

People and the Forests of the South Nguru Landscape



Participatory Environmental
Management Programme



DANISH INSTITUTE FOR INTERNATIONAL STUDIES

WHAT WILL YOU FIND IN THIS BOOK?

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An introduction to this book – who is it for and what is it about?

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1 INTRODUCTION

Welcome to People & Forests in the South Nguru Landscape!

This book has been written for Community Leaders, members of Village Government, Community Based Organisations, Village Natural Resource Committee members, District and Ward Government Officers and NGO field officers to name but a few. As the Participatory Environmental Management (PEMA) Programme has been operating in the South Nguru Landscape since January 2004, we would like to report what we have learnt and accomplished by working with communities and local authorities.

After introducing the Participatory Environmental Management (PEMA) Programme and the Tanzania Forest Conservation Group (TFCG) we will take a tour through the South Nguru Landscape, looking at;

- The history of the area, its people, the environment and how they have changed over time.
- We will then move on to the present day situation, looking in greater depth at the households living within the Landscape, their way of life and their reliance on forest products,.
- The South Nguru Mountain forests are an important source of water. The next section looks in detail at the forests as a source of water and other ecological services.
- As well as providing ecological services, the forests within the Landscape are home to many plants and animals that live nowhere else in the World! We will take a look at some of these and why they are important to local stakeholders' development goals.
- We will then look at what threatens the continued existence of the South Nguru Mountain Forests and thus the life they contains, the forest products they provide and their water catchment role.
- The opinions of local communities with regards to natural resource management are pulled together before the final stage of making the Collaborative Landscape Action Plan.
- The making of a Collaborative Landscape Action Plan rounds off our tour of the South Nguru Landscape,

Once you have read this book you will understand what PEMA, working together with people in the Landscape has been looking at and how all this information has contributed to the participatory design of a Collaborative Landscape Action Plan.

Empowered with this information, you are in a good position to get involved in Phase II of PEMA that will involve the implementation of the Collaborative Landscape Action Plan.

The Collaborative Landscape Action Plan will contribute to the restoration, protection and sustainable use of forest resources that should help secure a brighter future for communities within the landscape.

2 PEMA AND TFCG

What is PEMA?

PEMA is the Participatory Environmental Management Programme.

The Mission of PEMA is;

to try an approach to the management of natural resources in areas of very rich plant and animal life that brings together the conservation and livelihood interests of people living inside and outside of the landscape.

How does PEMA affect you?

PEMA believes that decisions about natural resource management must be fair to be effective - this means involving YOU in decision making and ensuring that decisions benefit local livelihoods.

What is TFCG?

TFCG is a non-governmental organization (NGO).

The Mission of TFCG is;

to conserve and restore the biodiversity of globally important forests in Tanzania for the benefit of present and future generations, in ways that are sustainable and foster community participation and partnership.

The Tanzania Forest Conservation Group has an office in Turiani. TFCG have been implementing PEMA's activities in the Landscape.

TFCG

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TFCG, PEMA

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Where is PEMA working?

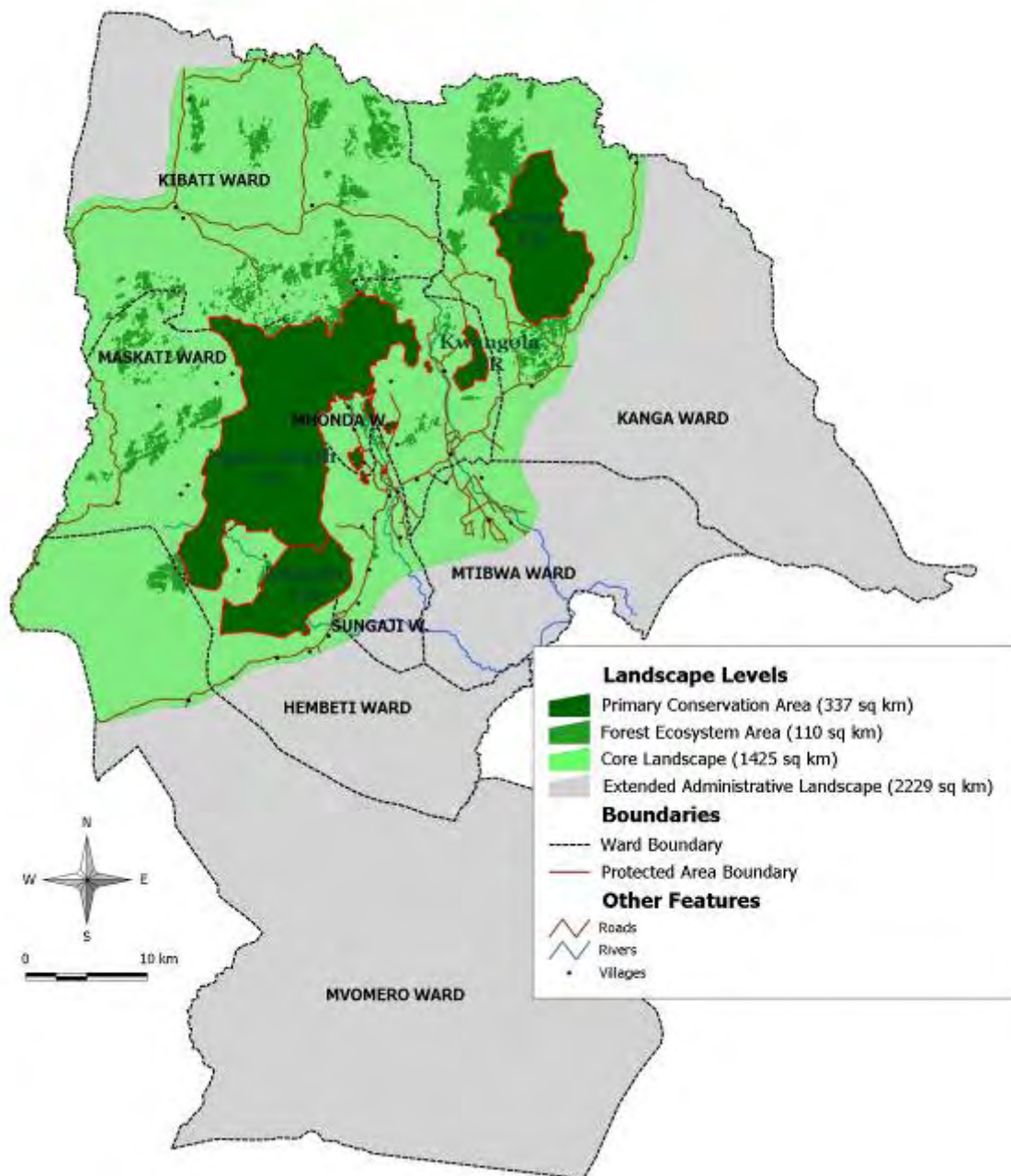
PEMA is working in the South Nguru Landscape, Mvomero District, Morogoro Region.

