/	
54	Sacred Ibis	/	/	/	/	/	/	/	/	/	/	/	
55	African Spoonbill	/	/	/	/	/	/	/	B	/			
57	Lesser Flamingo	/	/	/		/	/	/	/	/	/	/	/
58	Greater Flamingo	/	/	/	X	/	/		/	/	/		
59	Fulvous Whistling Duck		B	/	/								
60	White-faced Whistling Duck	/	/	/	/		/		/	/	/	/	
61	Egyptian Goose	/	X	/	/	/	/	/	/	/	/	/	
62	Pintail												/
63	Cape Teal	/					/	/		/			
64	Shoveler	/		/									/
66	Red-billed Teal	/	/	/	/	/	/		/	/	/	/	
67	Hottentot Teal	/	/	/	/	/	/		/	/	/	/	
69	Garganey	/	/	/									/
72	Yellow-billed Duck	/	/	/						/			

73	Northern Pochard	/												
76	Southern Pochard	/	/	/	/	/	/	/	/	/	/			
77	African Pygmy Goose			/										
78	Maccoa Duck				/									
79	Spur-winged Goose	/	X	/	/	/	/	/	/	/	/	/		
80	Knob-billed Duck	/	X	/	/			/	/	/	/			
83	Secretary Bird	X	/	/			/	/	/					
85	White-backed Vulture		/	/				/	/	/	/			
86	Ruppell's Vulture			/				/	/	/	/			
87	Hooded Vulture	/		/							/			
88	Egyptian Vulture										/			
89	Lappet-faced Vulture	/		/				/	/	/	/			
90	White-headed Vulture		/	/			/	/			/			
92	Eurasian Marsh Harrier	/	/	/	/	/						/	/	
93	Pallid Harrier	/	/	/								/	/	
94	Montagu's Harrier	/	/	/				/				/	/	
95	African Marsh Harrier	/	/	/	/	/	/					/	/	
96	Gymnogene	/	/	/	/	/	/	/				/	/	
98	Brown Snake Eagle	/	/	/	/	/	/	/				X	/	
100	Black-chested Snake Eagle	/	/	/			/	/	/	/	/			
101	Bateleur	/	/	/	/	/	/	/						
102	Shikra											/		
107	Little Sparrowhawk		/	/								/		
111	African Goshawk		/				/							
114	Steppe Eagle	/	/									/		
115	Lesser Spotted Eagle	/												
116	Tawny Eagle	/	/	/	/	/	/					/	/	
117	Verreaux's Eagle	/		/	/							/	/	
118	Wahlberg's Eagle		/		/							/	/	
120	Augur Buzzard	/	/	/			/	/	/	/	/	/	/	
122	Common Buzzard	/	/	/			/					/		
127	Booted Eagle			/								/		
128	African Hawk Eagle	/	/	/	/	/	/					/	/	
130	Long-crested Eagle	/	/	/				/	/			/	/	
131	Gabar Goshawk	/	/	/	/	/	/					/	/	
132	Dark Chanting Goshawk	X	/	/	/	/	/	/	/			/	/	
133	Pale Chanting Goshawk	/	/	/				/	/	/		/	/	
134	Martial Eagle	/	/	/				/		/		/	/	
137	Fish Eagle	/	/	/	/							/	/	
138	'Black Kite'	/	/	/								/	/	
140	Honey Buzzard			/			/							
142	Black-shouldered Kite	/	/	/	/	/	/	/	/			/	/	
143	Bat Hawk											/		
147	Grey Kestrel	/	/					/		/		/	/	
148	Lanner Falcon			/		/						/	/	
151	Sooty Falcon			/										
152	African Hobby	/		/										
156	Lesser Kestrel	/	/	/										
158	Peregrine Falcon	/		/		/						/	/	
159	White-eyed Kestrel			/								/		
160	Hobby	/	/	/									/	
161	Kestrel	/	/	/				/						
163	Pygmy Falcon	/	/	/	/	/	/	/						
165	Common Quail		/	/	/			/						
166	Harlequin Quail	/	/	/	/	/	/							
167	Red-necked Spurfowl			/		/								

170	Coqui Francolin			/	/							/	
171	Hildebrandt's Francolin	/	/	/	/	/	/	/	/	/	/	/	
175	Yellow-necked Spurfowl						/	/	/	/	/	/	
181	Grey-breasted Spurfowl	/	X	X	/	/	/	/	/	/	/	/	/
182	Crested Francolin	/	X	/	/	/	/	/	/	/	/	/	/
183	Shelley's Francolin	/	/	/	/		/		/	/	/	/	
188	Crested Guineafowl			/								/	
190	Helmeted Guineafowl	/	X	/	/	/	/	B	X	/	/	/	/
191	Quail Plover			/									
193	Button Quail	/	/	/		/	/		/	/	/	/	
194	Grey Crowned Crane	/	/	/	/	/	/		/	/		/	
198	Lesser Moorhen											/	
199	Common Moorhen	/		/		/	/			/		/	
201	Black Crake	/	/	/	/		/	/		/	/		
202	Allen's Gallinule											/	
203	Purple Gallinule	/	/			/	/			/		/	
215	Red-knobbed Coot	/	X	X	/	/	/		/	/	/	/	
217	Hartlaub's Bustard	/	/	/									
218	Black-bellied Bustard	/	/	/	/		/		/	/	/	/	
219	Buff-crested Bustard	/	/	/	X	/	/	/	/	/	/	/	
220	White-bellied Bustard	X	/	/		/	/	/	/	/	/	/	
224	Kori Bustard	X	/	/	/	/	/	/	/	/	/	/	
225	Jacana	/	/	/	/	/	/	/		/		/	
226	Lesser Jacana	/											
227	Painted Snipe	/		/								/	
230	Caspian Plover	/	/	/								/	
233	Ringed Plover	/		/								/	
237	Chestnut-banded Sandplover	/	/	/	/			/		/		/	
238	Kittlitz's Sandplover	B	/	/	/		/	/	/	/	/	/	
239	Three-banded Sandplover	/	/	/	/	/	/	/	/	/	/	/	
243	Blacksmith Plover	/	/	/	/	/	B	/	B	/	/	/	
244	Crowned Plover	B	/	/	/	/	/	B	B	/	B	/	
245	Long-toed Plover	/	/		/								
247	Black-winged Plover	/	/							/	/		
248	Wattled Plover	/											
249	Spur-winged Plover	/		/						/	/	/	
252	Common Sandpiper	/	/	/	/		/	/		/	/		
255	Spotted Redshank												/
256	Wood Sandpiper	/	/	/						/	/	/	
257	Greenshank	/	/	/			/		/	/	/	/	
258	Green Sandpiper	/	/	/								/	
259	Marsh Sandpiper	/	/	/	/					/	/	/	
270	Curlew Sandpiper	/			/					/	/	/	
272	Little Stint	/	/	/	/					/	/	/	
274	Temminck's Stint	/											
278	Black-tailed Godwit	/	/	/						/	/		
279	Ruff	/	/	/	/					/	/	/	
281	Turnstone	/											
282	Black-winged Stilt	/	/	/	/	/	/		/	/	/	/	
283	Avocet	/	/	/				/	/	/	/	/	
287	Spotted Thicknee	/	/	/	/	/	/	/		/	/	/	
288	Stone Curlew						/			/			
290	Water Thicknee	/		/									/
292	Temminck's Courser			/									/
294	Two-banded Courser	/	/	/	B	/	/	/	/	/	/	/	
295	Violet-tipped Courser	/	/	/		/							

