Reducing Deforestation:

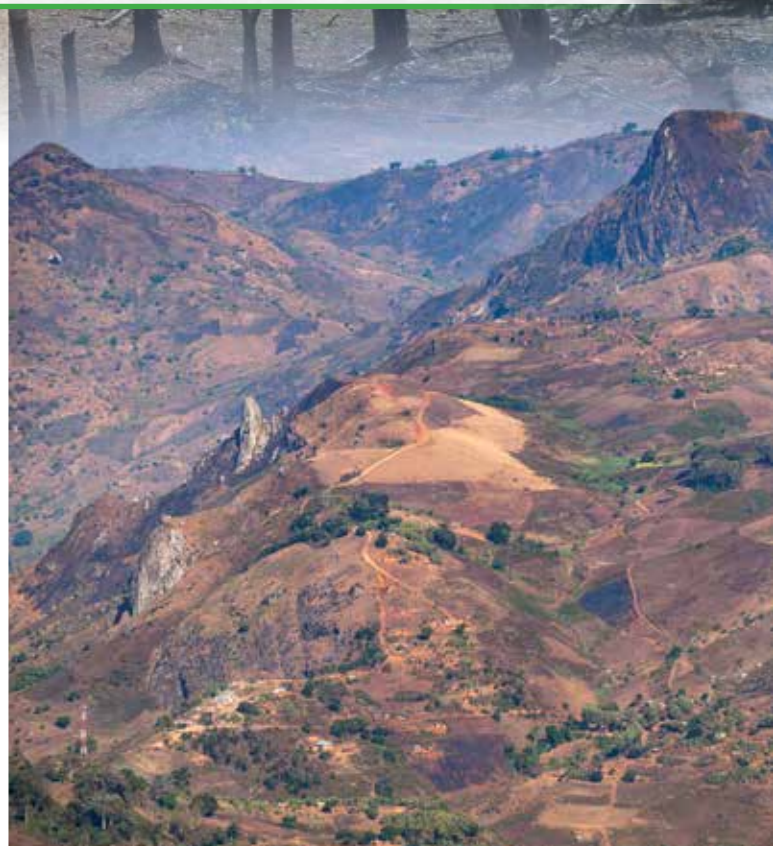# 5 Recommendations for the National Forest Policy

For decades, deforestation has been recognised as one of Tanzania's greatest environmental problems. Despite this recognition, new data from the Government shows that the area of forest that is cleared each year has reached 469,000 hectares[1], an area three times the size of Dar es Salaam Region[2]. It is a national problem affecting every region in the country.

The majority of the deforestation occurs on village land.[3] If the current rate of deforestation on village land continues, there will be no more forest on village land by 2061 if we exclude the 2.3 million ha already in Village Land Forest Reserves.

Most deforestation in Tanzania is driven by demand for agricultural land. By deforestation, we mean the permanent conversion of forest to non-forest. Demand for biomass energy also plays its part, but is of secondary importance and more frequently results in forest degradation (rather than deforestation). By forest degradation, we mean that it reduces biomass and other forest values, but the land cover remains as forest.

Between 70 – 80 % of deforestation in Tanzania is due to the conversion of forest land to agricultural land. The widespread transformation of Tanzania's village forests into agricultural land is not the result of a policy promoting that outcome. Rather, it reflects a profound policy failure to value natural forests, and to set in place deliberate targets and strategies to prevent the widespread conversion of village forests into agricultural land.

In this document, we recommend five actions for Policy Makers, Government and Development Partners, to reverse this trend. With the national forest policy currently under revision, we specifically urge that it include policies that will safeguard Tanzania's remaining natural forests.

The five recommendations are:

1. Embrace policies that place value on natural forests, and provide strategic direction to safeguard the ecosystem services provided by natural forest and woodland on village land.

2. Acknowledge that demand for agricultural land is driving most of the deforestation in Tanzania.

3. Emphasise strong inter-sectoral coordination, particularly with the agricultural sector.

4. Engage with other sectors to change policies that directly or indirectly promote deforestation.

5. Don't rely on tree planting to stop deforestation.

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[1]   URT. 2017. Tanzania's Forest Reference Emission Level Submission to the UNFCCC.