There are 9 Wards within the Landscape, Kibati, Kanga, Mhonda, Diongoya, Mtibwa, Sungaji, Hembeti, Mvomero and Maskati. Within these Wards there are 56 villages

There are three Catchment Forest Reserves in the Landscape: Kanga (6,664 ha), Mkindo (7,451 ha) and Nguru South (18,793 ha). There are also two local authority Forest Reserves, Dunduma and Lusunguru.



South Nguru Forest Landscape



3 HISTORY OF THE SOUTH NGURU LANDSCAPE

Who were the original inhabitants of the Landscape?

People of the Wanguu and Wakaguru were the earliest settlers in the Landscape. They were followed by the Wazigua, Wamaasai, Waluguru, Wachagga, Wapare, Wabena, Wasukuma, Wakinga, Wahehe, Wanguni, and Wanyakyusa ethnic groups who arrived later.

The Wanguu tend to dominate upland villages while other ethnic groups dominate different lowland villages. The Wamaasai, a pastoralist ethnic group, only live in the plains where they can find grasses for their herds of cattle and goats.

Was there any protection of forests for spiritual reasons?

Historically, the Wanguu conserved areas of sacred forest. Such sites were used for worship, rituals and tribal ceremonies. Some groves were also reserved as cemeteries. Most often, these groves were administered by village elders who also punished violators. This traditional way of conserving forests occurs far less frequently than in the past.

Why did so many people move to the Nguru South Landscape?

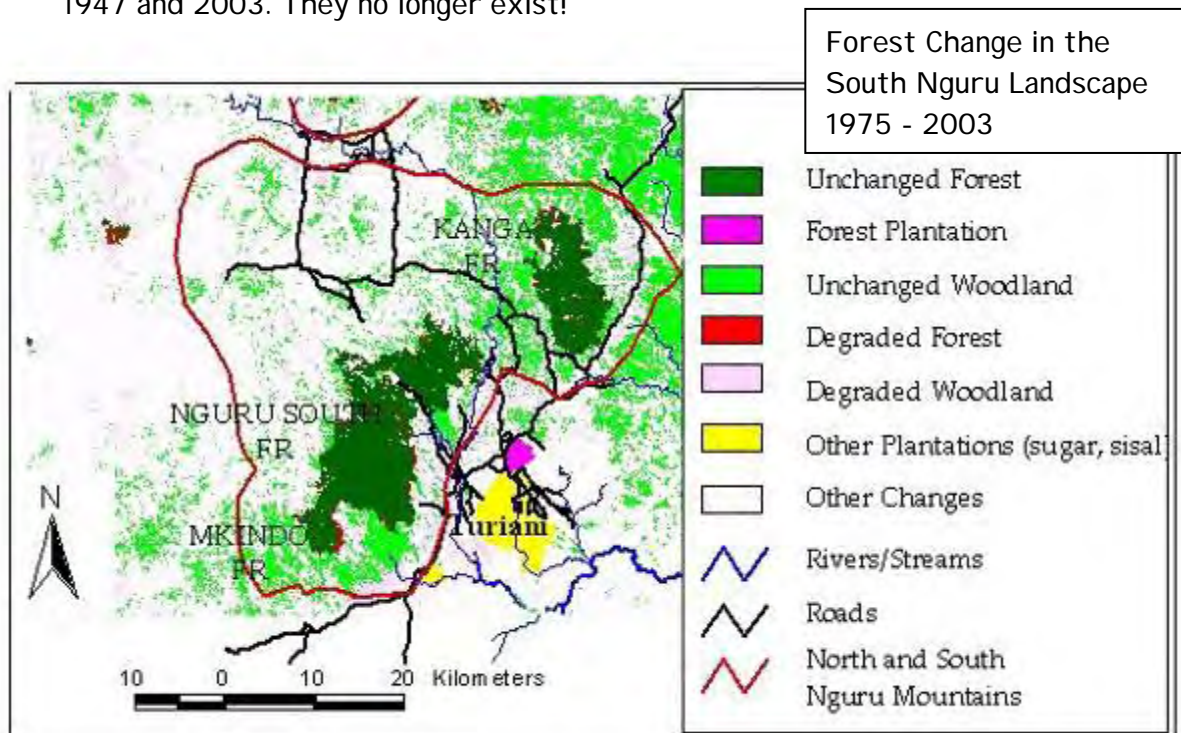
The relatively rich soils found at the base of the mountains, the establishment of two Missions and the presence of Mtibwa Sugar Estates have all encouraged people to immigrate to the area. Most villages within the Landscape were formed during the 1970's.

How has the Landscape changed over time?

Over time, the natural vegetation – which was largely forests and woodlands – has been replaced by small shambas and large agricultural estates.

Woodlands are areas that are dominated by trees and still have grasses growing on the ground whereas forests have a thick tree canopy that limits the amount of light that reaches the floor, therefore grasses do not grow on the ground.

- More than a quarter (26%) of the continuous forest in the Landscape was cleared between the years of 1949 – 1993.
- The most vulnerable forest areas were the lower altitude forest patches. Between 1949 – 1993 more than half (56%) of these forest patches were cleared.
- More than half (63%) of the woodlands within the Landscape were cleared between 1947 and 2003. They no longer exist!



What about the history of commercial logging in the Landscape?

Between 1939 and 1992, the demand for timber to supply the Manyangu Sawmill was considerable, particularly in the area close to Manyangu in the north-eastern part of the Nguru Mountain. Commercial logging stopped in 1992 when the Government banned logging inside Catchment Forest Reserves. Unfortunately, a great deal of illegal logging continues today. This illegal logging is a theft from both the government and the local communities.

4 ABOUT THE SOUTH NGURU LANDSCAPE

Why is the South Nguru Landscape important?

The South Nguru Mountains, situated within the South Nguru Landscape, are covered in an incredible forest that is home to more different kinds of plants and animals than many places in the World! These forests also catch rain from clouds blown over the country from the sea.

NEED WATER CYCLE CARTOON

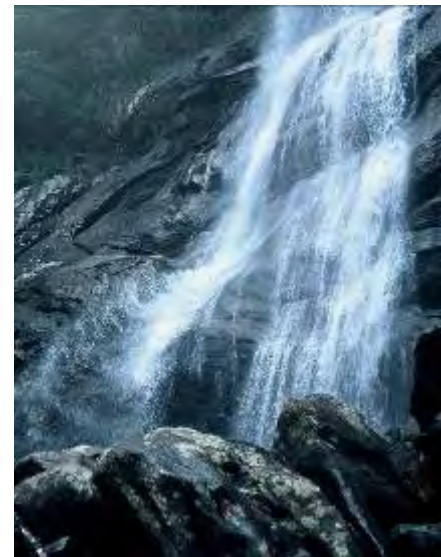
Why protect the forests?

Local climate and livelihoods are linked to the forest and its products such as firewood and medicinal plants. This delicate habitat must be managed in a sustainable manner so that it continues to be productive and so that the many unique life forms that it supports continue to survive.

Why are people interested in these forests?

Water

The South Nguru Landscape has three Catchment Forest Reserves: Nguru South F.R., Kanga F.R. and Mkindo F.R. They are called Catchment Forest Reserves because of the way that they 'catch' and slowly release water that falls as rain. It is also a legal category of reserve which protects the forest from timber harvesting or any other kind of forest clearance.