296	Heuglin's Courser		/	/	/	/						/
300	Collared Pratincole	/	/	/			/		/	/		/
306	Grey-headed Gull	/	/	/		/		/	/			/
307	Lesser Black-backed Gull	/										
317	Whiskered Tern	/	X	X	/	/	/	/	/	/		/
318	White-winged Black Tern	/	/	/	/		/		/			
320	Gull-billed Tern	/		/		/			/	/		
332	Black-faced Sandgrouse	/	/	/	/	/	B	/	/	/	/	/
333	Chestnut-bellied Sandgrouse	/	/				B	/	/			
334	Yellow-throated Sandgrouse		/			/	B	/	/	/		/
341	Speckled Pigeon	/	/	/	/	/	/	/	/	/		/
345	Namaqua Dove	/	/	/	/	/	B	/	/	/	/	/
346	Ring-necked Dove	/	/	/	/	/	/	/	/	/		/
347	Mourning Dove	/	/	/	/	/	/	/	/	/		/
348	Dusky Turtle Dove	/	/	/	/		/					
350	Red-eyed Dove	/	/	/	/	/	/	/	/	/		/
351	Laughing Dove	/	/	/	X	X	/	/	/	/		/
356	Emerald-spotted Wood Dove	X	/	X	X	X	/	/	/	/		/
357	Tambourine Dove		/	X	/	X	/	/				
358	Green Pigeon			/			/		/	/		/
361	Fischer's Lovebird	/	/	/	/	/	/	/	/	/		/
362	Yellow-collared Lovebird			/								
367	Brown Parrot	/	/	/	/	/	/	/	/	/		/
369	Orange-bellied Parrot											/
374	White-bellied Go-away Bird											/
375	Bare-faced Go-away Bird	/	/	/	/	/	/	/	/	/		/
388	Didric Cuckoo	/	/	/	/	/						/
389	Emerald Cuckoo	/	/	/								
391	Klaas' Cuckoo	/	/	/		/	/		/	/		
392	Great Spotted Cuckoo	/	/	/	/							/
393	Jacobin Cuckoo	/	/	/	/							
394	Levaillant's Cuckoo	/	/	/								/
395	Eurasian Cuckoo	/										/
396	Black Cuckoo	/	/	/								/
399	Red-chested Cuckoo	/	/	/								/
406	White-browed Coucal	/	X	/	/	/	/	/	/	/		/
407	Barn Owl	/	/	/		/	/		B	/	/	/
409	African Marsh Owl											/
412	Spotted Eagle Owl	/	/			/			X			
414	Verreaux's Eagle Owl				/		/	/		/		/
419	Pearl-spotted Owlet	/	/	/	/	/	/	/	/	/		/
422	White-faced Scops Owl		/			/	/					/
424	African Scops Owl	/	/	/		/	/		/	/		/
427	Slender-tailed Nightjar		/	/		/		/	/			/
431	Gabon Nightjar	/	/	/	/		/	/	/	/		/
439	Freckled Nightjar	/	/	X			/		/	/		/
442	Mottled Swift								/	/		
443	Little Swift	/	/	/	/		/			/		/
444	Eurasian Swift	/	/	/								/
447	White-rumped Swift		/		/							/
448	Horus Swift		/	/			X	/				
450	Nyanza Swift											/
452	Palm Swift	/	/	/	/		/	/		/		/
453	Scarce Swift		/									/
457	Mottle-throated Spinetail	/	/	/		/	/	/	/	/		/
459	Speckled Mousebird	/	/	X	/	/	/	/	/	/		/

460	Red-faced Mousebird			/									
461	Blue-naped Mousebird	/	/	/	/	/	/	/	/	/	/	/	/
472	Striped Kingfisher	/		/	/		/	/	/	/	/	/	/
473	Chestnut-bellied Kingfisher	/	/	/	/	X	/	/	/	/	/	/	/
475	Woodland Kingfisher	/	X	X	/	/	/	/			/	/	/
478	Pygmy Kingfisher	/	/	/	/	/	/			/	/	/	X
480	Eurasian Bee-eater	/	/	/							/	/	
488	Cinnamon Bee-eater			/				/		/			
490	Blue-cheeked Bee-eater	/	/	/	/					/			/
491	Little Bee-eater	/	/	X	X	/	/	/	/	/	/	/	/
493	Madagascar Bee-eater			/		/							
496	Lilac-breasted Roller	/	/	/	/	/	/	/	/	/	/	/	/
497	Eurasian Roller	/	/	/									/
498	Rufous-crowned Roller	/	X	/	/	/	/	/	/		/		/
502	Hoopoe	/	/	/	/	/	/	/	/	/	/	/	/
505	Scimitarbill	/	/										/
507	Abyssinian Scimitarbill	/	/	/	/	/	/	/	/	/	X	/	/
508	Green Wood Hoopoe	/	/	/	/	/	/	/	/	/	/	/	/
515	Crowned Hornbill		/	/									
517	Von der Decken's Hornbill	/	/	/	/	/	/	/	/	/	/	/	/
519	Pied Hornbill	/	/	/									/
524	Grey Hornbill	/	/	/	/	/	/	/	/	/	/	/	/
528	Ground Hornbill	/	/	/	/								
535	Red-fronted Barbet	/	/	/	/	/	/	/	/		/		/
539	Spot-flanked Barbet	X	/	/	X	X	/	/	/	/	/	/	/
540	White-headed Barbet	/	/	/	X		/	/	/	/	/	/	/
541	Black-throated Barbet	/	/	/	/	/	/	/	/	/	/	/	/
552	Red-fronted Tinkerbird	X	X	X	/	X	/	/	/	/	/	/	/
557	d'Arnaud's Barbet	/	/	/	/	/	/	/	/	/	/	/	/
558	Red & Yellow Barbet	/	/	/	/	/	/	/	/	/	/	/	/
559	Usambiro Barbet	/	/	/	/	/	/	/	/	/	/	/	/
563	Greater Honeyguide	/	/	/	/	/	/	/	/	/	/	/	/
566	Lesser Honeyguide	/	/	/	/	/	/	/					
578	Golden-tailed Woodpecker				/			/			/	/	/
583	Nubian Woodpecker	/	/	/	/	/	/	/	/	/	/	/	/
585	Cardinal Woodpecker	/	/	/									
590	Grey Woodpecker	/	/	/		/	/	/	/	/	/	/	/
594	Bearded Woodpecker	/	/	/	/	/	/				/	/	/
601	Red-capped Lark		/	/	/		/			/			
605	Fischer's Sparrow Lark	/	/	/	/	/	/	/	/	/	/	/	/
612	Rufous-naped Lark	/	/	/	/	/							
613	Fawn-coloured Lark	/	/	/	/	/	/		/	/	/	/	/
614	White-tailed Lark	/	/	/									
615	Singing Bush Lark			/									
617	Red-winged Bush Lark		/	/						/	/		
621	Flappet Lark	/	/	/	/	/	/		/	/	/	/	/
623	House Martin			/									
624	Striped Swallow	/	X	/	/	/	/	/	/		/		/
630	Red-rumped Swallow	/	X	/		/	/						
632	African Rock Martin	/	B	/	/	/	/	/	/	/	/	/	X
634	Barn Swallow	/	/	/	/	/					/	/	/
636	Mosque Swallow	/	/	/	/	/	/		/	/	/	/	/
637	Wire-tailed Swallow	/	/	/	X		B	B	B	/	/	/	/
639	White-headed Roughwing		/										
641	Banded Martin										/	/	
642	African Sand Martin	/	X	/		/	/	/	/	/			/

643	Sand Martin	/	/								/		
644	Drongo	/	/	/	/	/	/	/	/	/	/		
646	African Golden Oriole	/	/	/			/	/		/		/	
649	Black-headed Oriole	/	/	/	/		/	/	/	/	/	/	X
651	Golden Oriole		/	/									
653	White-naped Raven			/					/		/		
654	Pied Crow	/	/	/		/	/		/	/		/	
661	White-bellied Tit	/	/	/			/	/	/	/	/	X	
663	Red-throated Tit		/	/			/		/			/	
668	African Penduline Tit			/									
681	Arrow-marked Babbler	/	/	/	X	/	/		/	/	/	/	
685	Rufous Chatterer	/	/	/	X	/	/	/	/	/	/	/	
688	Black Cuckoo Shrike		/	X			/						
710	Yellow-bellied Greenbul	X	/	/	/	X	/	/	/	/	/	/	
716	Eastern Nicator		/										
732	Yellow-vented Bulbul	/	B	/	X	/	/	/	/	/	/	/	
744	White-browed Scrub Robin	X	/	/	/	/	/	/	/	/	/	/	
748	Spotted Morning Thrush	/	/	/	/	/	/	/	/	/	/	/	
751	White-browed Robin Chat	/	/	/	X	/	/	/	/	/	/	/	X
763	Sprosser	/	/	/	/								
769	Rock Thrush	/	/	/								/	
775	Isabelline Wheatear	/		/									
776	Schalow's Wheatear	/	/	/	/	/	/		/			/	
777	Northern Wheatear	/	/	/							/	/	
778	Capped Wheatear	/	/	/	/	/	/		/	/	/	/	
779	Pied Wheatear	/											
784	Stonechat		/	/								/	
792	Cliff Chat	/	/	/			/	/	/	/	/	/	
793	Olive Thrush			/									
805	Great Reed Warbler		/										
806	African Reed Warbler											/	
818	Yellow-breasted Apalis	/	/	/		/	/	/	/	/	/	/	
837	Grey-backed Camaroptera	X	/	X	/	X	X	/	/	/	/	/	
847	Desert Cisticola			/									
854	Rattling Cisticola	/	X	/	/	/	/	/	/	/	/	/	
859	Tabora Cisticola						/						
860	Winding Cisticola		/	/			/	/					
862	Zitting Cisticola	/	X	X									
873	Trilling Cisticola		/	/									
878	Yellow-bellied Eremomela												
888	Olivaceous Warbler	/											
899	Banded Parisoma	/	/	/			/		/	/	/	/	
900	Brown Parisoma			/									
902	Buff-bellied Warbler	/	X	X			/	/		/	/		
908	Willow Warbler	/	/	/								/	
913	Tawny-flanked Prinia	/	/	X		/	/		/	/	/	/	
917	Blackcap												
918	Garden Warbler			/									
919	Common Whitethroat												
921	Northern Crombec	/	/					/		/	/	/	
925	Red-faced Crombec	/	/	/		X	/	/	/	/	/	/	
927	Grey Flycatcher	/	/	X	/	/	/	/	/	/	/	/	B
928	Pale Flycatcher			/	/	/							
929	Silverbird	/	/	/	/		/		/	/	/	/	
935	Southern Black Flycatcher						/				/		
945	Spotted Flycatcher	/	/	/									