[2]   Area of Dar es Salaam Region = 139,300 ha

[3]   Total Deforestation = 469,000 ha yr^{-1}. FREL p. 25. Deforestation in reserved areas = 97,101 ha yr^{-1} FREL p. 32. We therefore assume that deforestation in unreserved areas = 371,898 ha / yr. Forest and woodland on village land in 2009 = 21,975,094 (NAFORMA, p. 25 & 40). 21,975,094 / 371,898 = 59 years from 2009 i.e. 2068.

Recommendation 1: Embrace policies that place value on natural forests, and provide strategic direction to safeguard the ecosystem services provided by natural forest and woodland on village land.

Society and individuals protect things that they value. This also applies to forests. In a market economy such as Tanzania's, value is often measured by the price of a good or service. Natural forests provide many valuable services to the economy including protecting water supplies, reducing soil erosion, preventing landslides, storing carbon and providing forest products including food, medicines and fuelwood. However, many of these services and products do not have well-defined markets. The absence of a market-determined price for many forest products and services has contributed to natural forests being considered as having no value. One solution to this, is to develop the economic value of natural forests.

Sustainable, natural forest-based enterprises such as sustainable charcoal and timber generate incomes for people, and can shift society to choose natural forest over other land uses, including agriculture. REDD+ is another market-based mechanism to incentivise people to select forest over non-forest. Market-based mechanisms to incentivise reduced deforestation, have been proven to work in Tanzania (Box 1). Support is needed from Central and Local Government and Development Partners to develop forest-based enterprises that incentivise communities and private land owners, to maintain natural forests and woodland on their land. In relation to the National Forest Policy, policy objectives that support sustainable, well-governed forest-based enterprises in the context of community based forest management, are needed.

If all of the legally available woody biomass was managed sustainably for biomass energy production, it could meet 94 % of Tanzania's biomass energy demand.

Natural forests provide many valuable goods and services to rural communities. The NAFORMA study found that fuelwood is the most commonly used forest product, and that 32% of rural households eat food from forests and woodlands. In Mvomero District, communities earn a revenue from the sale of Allanblackia fruits collected in natural forests.

Box 1. Examples of communities reducing deforestation after adopting forest-based enterprises

In Kilosa District, communities benefiting from revenues from sustainable charcoal, have reduced annual deforestation in their villages from -2.53% to -1.83% between 2010/12 – 2014/16, whilst deforestation in other parts of the district has increased from -1.82 % to -2.13 % over the same time period.

In Lindi District, communities benefiting from performance-based REDD+ payments reduced annual deforestation in their villages from -1.99% to -1.57 % between 2012 and 2013.

National policies provide another way for society to transform its values into decisions about land and natural resources use. Tanzania's policies have played a key role in protecting natural forests inside forest reserves and national parks, even in the absence of market-based incentives. However, they have been less successful at guiding society to value forests on village land, tending instead to promote the conversion of forests to non-forest land uses, particularly agriculture. Policies are needed that influence society to conserve natural forests. Valuing natural forests needs to be reflected in the policies of different sectors including land, agriculture, forestry, energy and local government. A policy to conserve forests, also needs to be backed up by investing government revenues in natural forest management. Policy makers have a key role to play in driving forwards such changes.

In the forest sector, it is important that the revised national forest policy include objectives to maintain natural forest on village land, and to incentivise communities to maintain their natural forests. Strategic thinking and action is needed to set and achieve targets that define the area and distribution of natural forest that is needed to achieve national development goals. There is a need to think strategically about how much forest is needed to meet projected biomass energy demand; to safeguard critical water sources; reduce soil erosion in vulnerable landscapes; and provide the multiple forest products that communities depend on, particularly in the context of climate change.

Recommendation 2: Acknowledge that demand for agricultural land is driving most of the deforestation in Tanzania.

The main driver of deforestation in Tanzania is agriculture. Studies conducted by the Government, including the National Forest Resources Monitoring and Assessment (NAFORMA) report (2015) and the Forest Reference Emission Level (FREL) report of 2017 both indicate that most land that is deforested, is converted into cultivated land i.e. into agriculture (Box 2).