Local households depend on water that originates inside these Forest Reserves. In fact, 90 out of every 100 households living to the east of the forests, and 64 out of every 100 households living north, south or west of the forests rely on water sources that originate in the forest.

Rivers and streams flowing from the forests of the South Nguru Mountains supply water for drinking, washing and irrigation to the thousands of people living in the Landscape as well as to people living further away in Chalinze and along the course of the Wami River.

Many mountain streams, such as _____, _____ and _____, which used to run throughout the year, now flow only during the rainy season. Local people believe that these and other streams are drying up because too much forest has been cut down.

Destruction of forests and woodlands results in a deterioration in the quality of water. Today, the water in many streams and rivers cannot be used during the rainy season because it is so full of mud washing down from deforested hillsides!

Life!

The South Nguru Mountains form part of the Eastern Arc Mountains that stretch from Taita Hills in southern Kenya to the Udzungwa Mountains in southern Tanzania. These mountains are among the richest biological areas in the entire World! Some plants and animals found within these forests are found nowhere else on Earth. This is incredible and something for every Tanzanian to be proud of.

In addition many things that grow in the forests are important to you. The following table lists the vast number of forest products that you use.

Kuni	Matunda	Mboga	Madini	Uwindaji
Myombo	MSambia	Mnavu	Dhahabu	Ndezi
Mkongowe	Kwingwina	Sungu	Sapphire	Sungura
Mlama	Mabungo	Mwidu	Amethyst	Mpelele
Mgunga	Mkole	Mlenda	Change colour	Mbalawala
Mseni	Mavilu	Mchungu	Moonstone	Nyani
Msegese	Matungulu	Mwilu	Ruby	Nguruwe
Mhangala	Mkwaju	Pwingwiji	Blue sapphire	Kanga
Mgomoka	Topetope	Mwembwe		Ngwale
Mnulu	Furu	Mwage	Mkaa	Nyati
Mtiki	Ng'ong'o	Mlasi	Myombo	Nyani
Msaji	Vimbuli	Mchole	Mlama	Kima
Mtitu	Matonga	Mnangu	Mkongowe	Swala
Mhando	Mkwaju	Mgole	Msanji	Kongowe
Mgomoko	Naungo	Mkojwe	Mfumbili	Mkoni
Mlemela	Mabwakabwaka	Nderema	Mlama	Tohe
Mkulo	Kimbuli	Mnying'ing'ywa	Mseni	Mbalawala
Muhula			Mkongowe	Sungura
Chilazi	Uyoga	Mijengo	Mkambala	
	Kisisimkuwa	Mkambala	Msisimisi	
Dawa za asili	Mtugutu	Mgunga		
Mkwizingwi	Nguvukulukulu	Mwanga	Mbao	
Mkongowe	Kuvi	Mlama	Mvule	
Mkilika	Mbua	Mwindi	Mninga	
Mkurugembe	Ulalala	Msolo	Mkangazi	
Mkalananga	Ubwagala	Mtiki	Mwembati	
Mchole	Vigong'ongo	Msaji	Mkingu	
Mlulungunja	Magwede	Mtitu	Mwanga	
Mkwambe	Kumbaufele	Mnyemela	Mkomba	
Mkunju	Uswaswa		Mkenge	
Mwenikangulu	Malelema	Kamba	Mfimbo	
Tomokwe	Nkavi	Myombo	Mpingo	
Mnyawati	Magutu	Msegese	Mlulu	
Mviru	Mwaso	Sisi	Mninga	
Mlama	Vijurugo	Mtomokwe	Mtondoro	
Mkole	Matelezi	Milala	Mgadaraka	
Mumbu	Ngaha	Mseni		
Msegese	Maminu	Mkole	Mazao mengine	
Kasimkiwa		Mkambalasi	Udongo	
Nguvulukulu		Sisimkiwa	Asali	
			Ukindu	
			Hali ya hewa	

*Endemic species of the South Nguru
Mountain Forests*



Callulina sp. 1



Saintpaulia



Mrs Moreau's warbler

NEED MAP from TFCG POSTER - IN COLOUR
FROM DTP

5 LIFESTYLES IN THE SOUTH NGURU LANDSCAPE

Who lives within the Landscape?

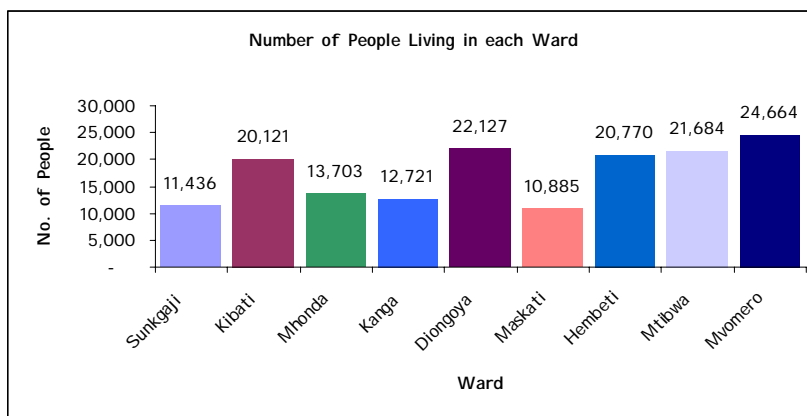
That's YOU!

Approximately 60,000 people live in the South Nguru Landscape. 20,000 of who live in villages adjacent to the forests.

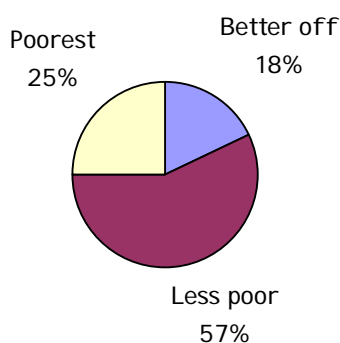
Rural households dependent upon subsistence agriculture often over-use natural resources in

order to survive from day to day. This results in natural resources becoming harder to find and the household finds it even harder to survive.

The high dependence on natural resources at the household level is exactly why communities should be involved in the management of natural resources.



Poverty Levels in the Landscape



What are the poverty levels within the Landscape?

Poverty levels within the Landscape were developed from lifestyle indicators decided at the village level. For example *Better-off* households are considered to own significant land, perhaps > 5 acres and do not experience periods of food shortage. The *poorest* households live at the other extreme, experiencing periods of hunger and owning very little land and also depending upon leased land. More than half of the households in the Landscape (57%) fall in between these two extremes and are referred to as *less poor*.

How are you making an income?

Option	Poverty level			All poverty levels
	Better-off	Less poor	Poorest	
Have an income from having shops or businesses	21%	2%	0%	5%
Have an income from tailoring, building, crafts, brewing, or preparing and selling food	46%	21%	3%	21%
Only agricultural income	33%	77%	97%	74%

Most households (74%) make an income only from agriculture. The *better-off* households not only own more land, in addition they are more likely to be making some kind of a non-agricultural income (21%) compared to the *less poor* and *poorest* households in the Landscape (2% and 0% of households).