951	Chin-spot Batis	/	/	/	/	/	/	/	/	/	/	/	/
968	Paradise Flycatcher	/	/	X	/	/	/	/	/	/	/	/	/
977	Red-throated Pipit	/											
981	Grassland Pipit	/	/	/	/	/	/		/		/		
982	Long-billed Pipit								/				
986	Rosy-breasted Longclaw			X									
991	African Pied Wagtail	/	/	/	/	/	/	/	/	/	/	/	/
995	Mountain Wagtail												/
996	Yellow Wagtail	/	/	/	/								/
999	Black-backed Puffback	/	/	/		/	/	/	/	/	/	/	/
1004	Tropical Boubou			/		/				/			/
1006	Slate-coloured Boubou	/	/	/	/	/	/	/	/	/	/	/	X
1012	Grey-headed Bush Shrike	/	/	/	/	/	/		/	/	/	/	/
1019	Sulphur-breasted Bush Shrike	/	/	/	/	/	/		/	/	/		
1020	Brubru	/	/	/		/	/	/	/	/	/	/	/
1022	Brown-crowned Tchagra	/	/	X	/	/	/	/	/	/	/	/	/
1027	Magpie Shrike	/	/	/	/		/	/	/	/	/	/	/
1028	Long-tailed Fiscal	/		/		/	/		/		/		/
1029	Common Fiscal	/	/	/	/	/	/		/	/	/		/
1030	Red-backed Shrike	/	/	/	/								/
1031	Taita Fiscal		/	/									/
1032	Grey-backed Fiscal				/								/
1034	Red-tailed Shrike	/	/	/									
1041	Northern White-crowned Shrike	/	/	/	/	/	/	/	/	/	/	/	/
1043	White Helmet Shrike	/	B	B	/	/			/	/	/	/	/
1044	Grey-crested Helmet Shrike												/
1048	Violet-backed Starling	/	/	/					/	/	/	/	/
1051	Ashy Starling	/	X	X	X	/	/	/	/	/	/	/	/
1052	Wattled Starling	/	X	/	/	/	/	/	/	/	/	/	/
1055	Blue-eared Starling		/	/			/						/
1060	Ruppell's Starling			/									
1064	Red-winged Starling	/	/	/		/	/	/		/	/		/
1074	Hildebrandt's Starling	/	/	/	/	/	/	/	/	/	/	/	/
1076	Superb Starling	/	/	/	/	/	/	/	/	/	/	/	/
1077	Yellow-billed Oxpecker			/									
1078	Red-billed Oxpecker			/					/				/
1080	Collared Sunbird			/			/						
1084	Eastern Violet-backed Sunbird	/	/	X	/	/	/	/	/	/	/	/	/
1107	Mariqua Sunbird		/	/									/
1116	Beautiful Sunbird	X	X	X	X	/	/	/	/	X	X	X	X
1122	Scarlet-chested Sunbird	/	B	X	/	/	/	/	/	/	/	/	/
1128	Variable Sunbird	/	/	/	X	/	/	/	/	/	/	/	/
1131	Abyssinian White-eye	/	/	/					/	/	/		
1134	Grosbeak Weaver	B		X	/		/			/			/
1135	Red-headed Weaver	/	X	X					/				/
1137	Yellow-crowned Bishop		X	X									
1138	White-winged Widowbird	X	X	X				/					
1139	Red-naped Widowbird		X	X	X	X							
1140	Fan-tailed Widowbird	X	X	X									/
1141	Yellow Bishop	X	X	X			/		/				
1144	Black Bishop	X	X	X	X	X	X						
1146	Black-winged Red Bishop	X	X	X	X	X	/	/		/	/		/
1148	Yellow-mantled Widowbird			X	X		/						
1150	Southern Red Bishop	X	X	X	X	X	/						

1165	Village Weaver		B	X	/	/							
1170	Masked Weaver	X	X	B	X						X	/	
1171	Golden-backed Weaver	X	B	X		X	X						
1176	Black-necked Weaver	/		/	/	/	/	/		/			
1177	Spectacled Weaver	/		/									
1180	Chestnut Weaver	X	X	X		/					X	/	
1181	Speke's Weaver	X	X	X		/					/	X	
1187	Vitelline Masked Weaver	X	B	X	X	X	/			/	/	/	
1189	Holub's Golden Weaver		/	X	/	/	/	/	/	/	/	/	X
1191	Cardinal Quelea	X	B	/	/								
1192	Red-headed Quelea	/	/	/			/						
1193	Red-billed Quelea	/	X	/	X	/		/	/	/	/	/	/
1195	Red-billed Buffalo Weaver	/	X	X	X	/	/	/	/	/	/	/	
1196	White-headed Buffalo Weaver	/	X	/	/	/	/	/	/	/	/	/	
1197	Rufous-tailed Weaver	/	X	X	X	/	X		/	/	/	/	X
1201	Grey-capped Social Weaver	/	B	X	/	/	/	/	/	/	X	X	/
1205	Chestnut Sparrow	X	X	X							/	X	
1206	Grey-headed Sparrow	/	B	/	/	/	/	/	/	/	/	/	/
1207	Rufous Sparrow			/							/	/	X
1208	Yellow-spotted Petronia		/			/		/			/	/	/
1210	Speckle-fronted Weaver	/	/	/	/	/	/	/	/	/	/	/	X
1211	Village Indigobird	X	X	X	X	X	/	/	/				
1212	Dusky Indigobird		/	/	/								
1214	Straw-tailed Whydah	X	X	X	X	X	/	X	/				
1215	Steel-blue Whydah	X	X	X	X	X							
1216	Pin-tailed Whydah	X	X	X	X	X	/	/				X	/
1218	Eastern Paradise Whydah	X	X	X	X	X	/			/	/	X	
1219	Zebra Waxbill												/
1226	Common Waxbill			/			/				/		
1228	Black-cheeked Waxbill	/	/	/	/					/	/	/	
1233	Crimson-rumped Waxbill	/	/	X	/	X	/	/	/	/	/	/	/
1238	Jameson's Firefinch												/
1239	African Firefinch	/	/	/	/		/	/	/	/	/	/	/
1241	Red-billed Firefinch	X	/	X	X	X	X	/	/	/	X	/	X
1249	Quailfinch		/										
1256	Green-winged Pytilia	/	/	X	/	X	/	/	/	/	/	/	/
1261	Red-cheeked Cordonbleu	/	/	X	/	/	/	/	/	/	/	/	/
1262	Blue-capped Cordonbleu	/	/	B	/	/	/	/	/	/	/	/	/
1263	Purple Grenadier	/	/	/	/	/	/		/	/	/	/	/
1264	Cut-throat			/					/		/	/	/
1268	Grey-headed Silverbill		/	/		/	/						/
1269	Silverbill			/									
1273	Golden-breasted Bunting	/	/	X	/	/	/		/	/	/	/	/
1278	Cinnamon Rock Bunting	/	/	/	/	/	/		/	/	/	/	/
1280	Yellow-rumped Seedeater	/	/	/	/	/	B	/	/	/	/	/	/
1283	East African Citril	/		/		/			/				/
1285	White-bellied Canary	/	/	/	/	/	/	/	/	/	/	/	/
1290	Yellow-fronted Canary	/	/	/	/	/	/	/	/	/	/	/	/
1292	Streaky Seedeater			/									
1293	Brimstone Canary								/	/			
9016	African Hoopoe	/	/	/		/	/			/	/	/	
9052	Swahili Sparrow	/	X	/			/	/		/	/	/	
9073	Yellow-billed Kite	/	/	/									
9085	Ruaha Hornbill	/	/	/	/	/	/	/	/	/	/	/	/

Attachment 5: Form for tracking payments to community guards (walinzi wajadi)
(English added for the benefit of the PDD)



P.O. Box 15111, Arusha. Tel: +255-27-2502300

Email: Info@ujamaa-crt.org

Emai: info@carbontanzania.com

**FOMU KWA AJILI YA MALIPO YA POSHO WALINZI WAJADI MONGO WA
 MONO/DOMANGA/BONDE YA YAIDA**

PURPOSE/ACTIVITY.....DATE.....