Box 2. What evidence do we have about how much deforestation is attributable to different deforestation drivers?

NAFORMA and FREL

NAFORMA states that there is a deficit of 19.5 million m^3 / yr between the supply and demand for biomass.

Table 4.10: Wood balance analysis for Tanzania mainland

Supply and losses	Unit	2013
Supply		
Gross increment of all trees in Tanzania mainland	million m^3/yr	83.7
Legally available wood (AAC plus recoverable deadwood)	million m^3/ yr	42.8
Losses:		
Household wood demand (0.96 m^3/capita)	million m^3/ yr	-43.0
Industrial and household wood demand (0.05 m^3/capita. FAOSTAT 2014)	million m^3/ yr	-2.3
LULC change analysis (1995 vs 2010 maps) on FW: (-372816 ha/a * 40 m^3/ ha; 0.33 m^3/capita)	million m^3/ yr	-14.9
Import-export balance (charcoal, lumber and logs; 0.00 m^3/capita)	million m^3/ yr	-0.1
Illegal felling for charcoal/lumber mfg, trading (0.05 m^3/capita)	million m^3/ yr	-2.0
Total losses	**Million m^3/ yr**	**-62.3**
Wood Balance	million m^3/ yr	-19.5

Source: NAFORMA, 2015

The legally available biomass increment in Tanzania is 42.8 million m^3/ yr. This means that every year, trees outside of protected areas, can grow by 42 million m^3. Biomass energy demand is approximately 45.3 million m^3/ yr. So, there is a shortfall of 2.5 million m^3/ yr. This means that, if the legally available woody biomass was managed sustainably for biomass energy production, it could meet 94 % of Tanzania's biomass energy demand. As a percentage of the wood balance, the net shortfall of 2.5 million m3 / yr that is attributable to biomass energy demand, only contributes 13% of the wood balance.

However, a key figure in this table is the 14.9 million m^3/ yr that is lost due to land cover / land use change ('LULC change analysis'). This is the woody biomass that is often just burned or left to decay *in situ* as part of the process of converting forest land to agricultural land. This is equivalent to 76 % of the negative wood balance. In many cases this is a permanent loss of biomass as crop cultivation will prevent natural regeneration of forest.

In the case of the FREL, the estimated emissions of Green House Gases (GHGs) are based on the assumption that the majority of deforested areas are converted to agriculture. This is derived from the predominance of agriculture in non-forest areas, as documented by NAFORMA.

Other sources:

Willcock *et al*. 2016 analysed deforestation in Tanzania's Eastern Arc Mountains and found that forest area declined by 2.8 million ha between 1908 and 2000, with a commensurate increase in agricultural land (doi: 10.1111/gcb.13218)

Biomass energy demand also contributes to deforestation, however, it is more often a driver of forest degradation since it rarely causes permanent forest loss, as woodlands will usually regenerate after harvesting for woodfuel. In some cases, during the conversion of forest land to agricultural land, timber and / or charcoal is produced. However, biomass energy is frequently just a by-product of the transition from forest land to agricultural land. In many parts of the country, farmers simply burn the trees that they cut to clear farmland because they are not linked to markets for charcoal or timber, or the process of legally making charcoal or timber is too complicated and expensive for them to follow. This is a waste of resources.

There is a need for policy documents to present a more nuanced analysis of deforestation drivers, whereby the agriculture's primacy is clearly articulated. Recognising agriculture's role in driving deforestation is a critical first step towards finding a solution. Research is also needed to generate a more in-depth understanding of agriculture's role in driving deforestation, and to identify appropriate strategies to limit agriculture-driven deforestation whilst meeting Tanzania's development vision. The role of agriculture as the primary driver of deforestation should be clearly stated in the new National Forest Policy, together with objectives to limit further conversion of forests to agricultural land.