What about food security?

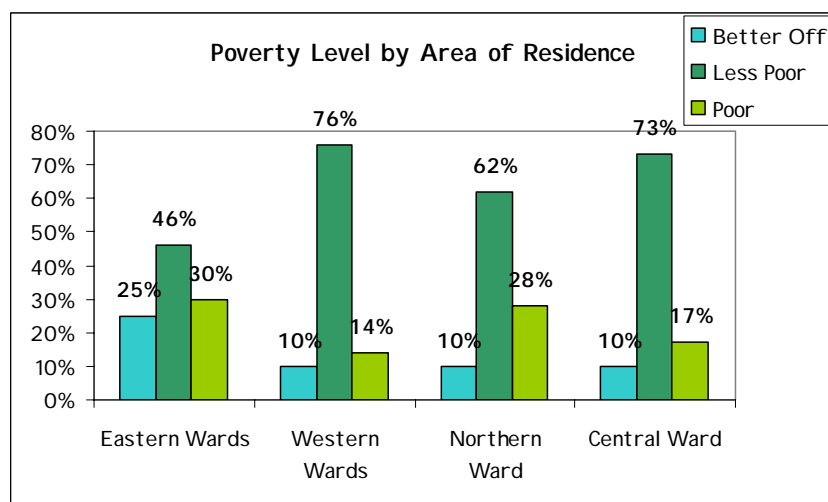
Option	Poverty level			All poverty levels
	Better-off	less poor	poorest	
Have had no food shortage in the last year	99%	76%	27%	67%
Had a food shortage lasting less than two months	1%	16%	42%	23%
Had a food shortage lasting for two months or more	0%	7%	32%	11%

Throughout the Landscape the majority (67%) of all households have not experienced a food shortage in the last year (2005), however nearly one quarter (23%) of all households know what it is like to experience a short period of hunger.

It is the *poorest* households that struggle with food security. Nearly one third (32%) of the *poorest* households experience food shortages of more than two months, as we have seen the *poorest* households also lack an alternative source of income that could help pay for food in times of shortage.

Are all Wards the same with regards to levels of poverty?

No they are not. The northern Ward of Kanga is the poorest ward in the Landscape. There are a large number of *poor* households (28%) and few (10%) *better-off* households. The Eastern Wards of Sungaji, Mhonda, Diongoya, Hembeti and Mtibwa wards excluding Ubiri Village actually have a slightly larger number of *poor* households however there are far more *better-off* households than anywhere else in the Landscape.



The Western wards (Mvomero, Maskati, and Kibati wards) and the Central Ward (Mhonda ward, Ubiri Village) have fewer households at the *poorest* level compared to other wards. Most households in these wards are considered *less poor*.

How about land size & ownership?

Nearly half (46%) of all poor households within the whole Landscape own less than 1 acre of land that is usually (in 80% of cases) held on a customary basis. The situation for *poor* households in the East of the Landscape is harsher than in the rest of the Landscape with more people (57% in the East compared to 33% in the rest of the Landscape) owning less than 1 acre of land and depending upon leasing additional land (24%).

Leasing of land is costly and insecure since the owner of the land will usually reclaim it after a few years so that the land does not become property of the person leasing it.

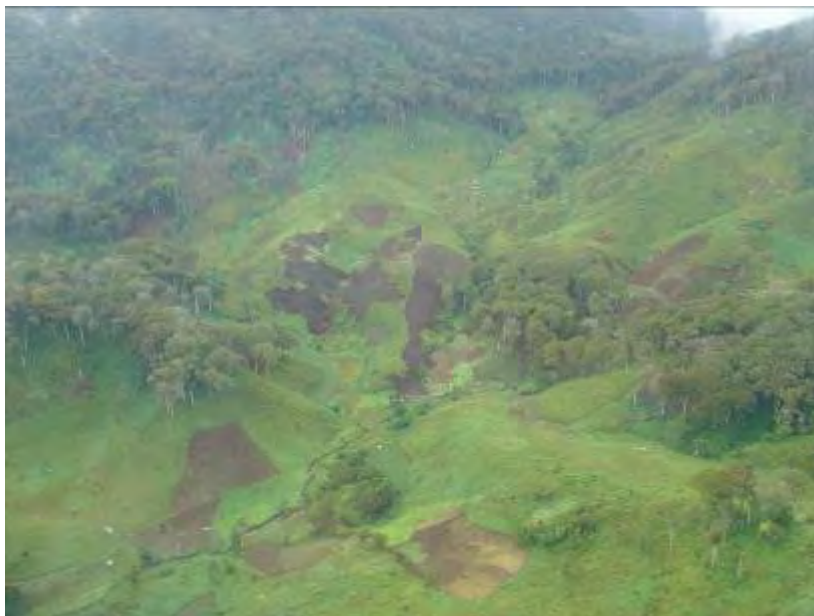
How much land is left fallow?

Very few households (20%) are able to afford to leave their land fallow particularly if they only have a small shamba since they have little or no alternative way to feed the household, for example through an alternative income. Constantly growing on the land leaves soil in a poor and less productive condition.

How many of you witness soil erosion?

In the East of the Landscape more than half (59%) of the poorest households witness soil erosion. Soil erosion is seen less in the north, west and south of the Landscape. Just less than one quarter (24%) of all households practice soil conservation to combat the effects of soil erosion. Very few households (6%) do something to improve the quality of the soil on their shamba.

What does this mean for the Landscape?



People in the South Nguru Landscape rely on agriculture. Therefore there is a high demand for land. Some farmers extend their shamba into Forest Reserves, clearing the trees so that they can grow more crops. This is one form of forest disturbance, it is illegal.

On the western slope of Kanga Forest Reserve near to Difiniga Village, there are signs of recent illegal forest clearance for agricultural land. Inside Mkindo Forest Reserve fire has been used to illegally clear some areas ready for planting.

Cattle grazing inside Mkindo Forest Reserve is also impacting on the stability of the forest.

Why care if your neighbours clear areas of forest?

Well, let's have a look at just how much you all depend on forest products. Remember, if the forest continues to be cleared there will be no more natural resource to negotiate a stake in.