NO.	Jina (name)	Kiasi (amount)	Sahihi (signature)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
30.			
31.			
32.			
33.			
34.			
35.			
36.			
TOTAL			

Annex 6: Database Templates

Attachment 1: Database for tracking data from community-based land use monitoring

Activity monitoring		Year	Month	Activity reported	Location	By who	Agriculture	area (acre)	area (ha)	Hunting	species	number
		2011	Oct	Agricultural land conversion	Domanga Mongo Wa Mono	General Maatias Naftali Moses	Maize	3	1.21405693	Poaching 1-3 people No gun	Bush Buck	1

Attachment 2: Database used for internal tracking of ex-ante carbon credit sales

Offsetter	2007	2008	2009	2010	2011	2012	Totals
Summits Africa		\$597	\$588	\$558	\$952		\$2,695
Asilia				\$1,877	\$3,422		\$5,299
Braeburn School		\$577	\$1,329				\$1,906
Regional Air			\$3,762				\$3,762
The Map's Edge				\$84	\$448		\$532
				\$202	\$469		\$671
				\$214	\$601		\$815
				\$996	\$2,206		\$3,202
				\$767	\$1,005		\$1,772
				\$559	\$222		\$781
				\$575			\$575
				\$57			\$57
				\$121			\$121
				\$421			\$421
A&K				\$2,221			\$2,221
Sanctuary Lodges				\$1,220			\$1,220
Sanjan		\$965					\$965
MBS		\$520					\$520
JAS		\$350					\$350
UK offsets (various companies)			\$1,472				\$1,472
Nature Discovery					\$598		\$598
					\$763		\$763
Unknown		\$808					\$808
Nomad trust (book)	\$50						\$50
	\$50	\$3,817	\$7,151	\$9,872	\$10,686		\$31,576
						tCO2e	3157.6 (@ US\$10/t)

Attachment 3: Database for tracking payments to producers

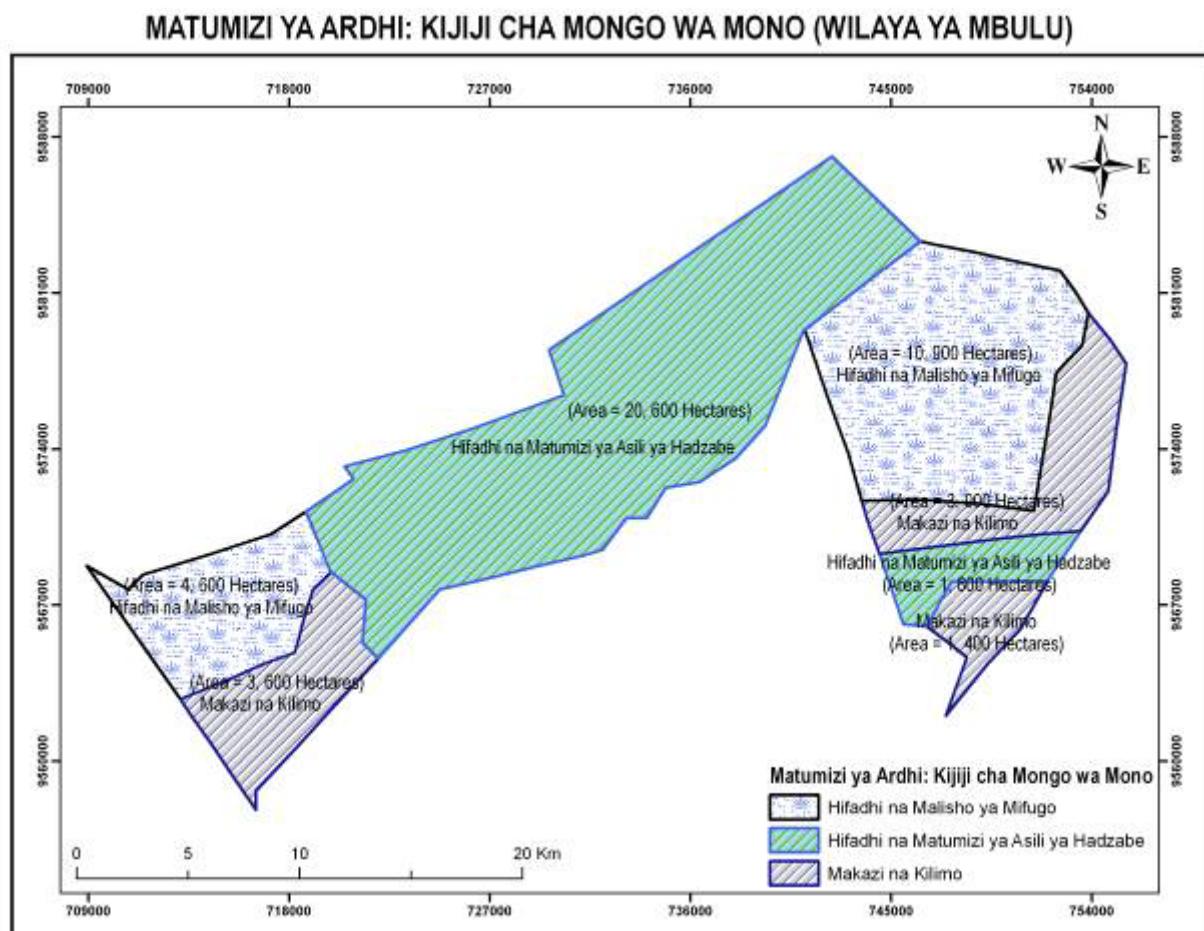
2012

# PVCs Issued	# PVCs Sold	Revenue from PVCs (US\$)	Revenue from PVCs (Tshs) Exchange at 1:1500
Payments to Producers		Date Paid	Amount Paid US/TZS
Mongo Wa Mono Village Account		/	
Domanga Village Account		/	
Jamii Fund (Mongo Wa Mono)		/	
Jamii Fund (Domanga)		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Mongo Wa Mono Village Account		/	
Domanga Village Account		/	
Jamii Fund (Mongo Wa Mono)		/	
Jamii Fund (Domanga)		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Community Guards and Coordinator		/	
Totals:		100%	60%*

*Project coordinator to pay producers a minimum of 60% of revenues over the lifetime of the project. The project coordinator will recoup initial start up and technical costs in the first two years of the project and encounter higher project development costs within the first few years after certification, after which project development and management costs will reduce substantially to a smaller percentage of the overall project costs, thereby leaving a larger surplus year-on-year for local producers.

Annex 7: Example Forest Management Plan

A land use plan, developed by the villages, divides the area into seven land use zones each designated as one of three land use types: housing and farming, grazing, and protected areas.

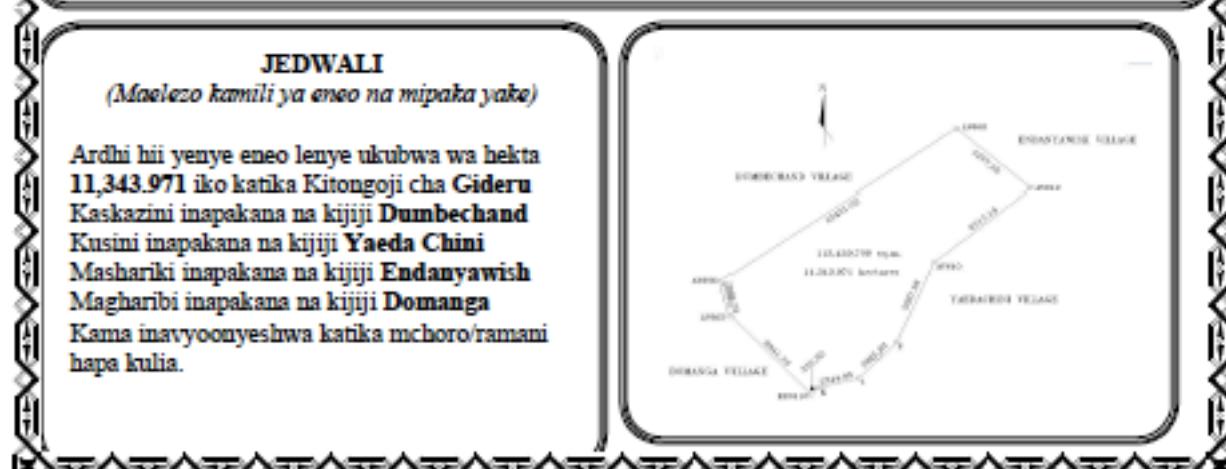
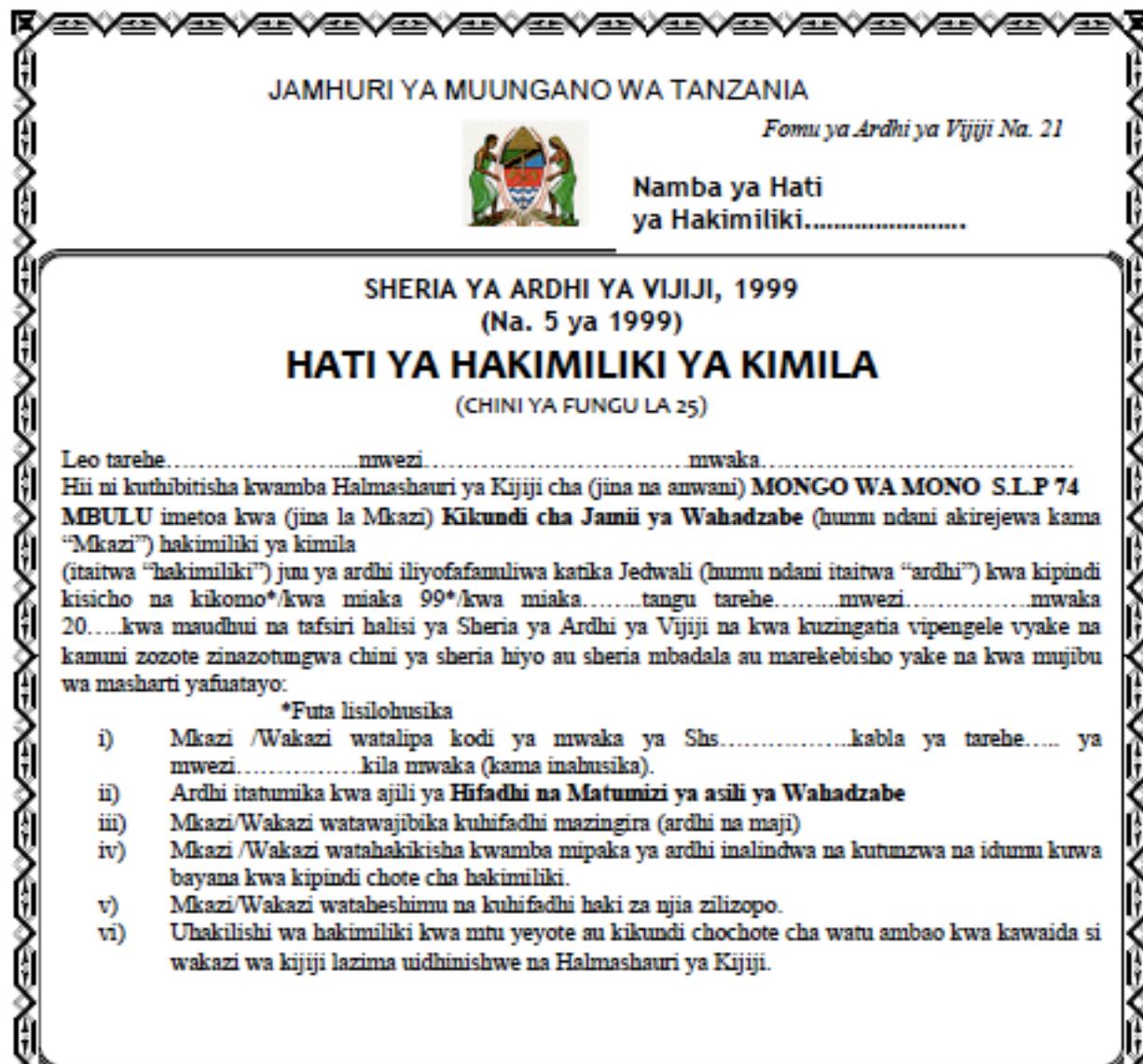