Box 3. It's not about the trees! Demand for land is driving this deforestation in Mbeya Region. The ashy remains of the trees, that have been cut and burnt, are clearly visible in this Google Earth shot, from 2014 (the pale grey streaks in the upper left corner). No timber or charcoal was produced from those trees. This is what deforestation in most of Tanzania looks like. Currently, village land policies permit anyone with permission from the sub-village leadership to move into an area and clear forest to make a farm. No permits are required and there is no need to pay for the trees that are cut, so long as they are burned and no timber or charcoal are produced. This policy undervalues these wood products and encourages the waste of forest resources as well as encouraging deforestation. During a recent analysis of high resolution imagery in Google Earth covering a random sample of deforestation between 2010 and 2015, MJUMITA found clear examples of clearing for cropland without producing charcoal or timber in nearly every region of the country.

Deforestation in
Tanzania between 2010 - 2016

Legend

☐ Tanzania_Regions

Land-Cover Change 2010-2016

☐ Non-Forest

🟩 Forest

🟥 Gross Deforestation
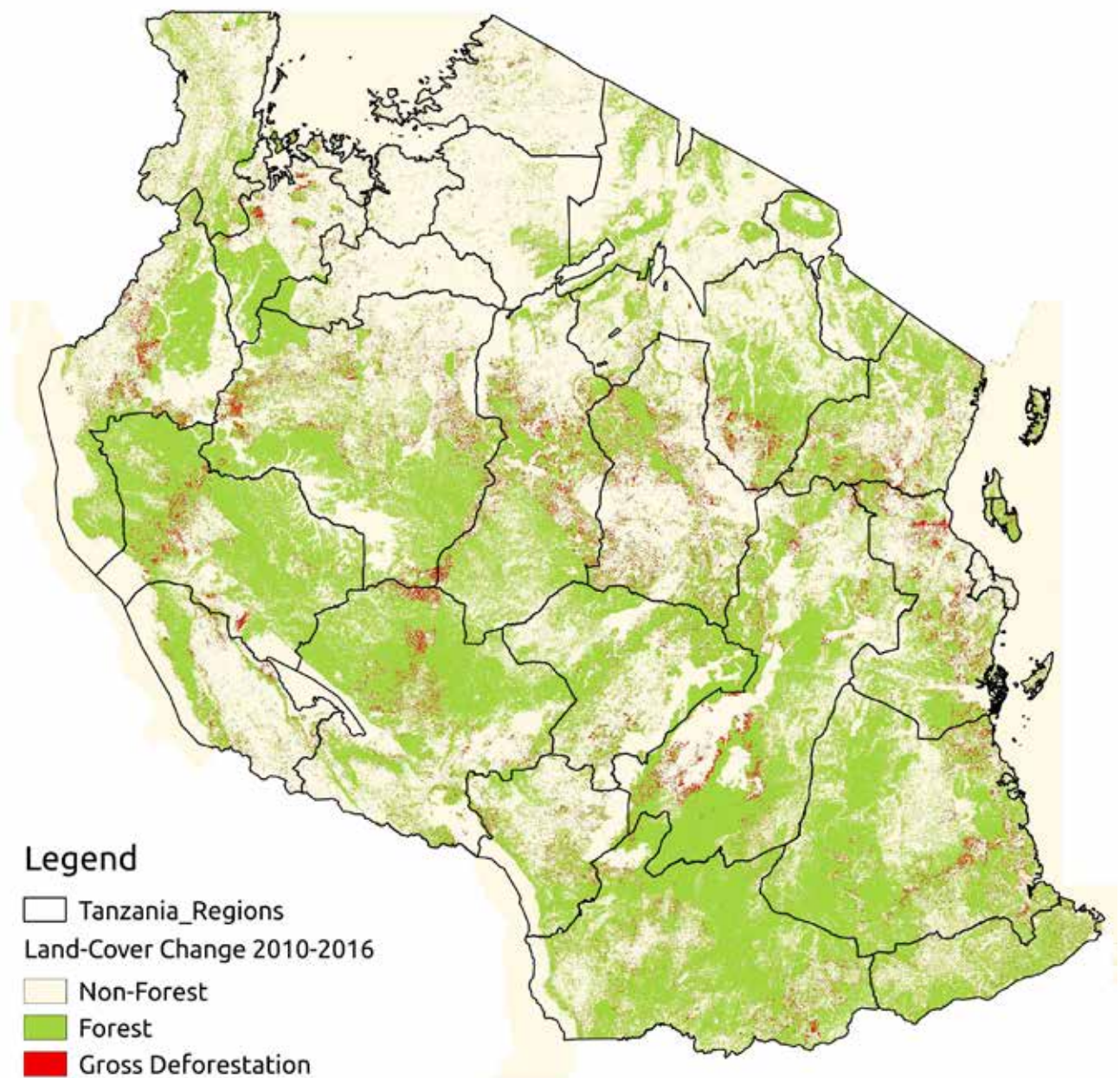
This map highlights areas of deforestation between 2010 – 2016. It demonstrates clearly that deforestation is not just a problem near major urban centres. It is a national problem affecting every region in the country and is primarily driven by the expansion of cropland. Map prepared by Theron Morgan-Brown, MJUMITA, 2017. The analysis found that 2,747,345 ha of forest were cleared between 2010 and 2016, in Tanzania,