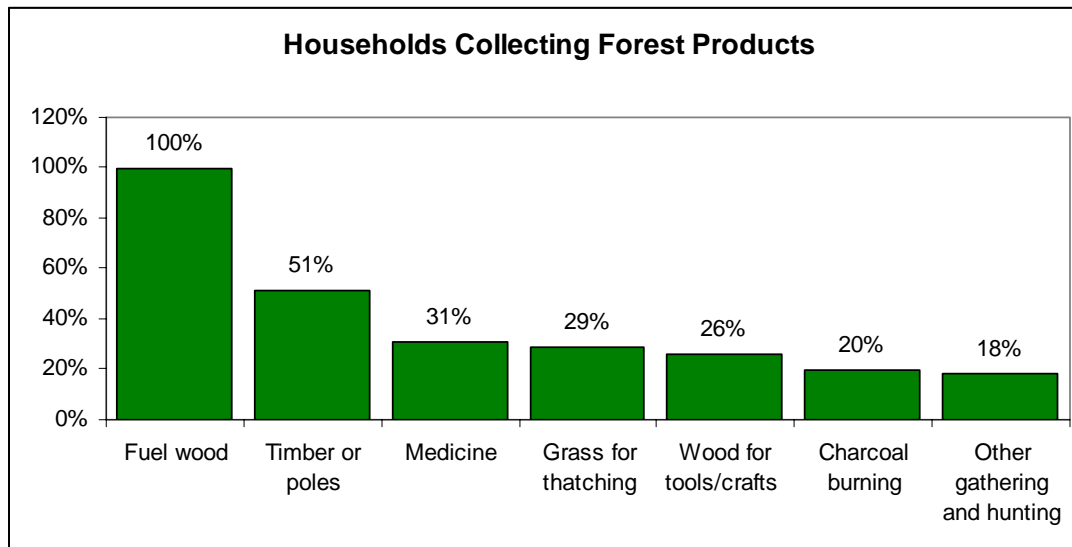
PIC CAPTION: Forest Reserve and cleared land.



6 THE COLLECTION OF FOREST PRODUCTS BY LOCAL HOUSEHOLDS

Who benefited from forest products in the last year?

Research conducted by PEMA and local assistants suggests that every household living in the South Ngurus uses some forest products. Nearly 400 households were interviewed. The table below shows what kinds of forest products people are using and how many households are regularly using them:



In this graph, we see that:

- All households now rely on firewood collected from Forest Reserves
- Half of all households collect timbers or poles from Forest Reserves
- About one third of all households collect medicinal plants from Forest Reserves.
- Other forests products collected by a quarter or less of all households include wood for tools and crafts, charcoal, hunted meat and other forest edibles.

It is already hard to find forest products from outside of Forest Reserves because alternative areas have been cleared of trees. Woodlands still exist in some areas, but these are not big enough – or diverse enough – to provide households with the large range of products that are frequently needed.

You are using less forest products than in the past as many forest products are now very scarce.

What type of fuel do people use to cook with?

All households within the South Nguru Landscape rely on fire wood collected from forests as fuel for cooking. Nearly half of these households (45%) are traveling for more than one hour to get their fuel of choice. Very few households use kerosene (4%) or charcoal (7%) as fuel for cooking. The collection of firewood is a time consuming job, and thus limits the amount of other activities that may be achieved in a day.

Illegal charcoal production is occurring inside Mkindo Forest Reserve.



What plants are collected from the forests?

As we have seen earlier in this book, many plant products are collected in the forest. Sambu oil seed, collected from *Allanblackia stuhlmannii*, and wild black pepper (*Piper capensis*) are both collected from within the Forest Reserves. Both plants can only be found inside the reserves. Sambu oil seeds provide a source of cooking oil for households and a cash income. Wild black pepper is used for medicine and as a spice.



Bamboo is also collected from inside the Forest Reserves and is used as a light building material. A variety of medicinal plants are collected as are mushrooms and different kinds of wild vegetables. Bark fibre is collected as a tying material.

Illegal timber and pole cutting occurs frequently inside Kanga, Nguru South and Mkindo Forest Reserves. Poles are more frequently cut than timbers, reflecting local need for poles used for building. Target species include *Ocotea usambarensis*, *Khaya anthotheca*, *Podocarpus usambarensis* and *Newtonia* sp.



What about hunting of animals?

People hunt duiker, bush pig, primates, hyrax and other mammals inside the forests; wild bird and insect collection for trade are also all occurring illegally inside the Forest Reserves. Most of the large animals in Nguru South Forest Reserve were hunted in an unsustainable way now they are extremely hard to find.

Around Nguru South Forest Reserve there are at least ten people actively involved in live bird trapping.



So you can see forests are important to all of you! But wait, there is more, the forests also provide an invisible function – climate control.....

7 WATER, AN ECOLOGICAL SERVICE OF THE FORESTS

How much rain falls on the South Nguru Mountains?

- There is rainfall throughout the year but the driest period is between June and August. The highest rainfall falls between March and April.



- The climate of the South Nguru Mountains is strongly influenced by the Indian Ocean
- On the eastern slopes, the estimated rainfall at lower altitude is between 2100 mm / year. Reaching 3000 - 4000 mm / year at 2000 m altitude.
- On the drier western slopes, the rainfall is estimated to be between 1000 - 2000 mm / year.
- In many villages, both total rainfall and the predictability of seasons are said to be declining.
- Temperatures vary with altitude from 24°C to 12°C mean annual temperatures. At high altitude temperatures can fall to close to 0°C in July and August.

Where do local households get their water from?

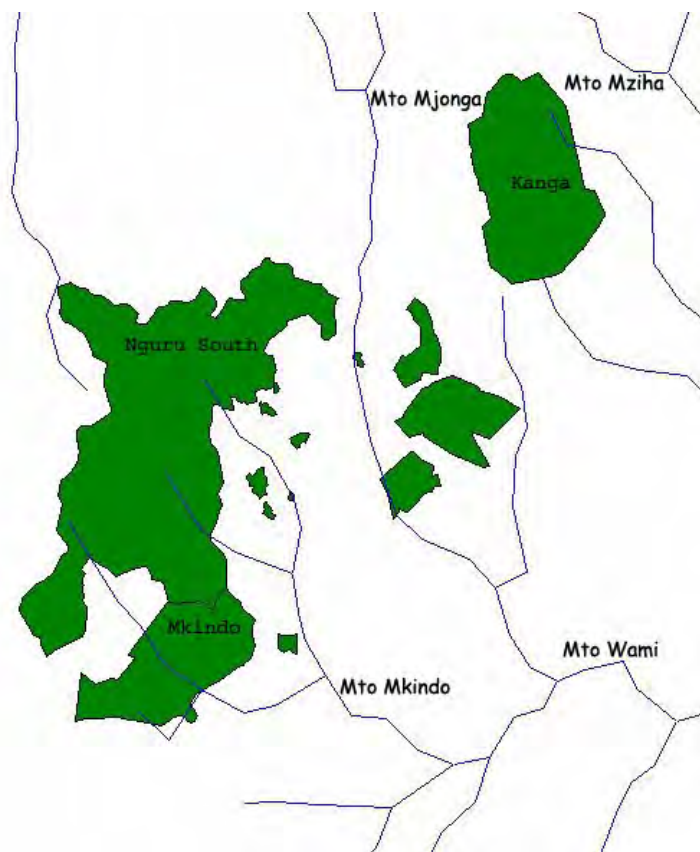
People throughout the South Nguru Landscape depend on rivers, streams and water sources originating in the forests for their water supply. The forests are providing you all with an ecological service.

This map shows just how many rivers come from the Forest Reserves of the South Nguru Landscape.

Measuring the water level in rivers

There were five gauging stations within the South Nguru Landscape these stations are important because they allow the measurement of river flow rate, information that helps in the design of land use planning. It is important that gauging stations are cared for and not removed or tampered with.

Map of rivers originating in forests



8 BIODIVERSITY OF THE SOUTH NGURU LANDSCAPE

What about the plants and animals in the forests?