Map datum and Projection: WGS 1984, Zone 36 S: Map drawn by UCRT, 2010

Key	
Hifadhi na malisho ya mifugo	(Protected area with grazing for domesticated animals)
Hifadhi na matumizi ya Asili ya Hadzabe	(Protected area for utilization for cultural livelihoods by Hadzabe)
Makazi na kilimo	(Area designated for housing and farming)

Annex 8: Permits and Legal Documentation

Attachment 1: Land deed of project area in Mongo Wa Mono to Hadzabe



JAMHURI YA MUUNGANO WA TANZANIA

Fomu ya Ardhi ya Vijiji

HATI NA.....

IMESAHLIWA TAREHE:

17/12/2011

MUDA.....

4.00 Km

APISA ARDHI WA WILAYA
D. N. M.



Namba ya Hati
ya Hakimiliki.....

SHERIA YA ARDHI YA VIJIJI, 1999
(Na. 5 ya 1999)

HATI YA HAKIMILIKI YA KIMILA

(CHINI YA FUNGU LA 25)

Leo tarehe.....mwezi.....mwaka.....

Hii ni kuthibitisha kwamba Halmashauri ya Kijiji cha (jina na anwani) **MONGO WA MONO** : **MBULU** imetoa kwa (jina la Mkazi) **Kikundi cha Jamii ya Wahadzabe** (humu ndani akire “Mkazi”) hakimiliki ya kimila (itaitwa “hakimiliki”) juu ya ardhi iliyofafanuliwa katika Jedwali (humu ndani itaitwa “ardhi”) kisicho na kikomo*/kwa miaka 99*/kwa miaka.....tangu tarehe.....mwezi.....20....kwa maudhui na tafsiri halisi ya Sheria ya Ardhi ya Vijiji na kwa kuzingatia vipengelimu zinazotungwa chini ya sheria hiyo au sheria mbadala au marekebisho yake na kwa masharti yafuatayo:

*Futa lisilohusika

- i) Mkazi /Wakazi watalipa kodi ya mwaka ya Shs.....kabla ya taranu mwezi.....kila mwaka (kama inahusika).
- ii) Ardhi itatumika kwa ajili ya **Hifadhi na Matumizi ya asili ya Wahadzabe**
- iii) Mkazi/Wakazi watawajibika kuhifadhi mazingira (ardhi na maji)
- iv) Mkazi /Wakazi watahakikisha kwamba mipaka ya ardhi inalindwa na kutunzwa na i bayana kwa kipindi chote cha hakimiliki.
- v) Mkazi/Wakazi wataheshimu na kuhifadhi haki za njia zilizopo.
- vi) Uhakilishi wa hakimiliki kwa mtu ye yeyote au kikundi chochote cha watu ambao kwa wakazi wa kijiji lazima uidhinishwe na Halmashauri ya Kijiji.

JEDWALI

(Maelezo kamili ya eneo na mipaka yake)

Ardhi hii yenyne eneo lenye ukubwa wa hektaa **11,343.971** iko katika Kitongoji cha **Gideru** Kaskazini inapakana na kijiji **Dumbechand** Kusini inapakana na kijiji **Yaeda Chini** Mashariki inapakana na kijiji **Endanyawish** Magharibi inapakana na kijiji **Domanga** Kama inavyoonyeshwa katika mchoro/ramani kama kulia



1. Jina kamili..... G.DABUDI RUDAHONDA

Saini..... Dolegwa.

Anuani..... P.O. BOX 74 - MBULU

Wadhifa: **Mwenyekiti wa Kijiji**

Jina kamili..... PASCHAL J. KADEMA

Saini..... Dolegwa.

Anuani..... P.O. BOX 74 - MBULU

Wadhifa: **Afisa Mtendaji wa Kijiji**

LAKIRI/MU
WA
HALMASHA
YA KIJIJ



2. Mmiliki (Mkazi)

Jina

Saini/ dole gumba

PICH

(i) MICUNI MAKAN YANGE KANUNI
MWAKILISHI WA JAMII



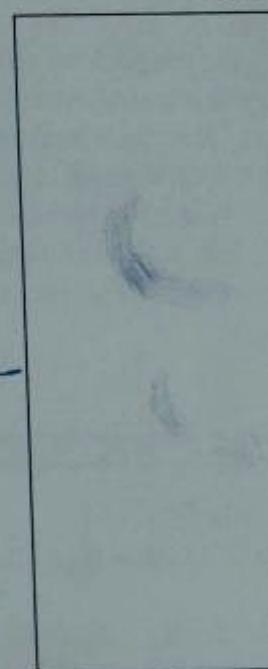
(ii) JULIANA ATTUMASI TULANGI
MWAKILISHI WA JAMII



(iii) RICHARD BAAHON MUNGUDA RHBaillon
MWAKILISHI WA JAMII



(iv) HASSAN! TULANGI! IHEME
MWAKILISHI WA JAMII

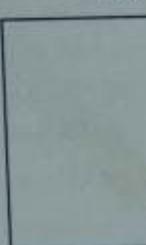


3. Imegongwa Lakiri ya Halmashauri ya
Wilaya ya ... MBULU na
Kusainiwa leo Tarehe..... 17
Mwezi..... 10 Mwaka 20.11. }
Jina: DEGOLATIUS J. MAFIKY

LA

Saini: Dolegwa.

Wadhifa: **Afisa Ardhi wa Wilaya**



Attachment 2: Land deed of project area in Domanga to Hadzabe

JAMHURI YA MUUNGANO WA TANZANIA

Fomu ya Ardhi ya Vijiji Na. 21



Namba ya Hati
ya Hakimiliki.....