Recommendation 3: Emphasise strong inter-sectoral coordination, particularly with the agricultural sector.

Policies and practices are needed that halt the conversion of forest land to agricultural land. More inter-sectoral coordination is needed so that agriculture sector plans promoting increased production of particular crops, include strategies to mitigate the risk that production gains are achieved at the expense of natural forests. More emphasis should be placed on intensification and sustainable land management to limit the need for new agricultural land. Achieving those changes now, while many villages still retain forests, is preferable to waiting until forests have been cleared. The revised National Forest Policy should include clear objectives to work closely with the agricultural sector to halt the conversion of forests to agricultural land.

The sharp edge between Uluguru Nature Reserve and surrounding agricultural land, shows how successful policies have been to protect natural forests in reserves, whilst failing to maintain even a mosaic of agricultural and forest land, on village land. Photo by Andrew Perkin.

Recommendation 4: Engage with other sectors to change policies that directly or indirectly promote deforestation.

There is a need to revise land, agriculture, energy and forest policies and policy tools so that they promote conservation and sustainable management of natural forests, and remove policy-driven pressure for society to convert forests to other land uses. For example, the energy sector needs a biomass energy policy to promote the supply of fuelwood and charcoal from sustainably managed woodlands. The land policy should encourage land owners to maintain natural forest on their land, and the agriculture policy should promote the protection of the forest ecosystem services that underpin agricultural production.

Recommendation 5: Don't rely on tree planting to stop deforestation.

Various policy documents and strategies propose tree planting as a strategy to reduce deforestation. For example, Tanzania's 5-year development plan includes a target of increasing forest area by 130,000 ha by 2020/21 and 160,000 ha by 2025 through tree planting, for which it indicates a budget of TZS 150 billion and a target of 280 million trees/year. The commitment to expand plantations is also reflected in the TFS strategic plan for 2014/19 which includes a target of 50,000 ha of new plantation by 2019. Tree planting can meet demand for timber, and, to a lesser extent, demand for biomass energy. However, it does not directly address the main deforestation driver i.e. demand for agricultural land.

Exotic tree species, such as these pine trees can provide timber and fuel wood. However, they do not address the key deforestation driver, that is demand for agricultural land.

About the Transforming Tanzania's Charcoal Sector (TTCS) Project

The TTCS project is a partnership project. The project goal is 'a pro-poor and climate resilient transformation of the economics and governance of charcoal and other forest product value chains'.

The TTCS project has two interlinked outcomes:

Outcome 1: Sustainable and well governed value chains for charcoal and other forest products improve rural livelihoods, climate change resilience and social services in three districts.

Outcome 2: An enabling and supportive policy and institutional framework exists for well-governed, environmentally sustainable and pro-poor charcoal and other forest product value chains.

Phase 2 of the project (2015-19) is being implemented in three districts in Morogoro Region: Kilosa, Mvomero and Morogoro. Communication, advocacy and capacity building are implemented at national level.

Project Partners
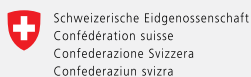
Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra	The TTCS project is financed by: **Swiss Agency for Development and Cooperation (SDC)** info@deza.admin.ch www.sdc.admin.ch
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