The forests of the South Nguru Landscape are bursting with life. These rich forests are home to more endemic species than some other places on Earth! Endemic species, be they plants or animals, live nowhere else in the World!

If extraction - some of which is illegal - of forest products continues at current rates the negative effects will be seen by you, the very people who depend on forest

products and ecological forest services, as well as by the many unique plants and animals who live in these forests.



Do you want to know more about the forests full of life?

Let's take a look at the plants and animals of the South Nguru Forests

PLANTS

Did you know?

- The South Nguru Landscape has at least nine distinct vegetation types including montane, submontane and lowland moist forest, dry montane forest, heath, open woodland, closed woodland and thicket
- 300 different species of plants have been found so far in the South Nguru Landscape



Are there any plants that live nowhere else in the World?

There are five plant species endemic to the South Nguru

Mountains, they are found nowhere else! A further 50 species are only found in forests of the Eastern Arc Mountains!

Why should we protect plants?

As you are all aware, many medicines, even modern tablets you get from the pharmacy, have their origins in plants from forests just like those of the South Ngurus. There may be new medicines to discover. In addition, plants play an important role in the water cycle. Collection of forest fruits, reeds, honey, mushrooms and sambu nuts are also important to local households, but as we will see, these products are getting harder to find.

Birds of the South Nguru Landscape

Did you know?

215 bird species have so far been found in the South Nguru Landscape, of these;

- 116 were found within the Nguru South and Kanga Forest Reserves, and
- 109 bird species were found within woodland, teak plantation, marsh land and village land.



Does it matter to the birds if the forests were turned into woodland?

Forests and woodlands provide a home for most of the bird species found within the Landscape. However, most bird species that live in the forest ONLY live in the forest. This means that it is important to conserve both forests and woodlands.

Are there any birds that live nowhere else?

There are three bird species in the South Nguru Landscape that are endemic to the Eastern Arc Mountains, each of these birds can be found in Nguru South Forest Reserve some, can also be found in Kanga Forest Reserve: Banded green sunbird: *Anthreptes rubritorques* Usambara eagle owl: *Bubo vosseleri*, Mrs Moreau's warbler: *Nectarinia moreaui*

Mammals of the South Nguru Landscape

Did you know?

- 29 mammal species have so far been found within the South Nguru Landscape they include duiker, bush babies, blue monkeys and the giant-pouched rat
- The quantity and diversity of mammals found in Nguru South Forest Reserve is much less than in Kanga Forest Reserve. This is probably due to higher levels of hunting occurring in Nguru South Forest Reserve compared to Kanga Forest Reserve.



PIC CAPTION: Mrs Moreau's warbler. Harveys duiker



Are there mammals that live no where else?

There are three mammal species found in the South Nguru Landscape that are endemic to the Eastern Arc Mountains.

Climbing shrew: *Sylvisorex howelli*,
Usambara galago: *Galagoides orinus*, *Lowe's servaline genet*



Amphibians and Reptiles of the South Nguru Landscape

Did you know?

- 38 species of amphibian and 43 species of reptile are found in the South Nguru Landscape
- Of the 38 amphibian species found inside Nguru South and Kanga Forest Reserves, 7 are thought to be new species **PREVIOUSLY UNKNOWN!** There may be many more unknown species yet to be discovered!



Does disturbing the forest affect these animals?

Some of the amphibian and reptiles living in the Landscape have very specific habitat requirements and are found in very few places. This highlights the importance of conserving as much as possible of the remaining forest area undisturbed.

PIC captions: *Galagoides orinus*,
Rhampholeon, *Hyperolius spinigularis*.

Are there any amphibians or reptiles that live nowhere else?

Seven endemic amphibians and one endemic reptile have so far been found in the South Nguru Landscape. It is the unique habitat found within the South Nguru Landscape that allows such incredible diversity of life.



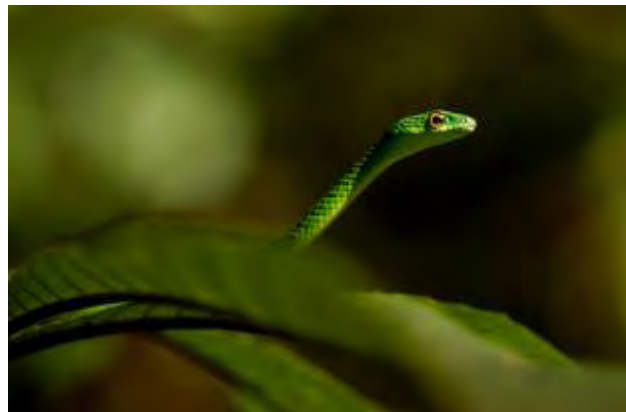
Is there any risk species of plants or animals becoming extinct?

Yes there is. So far a total of 32 different species of plant or animal found within the Landscape face a high risk of becoming extinct in the wild. If they and their forest habitats are not protected adequately, they could be lost to the Landscape forever.



The presence of so many plants and animals that can only survive in a few very specific habitats and the number of species threatened with extinction highlights the importance of this area for conservation.

	No. of species threatened with extinction
Plants	20
Birds	2
Mammals	5
Amphibians	5
Reptiles	Unknown



By taking a closer look at the animals and plants that share the South Nguru Landscape you can see that there are a great number of plants that are valued for their uses in your households. In addition the forests are valued nationally and internationally for the incredible variety of life that they hold - some of which is found nowhere else in the World!

PIC CAPTIONS: *Leptopelis vermiculatus*, *Leptopelis uluguruensis*. *Philothamnus punctatus*

9 THREATS TO THE FORESTS AND NATURAL RESOURCES

What are the threats to the forests and thus the continued supply of forest products?

Living within the South Nguru Landscape, your way of life is implicitly linked to the continued existence of the forests.

The table below is part of the Monitoring Effectiveness Tracking Tool that will be conducted periodically for the Catchment Forest Office. It ranks the current and emerging threats to the forests, the highest threat being at the top of the table (rank 1).

Current Threat		Emerging Threat	
Threat	Rank	Threat	Rank
Agricultural Encroachment	1	Grazing	1
Illegal timber harvesting	2	Hunting	2
Building material e.g. pole harvesting	3	Bad method of Firewood Collection (e.g. gilding)	3
Bush fires	4	-	-
Illegal mining	5	-	-

1 = the highest level of threat

With the implementation of a Collaborative Landscape Action Plan these threats to the forests should be reduced as workable solutions to jointly protect and manage the forests are adopted.

Are these threats to the forests the same as those reported by communities?

Yes! At the community level you are all aware of the threats to the continued survival of the forests. It is also well understood that the availability of forest goods is in decline. This table, developed through a series of participatory workshops involving communities, highlights the decline in availability of forest products and services both outside and within the Forest Reserves.