SHERIA YA ARDHI YA VIJIJI, 1999
(Na. 5 ya 1999)

HATI YA HAKIMILIKI YA KIMILA

(CHINI YA FUNGU LA 25)

Leo tarehe..... mwazi..... mwaka.....
Hii ni kuthibitisha kwamba Halmashauri ya Kijiji cha (jina na anwani) DOMANGA S.L.P 74
MBULU imetoa kwa (jina la Mkazi) Kikundi cha Jamii ya Wahadzabe (numu ndani akirejewa kama "Mkazi") hakimiliki ya kimila
(itaitwa "hakimiliki") jum ya ardhi iliyofafanuliwa katika Jedwali (numu ndani itaitwa "ardhi") kwa kipindi
kisicho na kikomo*/kwa miaka 99*/kwa miaka.....tangu tarehe.....mwazi.....mwaka
20....kwa maudhui na tafsiri halisi ya Sheria ya Ardhi ya Vijiji na kwa kuzingatia vipengele vyake na
kamuni zozote zinazotungwa chini ya sheria hiyo au sheria mbadala su marekebisho yake na kwa mujibu
wa masharti yafuatayo:

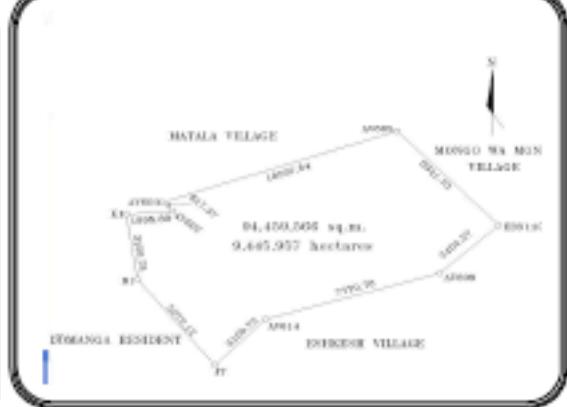
*Futa lisilohusika

- i) Mkazi /Wakazi watalipa kodi ya mwaka ya Shs..... kabla ya tarehe.... ya
mwazi..... kila mwaka (kama inahusika).
- ii) Ardhi itatumika kwa ajili ya Hifadhi na Matumizi ya asili ya Wahadzabe
- iii) Mkazi/Wakazi watawajibika kuhifadhi mazingira (ardhi na maji)
- iv) Mkazi /Wakazi watahakikisha kwamba mipaka ya ardhi inalindwa na kutunzwa na idumu kuwa
bayana kwa kipindi chote cha hakimiliki.
- v) Mkazi/Wakazi wataheshimu na kuhifadhi haki za njia zilizopo.
- vi) Uhakilishi wa hakimiliki kwa mtu yeyote au kikundi chochote cha watu amba kwa kawaida si
wakazi wa kijiji lazima uidhinishwe na Halmashauri ya Kijiji.

JEDWALI

(Maelezo kamili ya eneo na mipaka yake)

Ardhi hii yenyenye eneo lenye ukubwa wa hektaa
9,445.957 iko katika Kitongoji cha Domanga
Kaskazini inapakana na kijiji Matala
Kusini inapakana na kijiji Eshkesh
Mashariki inapakana na kijiji Mongo wa mono
Magharibi inapakana na Makazi ya Domanga
Kama inavyoonyeshwa katika mchoro/ramani
hapa kulia.



JAMHURI YA MUUNGANO WA TANZANIA

Fomu ya Ardhi ya Vijiji Na. 21

HATI NA.....
IMESAJILIWA TARHE
17/07/2011



Namba ya Hati
ya Hakimiliki.....

MUDA.....

SHERIA YA ARDHI YA VIJIKI, 1999
(Na. 5 ya 1999)

AFISA ARDESI WA MUDAWA

HATI YA HAKIMILIKI YA KIMILA

(CHINI YA FUNGU LA 25)

Leo tarehe.....mwezi.....mwaka.....

Hii ni kuthibitisha kwamba Halmashauri ya Kijiji cha (jina na anwani) **DOMANGA S.L.P 74**

MBULU imetoa kwa (jina la Mkazi) **Kikundi cha Jamii ya Wahadzabe** (humu ndani akirejewa "Mkazi") hakimiliki ya kimila

(itaitwa "hakimiliki") juu ya ardhi iliyosafanuliwa katika Jedwali (humu ndani itaitwa "ardhi") kwa kisicho na kikomo*/kwa miaka 99*/kwa miaka.....tangu tarehe.....mwezi.....n 20.....kwa maudhui na tafsiri halisi ya Sheria ya Ardhi ya Vijiji na kwa kuzingatia vipengele vyatkanuni zozote zinazotungwa chini ya sheria hiyo au sheria mbadala au marekebisho yake na kwa rwa masharti yafuatayo:

*Futa lisilohusika

- i) Mkazi /Wakazi watalipa kodi ya mwaka ya Shs.....kabla ya tarehe.. mwezi.....kila mwaka (kama inahusika).
- ii) Ardhi itatumika kwa ajili ya **Hifadhi na Matumizi ya asili ya Wahadzabe**
- iii) Mkazi/Wakazi watawajibika kuhifadhi mazingira (ardhi na maji)
- iv) Mkazi /Wakazi watahakikisha kwamba mipaka ya ardhi inalindwa na kutunzwa na idumi bayana kwa kipindi chote cha hakimiliki.
- v) Mkazi/Wakazi wataheshimu na kuhifadhi haki za njia zilizopo.
- vi) Uhakilishi wa hakimiliki kwa mtu ye yeyote au kikundi chochote cha watu amba kwa kawakazi wa kijiji lazima uidhinishwe na Halmashauri ya Kijiji.

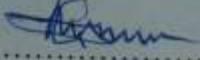
JEDWALI

(Maelezo kamili ya eneo na mipaka yake)

Ardhi hii yenye eneo lenye ukubwa wa hekta **9,445.957** iko katika Kitongoji cha **Domanga** Kaskazini inapakana na kijiji **Matala** Kusini inapakana na kijiji **Eshkesh** Mashariki inapakana na kijiji **Mongo wa mono** Magharibi inapakana na **Makazi ya Domanga** Kama inavyoonyeshwa katika mchoro/tamani hapa kulia.



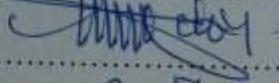
1. Jina kamili GERSON MALLE ZUGIWA

Saini.....


Anuani. S.L.P. 74 MBULU

Wadhifa: Mwenyekiti wa Kijiji

Jina kamili PAULO GANTHA

Saini.....


Anuani. S.L.P. 74 MBULU

Wadhifa: Afisa Mtendaji wa Kijiji

2. Mmiliki (Mkazi)

Jina

Saini/ dole gumba

PI

(i). Marko Mussa Mazingiri
MWAKILISHI WT Jamii



(ii). Mwangaza Mpanda Bagaya
MWAKILISHI WT Jamii



(iii). Pili Gudo Mahiya
MWAKILISHI WT Jamii

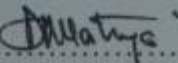


(iv). Martini petro Dunkuru
MWAKILISHI WT Jamii

3. Imegongwa Lakiri ya Halmashauri ya
Wilaya ya MBULU na
Kusainiwa leo Tarehe 17
Mwezi KO Mwaka 2011

}

Jina: DEOGRATUS S. MATIYA

Saini:.....


Wadhifa: Afisa Ardhi wa Wilaya

LAKIRI/
W
HALMA
YAK

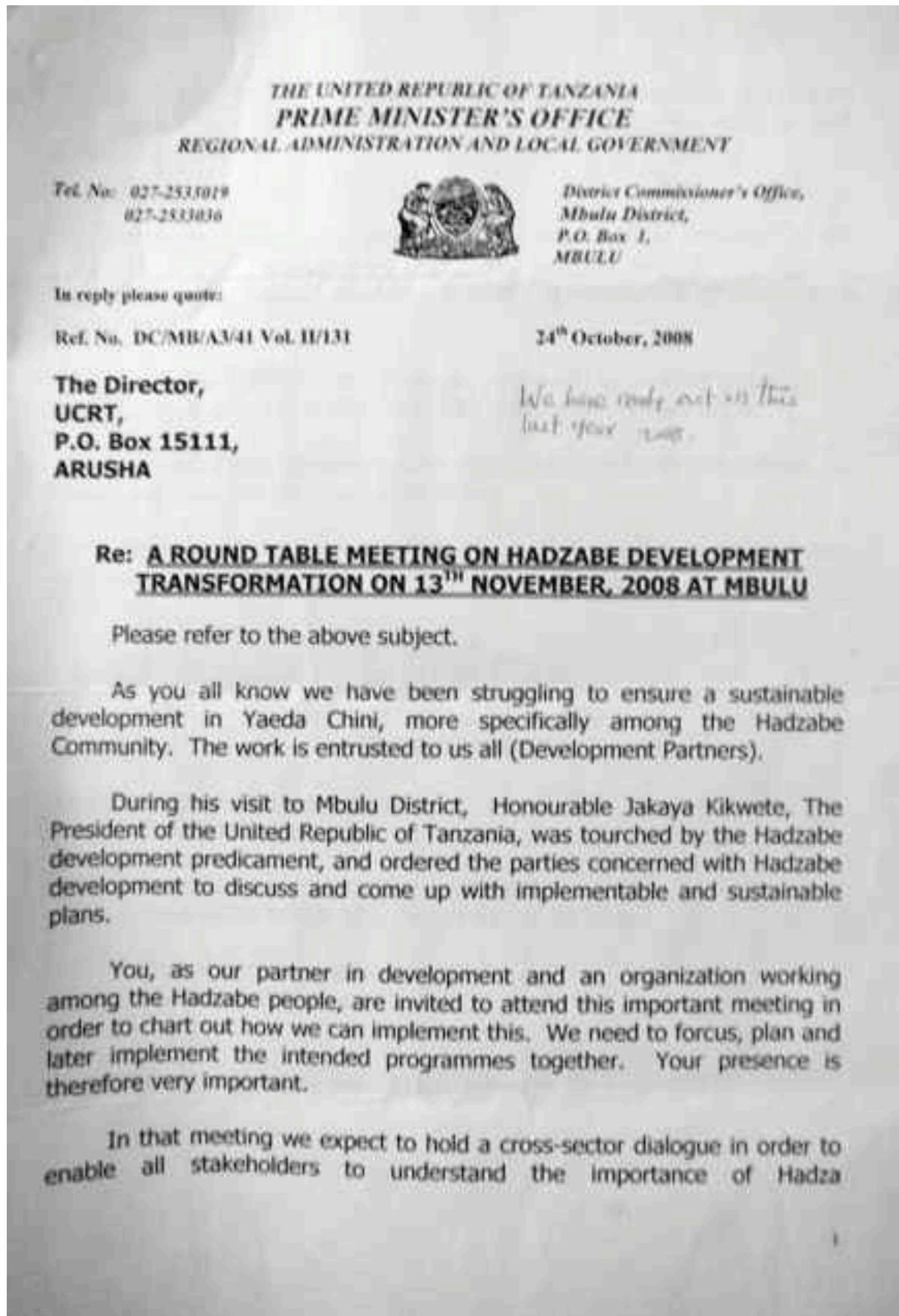


LA



Attachment 3: Letter from the district government inviting UCRT to engage in activates that enable the Hadzabe to maintain their traditional way of life.

This letter was initiated by the current President of Tanzania, Honorable Jakaya Kikwete.



Transformation Strategy especially on Socio-development; and the role of each Stakeholder (NGO/CBO/Government) in improving the lives of that community.

We expect, after our meeting, to identify sets of activities to be consolidated into programmes; look for the sources of the needed resources; make some schedules and implementation timetables (time frames) etc.

The meeting will be held at Mbulu Community Centre starting at 10.00 a.m You are requested to finance and facilitate your representatives

Come with your proposals, come with ideas and come with advices, in this consultative and participatory process.

Thank you in advance and hope to meeting you during that meeting (13th November, 2008)

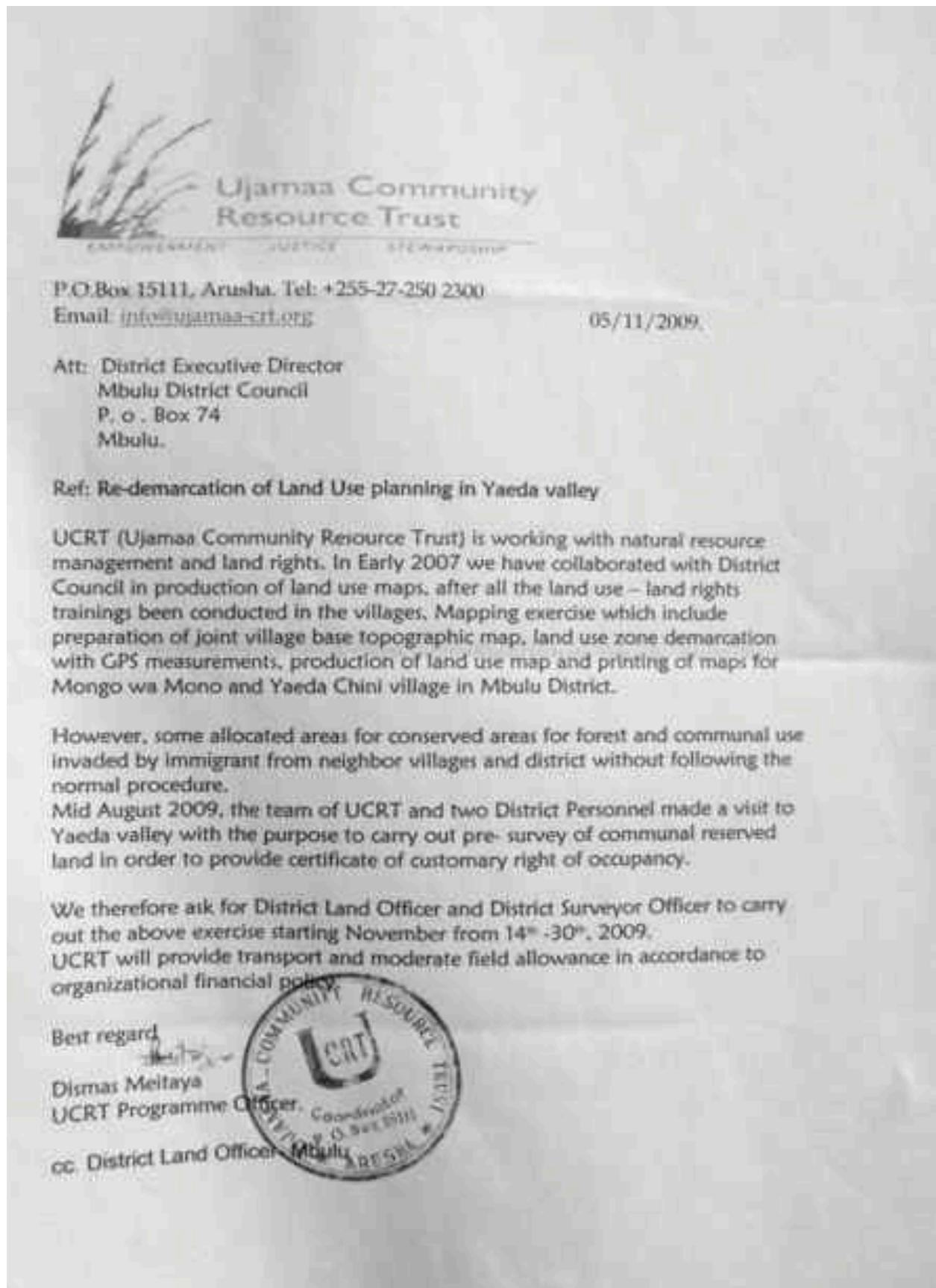

Elias G.B. Goroi
DISTRICT COMMISSIONER
MBULU DISTRICT

**Copy: Regional Commissioner
MANYARA REGION**

**Regional Administrative Secretary
MANYARA REGION - More information later.**

**District Executive Director,
MBULU - follow up**

Attachment 4: Letter to the District Executive Director and copied to the district Land Officer outlining the land use conflict and offering assistance to create and build upon the land use plan



Attachment 5: Letter to District Natural Resource Officer outlining UCRT's plan to work with Carbon Tanzania and continue its work in Mongo wa Mono village



P.O. Box 15111, Arusha. Tel. +255-27-250 2300
Email: info@ujamaa-crt.org

Attn: District Natural Resource Officer
Mbulu District Council
P.O. Box 74
Mbulu

24th August 2010

RE: Community support for Mongo wa Mono village through a system of payments for ecosystem services

UCRT is collaborating with Carbon Tanzania to continue its work in Mongo wa Mono through payments from carbon forestry. This concept involves the support and empowerment of the community for the protection of village natural resources and improved management outlined within the by-laws and land use plan.

As you are one of our organizations stakeholders, we are required to inform Mbulu District, especially the District Natural Resource Office (DNRO) of this initiative in order to provide collaboration on this project.

We look forward to working together on this project which aims to further support our ongoing work to protect our natural resources for present and future generations.

Best Regards,



Edward Loure
UCRT Coordinator



Annex 9: MoU between CT and UCRT

Memorandum of Understanding between Carbon Tanzania (CT) and Ujamaa Community Resource Team (UCRT)

Background

In order to develop successful land management projects that can result in viable, long-term conservation and generate permanent carbon reductions, several factors are critical. Firstly, projects should be based in areas where land and resource tenure is clear and where local communities are able to make and control land and resource use decisions; in the context of Tanzania, this means that projects must be in areas that are clearly village lands, and ideally where village land boundaries have already been clarified.

Second, projects should be in areas with relatively high carbon storage potential; this means areas with either forest or woodland (savannah) land cover. Third, these forests or woodlands should be under some level of threat, such that local conservation measures would serve to increase the amount of carbon stored than would otherwise occur in the absence of the project (this is known as the 'additionality' principle and is a fundamental element of carbon markets). Such increases may occur through forest recovery (improved forest management) or through 'avoided deforestation', using a credible baseline scenario which demonstrates that in the absence of carbon market funds, existing vegetation will be cleared and carbon lost.

Lastly, projects should involve a fairly large area of land and thus a significant amount of stored carbon. Carbon forestry or land use projects involving very small areas tend to be very costly in relation to the revenues they generate, because of the high up-front costs required in project design and third-party verification and validation (whereby an independent organization validates the offsets which a project developer claims to have generated).

As such, this initiative will target three separate areas with fairly large forest areas, where local tenure over land and forests/woodlands is relatively clear, and where a credible baseline can be made to demonstrate that projects will protect 'additional' forests from loss or degradation. Critically, these are all areas where UCRT has a long-established presence, local relationships and familiarity, and has done much work to build local natural resource management capacity over the past decade.