Forest goods/services	Inside the Forest Reserves		Outside the Forest Reserve	
	Status	Trend	Status	Trend
Timber	...	↓	..	↓
Firewood/charcoal	→	..	↓
Fruit	...	↓	.	→
Medicines	→	..	↓
Sambu	...	↓	..	↓
Mushrooms	...	↓	..	↓
Vegetables	...	↓	..	↓
Honey	...	↓	..	↓
Reeds	...	↓	..	↓
Ropes	...	↓	..	↓
Animals	...	↓	..	↓
Water	...	↓	..	↓
Rain	...	↓	..	↓
Weather	...	↓	..	↓
Traditional rites	...	↓	..	↓

Key

Status

Abundant - there is enough and it is easily found

Adequate - there is enough but it's hard to find ...

Rare - there is not enough and it is very hard to find ..

Effectively extinct - it can't be found near the village .

Trends

Amount and ease of finding is staying the same →

Amount and ease of finding is declining ↓

What are the status and trends of forest product collection in the view of the local households?

- The demand on firewood collection has increased. Now ALL households within the South Nguru Landscape rely on forests for the collection of firewood.
- The illegal activities of burning charcoal and collecting poles and timbers appear to have decreased. This may be due to a higher enforcement of forest regulations in the last year.
- The demand for other forest products remains much on the same level as in previous years. Since the demand for forest products remains high and the availability from outside the forests has declined, action must be taken to address the future availability of resources.

What is the impact of these threats to the forest in the South Nguru Landscape?

The forests of the South Nguru Landscape play a critical role in the stability of the local climate. Further forest loss could significantly affect the water catchment qualities of these forests. Where will the water come from for your enlarged shamba that you cleared the forest in order to make?

The forests of the Landscape are sensitive to pressure from human use. Tree cutting, fire, clearance for agriculture and even fire wood collection changes the structure and species composition of forests. Given the dependence of many species on a forest habitat, the change or removal of the forest habitat will result in the loss of some or all of those species.

Habitat fragmentation - what is this?

The loss of forest and woodland habitats can create islands of forest or woodland. Isolated habitats can not support the diversity of life that they could before their isolation. In areas where habitats have become isolated it is important to create corridors between the patches to allow animals to move in search of food or mates. One such area is the woodland close to the Mjonga River. This woodland is probably a natural corridor allowing movement of birds and animals between Nguru South and Kanga Forest Reserves. Leaving such corridors can also decrease the incidence of human / animal conflict.

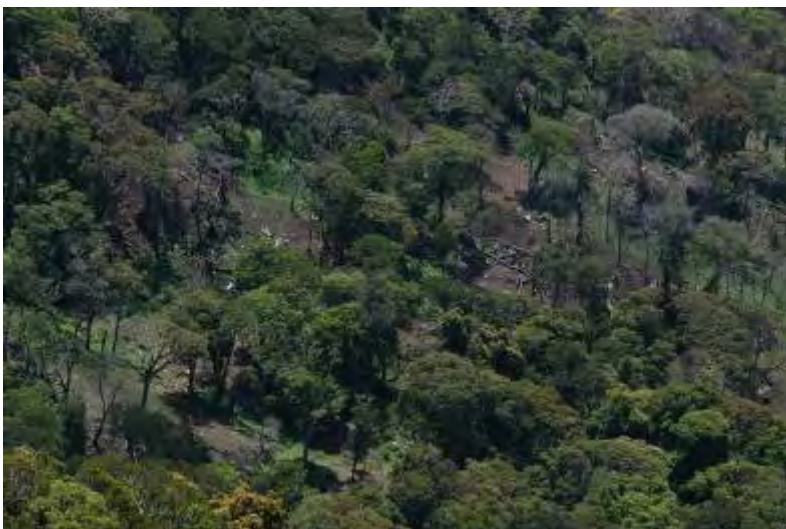
How does the future look?

The truth is that if ACTIVE management of local forests does not start NOW, they will gradually disappear!

The death of the forests would hurt everyone who depends on them for climate regulation, stream flow, building materials, traditional medicines and foods.

Their destruction would also mean that many plants and animals that exist only in these forests would become extinct.

PIC CAPTION: Get active - plant trees



10 NATURAL RESOURCE MANAGEMENT - the household view

What do local households think of forest regulations?

- 65% of the households in the whole Landscape agree that rules restricting the use of the forest are necessary in order to maintain it.

But current enforcement of forest regulations is poor and the forest regulations are not clear to the people they affect.

What do you, the people living in the Landscape, believe you can do, or what needs to be done, in order to manage your natural resource?

Nearly one quarter (23%) of households believe that it is important to maintain or even enlarge the area of forest within the South Nguru Landscape whilst one quarter (25%) of households said that the density of the forest must be maintained. Sadly nearly half (40%) of households believe that nothing can be done with respect to maintaining the forest and its products.

40% of you were pessimistic! PEMA, in a participatory manner is here to help.

What is the future of natural resource management in the South Nguru Landscape?

PEMA has coordinated a series of workshops, starting at the village level and then later involving civil society organizations, and government departments. As a result a Collaborative Landscape Action Plan has been developed that considers the interests of stakeholders - namely, villagers, local authorities, national government and the private sector - opinions and needs of many people who are linked to the South Nguru Landscape.



PIC CAPTION: Participatory planning

11 COLLABORATIVE LANDSCAPE ACTION PLAN

What will a Collaborative Landscape Action Plan do?

The Collaborative Landscape Action Plan can contribute to the restoration, protection and sustainable use of forest resources in the South Ngurus. This will help create a brighter future for communities within the Landscape. The Action Plan aims to achieve this by harmonizing and creating synergies between the activities of local authorities, central government, villagers, their organizations, NGOs and private sector interests.

How was the Collaborative Landscape Action Plan developed?

Step 1 - village level planning workshops

PEMA conducted **participatory** workshops with the following six communities: Pemba, Maskati, Ubiri, Kwadoli, Kilimanjaro and Mkindo which were selected as representative of the different conditions within the Landscape.



In the workshops, PEMA and government authorities asked villagers - yes, you! - about the status and trends of forest goods and services. Each village then put together a plan for improving local forests.

Step 2 - making village visions clear

Four representatives from each of the six villages were selected to go to the next workshop that would clarify each village plan, in preparation for Step 3.

Step 3 - feeding the visions in to the larger Collaborative Land Use Plan

The village representatives then delivered the village plans to an additional two participatory workshops with the Landscape Coordination Committee (LCC).

PIC CAPTION: Participatory planning

What is the Landscape Coordination Committee (LCC)?

The Landscape Coordination Committee (LCC) includes representatives from relevant local and central government authorities, NGOs, and the private sector. The job of the LCC is to help its members coordinate conservation and development activities so that they reinforce and complement, rather than undermine or duplicate, each other. For full list of LCC Members see Appendix 1.

The visions and activities that follow are the result of these participatory workshops. Remember, the visions started at the village level – these are visions and activities suggested by communities for communities.

Step 4 – shared vision for the Collaborative Land Use Plan

One unified shared vision was the result of this participatory process;

Shared vision:

We see a future where all stakeholders are working together to protect, restore and manage forest resources in the South Nguru Landscape. As a result, forest resources are contributing to the realisation of local, national and international goals of poverty reduction and biodiversity conservation. In this way, we are meeting our obligations to care for future generations.



But how will this vision be achieved?