I. Parties

This Memorandum of Understanding (hereafter 'MoU') is between the following two parties:

Carbon Tanzania, being a non-profit subsidiary of Ecological Initiatives Ltd., registered in Tanzania and having official residence at plot number 146A, Ngaramtoni Coffee Estate, Olasiti, Arusha District. P.O. Box 425, Arusha Tanzania, and with the mission of developing carbon offsetting projects involving indigenous forest conservation and community-based forest management in Tanzania.

Ujamaa Community Resource Team Ltd, being a non-Profit Company limited by guarantee, registered in Tanzania and having official residence at Olasiti, near Dorobo premises, Arusha District. P.O.Box 15111, Arusha Tanzania, and with vision to Improved livelihoods for pastoralists, Hunter-gatherers and Agro-pastoralists communities through social Justice and sustainable Natural Resource management in Tanzania.

The purpose of this MoU is to articulate a collaborative relationship between the two parties based on mutual interests and pursuit of common aims and objectives, and the general rights and obligations of the two parties within that evolving relationship.

II. Duration

This MoU will apply from 1st December 2010 until 31st December 2012. The MoU may be renewed with any amendments based on the written consent of both parties. The MoU can be resigned without or including changes to the content with the consent of both parties.

III. Scope and Nature of Partnership

Carbon Tanzania (CT) will provide the skills to assess, document and process the necessary documentation required to prepare an area for the development of verified and certified carbon credits. This process will be done in order to enable UCRT to fulfill its mission and aims to support community rights and community ownership over an area to ensure the viable and long-term conservation of biological diversity.

Ujamaa Community Resource Team (UCRT) will provide access to it's local support team and provide technical and local knowledge to ensure CT is able to carry out the necessary field operations. UCRT can represent CT at community level through this partnership which enables both organizations to fulfill their missions and aims.

This partnership includes

1. Assistance in strategic organizational planning, including identification of technical, human resource, and financial requirements and gaps, and development of strategies to address those;
2. Assistance in identifying and pursuing funding opportunities, including potentially joint funding proposals;
3. General networking and linking to other potential partner organizations and individuals, nationally and internationally;
4. Assistance in analysing and communicating key lessons and experiences through publications and other forms of media;
5. Direct technical support to field projects, which may include:
 - a. Policy and institutional analyses
 - b. Development of project strategies and proposals
 - c. Input to technical documents
 - d. General advice on project implementation as may be required

IV. Areas of collaboration:

A. Primary area of collaboration:

- The primary area of collaboration and focus for activities for the year 2012 will be the The Kidero hills of the Yaeda Valley, Mbulu District. This area of dry but dense Acacia and Baobab woodland is contained within Mongo wa Mono village, and is the last remaining expanse of natural habitat remaining under the control of the Hadzabe hunter-gatherers. UCRT has worked in the area since the late 1990s and enabled the village to develop a land use plan and by-laws, and to demarcate the Kidero hills as a resource management and conservation area under the village's control. Nevertheless the area faces constant pressures of encroachment from densely populated areas to the west (Meatu District), south (Mbulu District) and

north (Karatu District). Without strengthened local management capacity and incentives the area is likely to be degraded, with severe consequences for the Hadzabe's cultural survival.

B. Other possible areas of collaboration:

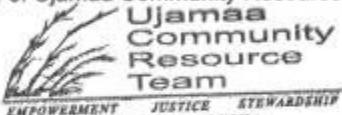
Depending on availability of time and resources the parties also agree to investigate the potential for collaborative activities in the following areas:

- The southern Maasai Steppe of Simanjiro District and northern Kiteto District. This semi-arid area contains vast woodlands and some pockets of forest, and its extensive savannah contains critical livestock forage for tens of thousands of pastoralists in the area. The region has long been subject to gradual encroachment from other ethnic groups, immigrants from adjacent highlands, and commercial farming interests. At present the southern Maasai Steppe stands at a frontier of encroaching agriculture from the northeast and the southwest, and is the largest remaining area of native vegetation and pastoralist land uses in northern Tanzania.
- The Loliondo forest, Loliondo Division. This area of highland forest is partly contained within a government forest reserve and partly on village lands, including the lands of 3-5 villages. The forest provides numerous ecosystem services, such as water catchment for rivers that flow into Lake Natron and dry season grazing refuge. The forest is however being rapidly degraded from over-harvesting and lack of local management and protection measures, and has a very high carbon storage potential per hectare.

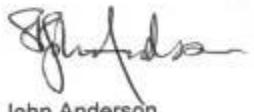
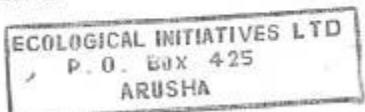
Both organizations shall follow normal practice of duly acknowledging the partnership described in this MoU when presenting or publicizing information about any of the work done through the course of this collaboration, and will share drafts and provide opportunities for incorporating comments from the other party before publishing information about the partnership that includes specific mention of the other organization.

Dated this the 7th day of FEBRUARY 2012.

Signed on behalf of Ujamaa Community Resource Team



Ujamaa
Community
Resource
Team
EMPOWERMENT JUSTICE STEWARDSHIP
P.O. Box 15111 ARUSHA
EXECUTIVE DIRECTOR
Mr. Edward Loure ole Parmelo
Coordinator
Ujamaa Community Resource Team

Signed on behalf of Carbon Tanzania



ECOLOGICAL INITIATIVES LTD
P.O. Box 425
ARUSHA
Mr. St. John Anderson.
Director
Ecological Initiatives & Carbon Tanzania.

Annex 10: Carbon Tanzania & UCRT Staff Biographies

Marc Baker, Director of Carbon Tanzania, is a director of Ecological Initiatives Ltd., a Tanzanian company based in Arusha, Northern Tanzania. He has worked in various capacities in conservation and ecotourism since 1998, including consulting for the UNDP-GEF cross border biodiversity project from 1998 to 2000 where he conducted a range of biodiversity surveys in Tanzania and Kenya. Marc has also worked as a consultant for Danida, Care International, and the Wildlife Division of Tanzania on biodiversity assessments, wildlife management, and tourism development. He founded Carbon Tanzania in 2007 with the specific aim of driving in-country value-added carbon offsets directly to communities, to ensure both biodiversity protection and a community-based understanding of climate change mitigation and adaptation. Marc Baker is the overall coordinator for the implementation of this Plan Vivo project.

Jo Anderson, Finance and Sales for Carbon Tanzania, is a director of Ecological Initiatives Ltd., a Tanzanian company based in Arusha, Northern Tanzania. As a trained ecologist his work has ranged from wildlife surveys in remote areas to assessments of tourism resources in potential development sites. He has worked in the forestry, environment, and tourism industries for 16 years in Tanzania, and has built a network of professional contacts, both in the government and non-governmental sectors. He works in policy development with the relevant Ministries and non-governmental organisations, writing briefing papers and editing technical documents.

Edward Lekaita, Senior Programme Manager & Legal Advisor for UCRT, is a lawyer with expertise in land law. He began working with UCRT in 2011 when funding was made available by the Nature Conservancy. He obtained a Bachelor of Laws (LL.B) from Tumaini University, a Post Graduate Diploma in Legal Practice (PGD) from the School of Law of Tanzania at the University of Dar es Salaam and a Master's of Laws in International Trade Law from the University of Stellenbosch in South Africa.

Partalala Dismas Meitaya, UCRT Programme Officer, was born in Soitsambu village of Loliondo, on the border of the Serengeti National Park. He holds a Bachelor of Arts in Development Studies from Ireland Dublin College and a diploma in Animal Health from Tengeru, Arusha. He is a candidate for a Master of Arts in Community Economics and Development at Open University of Tanzania. Dismas has been involved with UCRT since it's founding, working with pastoral communities on land and natural resource management projects. His work has since become focused on assisting hunter-gatherer communities, particularly Hadzabe, in strengthening their community capacity, managing their lands and learning how to benefit from their natural resources.

Annex 11: Photos of Project Area

Photos 1 & 2: *Adansonia digitata* (Baobab) is not included in any of the biomass assessments as it is rarely cut down by agricultural activity and is not used for charcoal or firewood. This species does, however, provide nesting sites for numerous bird and small mammal species as well as bee hives, honey being an important food source for the Hadzabe.



Photo 1



Photo 2



Photo 3

Photos 3 & 4: Deforestation can often take several months depending on the time of year. In this case the *Acacia tortilis* trees are ring-barked prior to be removed once the rains start.



Photo 4

Photos 5 & 6: The water source at Kukumako during the dry season. Note the fence erected to divide the water and the right hand picture showing the damage overuse by cattle can do to the water source.



Photo 5



Photo 6

Photos 7 & 8: The boundary of the project area is clearly defined on all the major tracks into the area with signposts (area for the traditional use by Hadzabe). The rest of the boundary is marked by painted trees.



Photo 7



Photo 8

Photos 9 & 10: Every element of project operation is conducted as a training and information sharing process, here Jo Anderson explains the mathematical models used during AGB. Measuring a *Commiphora* Spp during AGB surveys.



Photo 9



Photo 10