Five **OBJECTIVES** were agreed in order to achieve the shared vision. For each objective, actions are required. **OBJECTIVES** and **ACTIONS** are shown below;

OBJECTIVE 1

Protect and manage Forest Reserves so that they provide a sustainable, high-level flow of forest goods and services.

ACTIONS

- Re-establish clear forest reserve boundaries
- Design and implement a comprehensive forest education campaign which includes a component on forest policy, laws and regulations (with special focus on the rights and responsibilities of authorities and community members)
- Ensure that the licensing of rights to extract resources from forest reserves is transparent and accessible to poor households
- Develop and support Joint Forest Management (JFM) agreements with all communities surrounding Kanga, Nguru South and Mkindo Forest Reserves
- Increase the number of Forest Extension Officers at ward and village level
- Establish Payments for Forest Environmental Services (water, carbon and biodiversity) to support land-use change, forest regeneration and reserve management



PIC CAPTION: Landscape planning. Village land forest management

OBJECTIVE 2

Increase the variety and volume of forest resources available in villages so that they improve local livelihoods.

ACTIONS

- Develop community land-use plans
- Promote Community-based Forest Management on village lands that increases the variety and volume of forest good and services in the landscape
- Support land-use change / land-use management on privately owned fields that increases the variety and volume of forest goods and services
- Design and implement a comprehensive environmental education programme, including a component on forest goods and services

OBJECTIVE 3

Develop alternative income generating opportunities for forest dependent households.

ACTIONS

- Support forest-dependent households to develop and increase the value of non-forest income generating activities
- Support the marketing of sustainably harvested forest goods and products
- Increase the access of forest dependant households to credit



PIC CAPTION: Kwadoli Primary School sowing mkangazi seeds

Vugiri school children with tree seedlings

OBJECTIVE 4

Reduce the consumption of limited forest goods - especially for generating energy - through the adoption of appropriate technologies.

ACTIONS

- Ensure the wide scale adoption of fuel wood saving technologies

NEED PIC

Stove pic

OBJECTIVE 5

Institutionalise a group capable of coordinating the protection, restoration and sustainable management of forest resources in the South Nguru Landscape.

ACTIONS


- Strengthen the LCC's capacity to coordinate activities within the South Nguru Landscape
- Develop a financing mechanism to support the LCC
- Strengthen the collaboration between current and future NGOs / development programmes in realising LCC goals
- Monitor and evaluate the livelihoods and conservation impacts of the LCC's Collaborative Action Plan

Who is going to make all of this happen?

Have a look at the diagram on the next page, it shows all the people, authorities and organizations that are going to make this plan a reality.

This Collaborative Land Action Plan was born in the heart of the Landscape that it has been designed for. It takes into account the needs and requirements of a broad spectrum of peoples.

Now it is time to for the institutions and communities to ACT!

A final thing - this umbrella organization should be a part of the LCC now.  they can be added to the list.

Partners in the Collaborative Landscape Action Plan



Appendix I

Landscape Coordination Committee

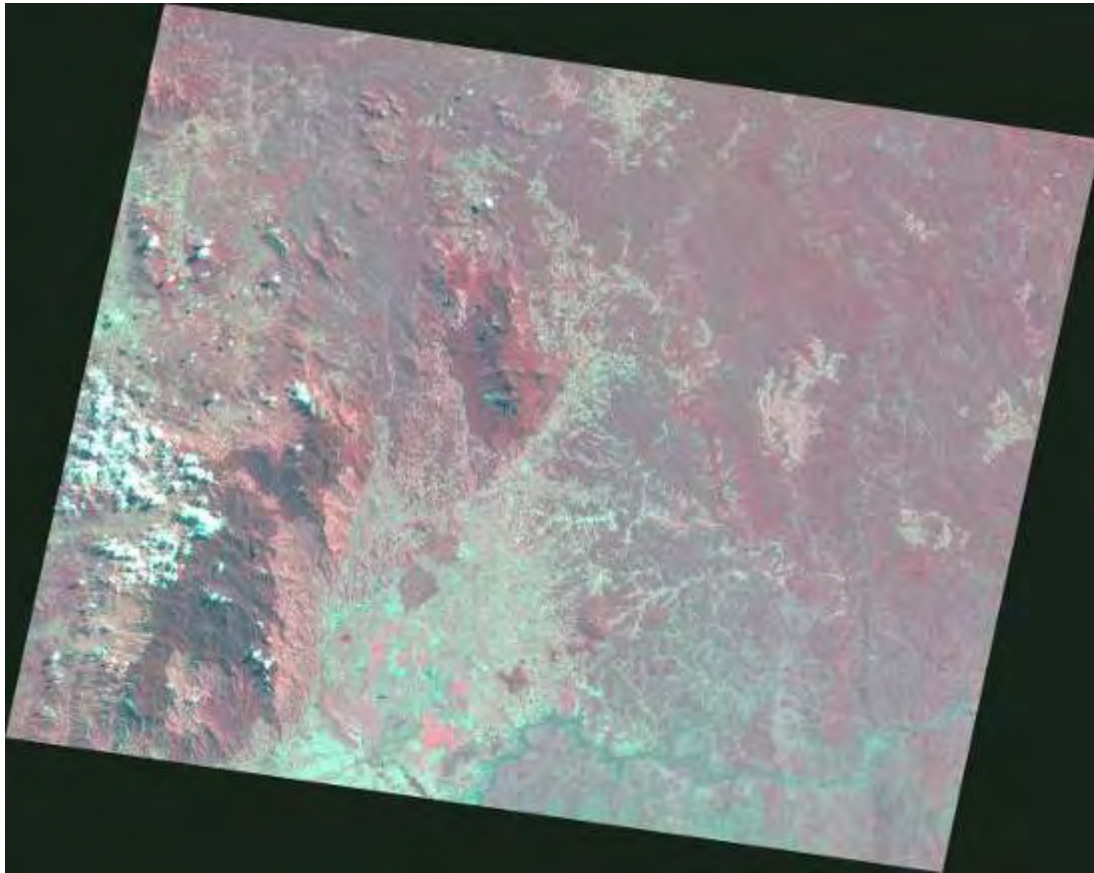
Members List

1. Forest and Beekeeping Division (The National Coordinator of the Eastern Arc Strategy Project)
2. Regional Catchment Office
3. District Natural Resource Office-Mvomero
4. District Planning and Lands Office-Mvomero
5. District Agricultural Department Office-Mvomero
6. District Community Development Officer - Mvomero
7. Mtibwa Sugar Estates
8. Tanzania Forest Research Institution (TAFORI)
9. Tanzania Forest Conservation Group (TFCG)
10. Conservation and Management of the Eastern Arc Mountains Forests Project
11. WAMI -Mbiki
12. PEMA Programme Co-ordinator
13. CARE Tanzania
14. WWF Tanzania
15. Two WARD executives officers from Mvomero or Turiani

CENTRE PAGE SPREAD - 2 PAGES

Sat map will be re made using green to show forest cover. Place names will also be added.

This picture shows you what the South Nguru Landscape looks like from the air.





GET INVOLVED!



Village forest management boundary marking



Get informed about the forests: Awareness raising at Pemba Village



