



UONGOZI Institute

Towards a Green Economy:

Exploring the potential of forestry in Tanzania through the Green Growth Platform





UONGOZI Institute

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Towards a Green Economy:

**Exploring the potential of forestry in
Tanzania through the Green Growth
Platform**



Leadership • Sustainable Development • Africa

UONGOZI Institute

Officially launched in June 2010 by the President of Tanzania, Jakaya Kikwete, UONGOZI Institute is dedicated to strengthening African leadership to achieve sustainable development.

Based in Dar es Salaam, the Institute helps build the skills and knowledge of African leaders to design policies and programmes which are tailored to their country's identity, vision and specific developmental needs, whilst taking into account regional and global implications. It seeks to improve decision-making processes by providing leaders with opportunities to meet and share ideas.



Introduction

Between 8-10 May 2012, the Institute of African Leadership for Sustainable Development (UONGOZI Institute) launched the Green Growth Platform (GGP) and hosted the Decision Makers' Forest Academy (DMFA) in Iringa, Tanzania – the first event of its kind in Africa. As a core activity within the Green Growth Platform, the Forest Academy, a concept adapted from one developed by the Finnish Forest Association brings together high-level leaders from government, the private sector and civil society to discuss and experience the critical issues facing the forestry industry in Tanzania.

From participants' responses, the inaugural Forest Academy was a resounding success. This publication introduces the Green Growth Platform and the DMFA's unique learning approach and shares the ideas and insights from participants attending the event in Iringa. The first part of the document presents an overview of the GGP and the platform's launch, while the second part gives an insider's view of the presentations, discussions and field visits that were conducted as a part of the Forest Academy.

What is Green Growth?

Economic growth is needed across Africa to tackle poverty, but countries cannot disregard the adverse impact of growth on the environment. Green growth aims to eliminate the dichotomy that traditionally exists between the economy and the environment. It is a model of economic development that reduces environmental risks by managing natural resources more efficiently and effectively and adopting cleaner production methods. Green growth is also about redistributing wealth and supporting the poor. The aim is to improve quality of life whilst ensuring that production processes and consumption patterns do not further damage the environment.

Green growth is also linked to global governance. In an increasingly interdependent world, national solutions alone will not be sufficient to secure long-term prosperity. A key global task is to proactively shift and adapt to using low-carbon energy sources to mitigate the climate change that threatens the planet's life support systems upon which we all depend. Closely linked to the issue of climate change, forest cover is rapidly decreasing and water and soil quality are deteriorating. Developing climate-resilient agriculture to ensure food security and reduce rural poverty is a prime example of adaptation that is needed in Africa.



The Green Growth Platform

The Green Growth Platform

A core component of the Institute's activities to support leadership for sustainable development is the Green Growth Platform (GGP). The aim of the Platform is to increase decision makers' and opinion leaders' understanding of issues related to green growth and its potential for societal development. The GGP is a proactive tool for building long-term social capital and promoting economic and social wellbeing.

The GGP method differs from those used in most seminars, workshops and conferences. The Platform combines plenary meetings and site visits, and the people attending the events are asked to participate as individuals rather than as representatives of their organisations. This approach fosters a setting for open dialogue and new ideas.

Ecosystems affect us all and their management necessarily cuts across societal and sectoral boundaries. Moving towards a green economy will require leaders in Government, civil society and businesses to engage in this transition collaboratively. Therefore, the platform brings together leading politicians, top-level administrators and business executives, representatives of interest groups, leaders of non-governmental organisations, representatives of the sciences and arts, the media, and other influential opinion leaders.

In these ways, the GGP explores the potential of diverse stakeholders and sectors to strategically contribute to development and to create cross-sectoral links that embrace common opportunities or tackle similar challenges.

In May 2012, the GGP was formally launched in conjunction with the hosting of the first Platform event – the Decision Makers' Forest Academy (DMFA) – in Iringa, Tanzania. Highlights from the GGP launch and the inaugural DMFA are presented below.

The Launch of the Green Growth Platform, 8 May 2012

More than 300 representatives from government, the private sector and civil society organisations participated in the launch of the Green Growth Platform in Iringa Town on 8 May 2012.

The launch was officiated by H.E. Dr. Mohammed Gharib Bilal – Vice President of the United Republic of Tanzania. The Vice-President is responsible for environmental issues and has graciously accepted the role as the Patron of the GGP.

Tanzania's potential

With abundant natural resources – vast open lands, rivers and wetlands, minerals, forests, wildlife, and wind, hydro, and solar power, Tanzania has great potential to adopt a

green growth model. It is also well positioned in the transition to green growth given the relative non-complexity of its growing economy. It has the opportunity to adopt new technologies that enable it to leapfrog the most resource-intensive and dirty models of industrial development used by developed and emerging economies alike.

“The Green Growth Platform will provide an avenue for profiling and catalysing partnerships that can scale the transitions to green growth...and create space for the government, the private sector and civil society to debate and work together to accelerate green development in Tanzania.”



Dr. Mohamed Gharib Bilal, Vice President of the United Republic of Tanzania plants a tree as a part of the GGP launch

Highlights from the Vice President's speech: On Green Growth

“A green economy can support growth, income and jobs...the “so-called ‘trade-off’ between economic progress and environmental sustainability is a myth.”

The Vice President envisaged that over the long term, a green growth model would outperform business as usual. The shift would necessitate significant changes in the behaviour of producers and consumers, but the traditional economic paradigm of “Grow first and clean up later” has proven unsustainable and, ultimately, more costly.



Dr. Mohamed Gharib Bilal, Vice President of the United Republic of speaking at the GGP launch



‘Alive Tomorrow’

*“Big man, tell them, the
country needs to develop,
But not in the way that
we’re used to,*

*As the world changes, so it
passes us by*

*Through its protection and
moving forward.*

*Tell your students, a
sustainable environment,
growing the economy and
social well-being*

*Work together in the renewal
of our nation,*

*Renewal being the highest
standard of independence.*

*We cannot celebrate
independence while
tomorrow there is no life!*

*Our tomorrow, for the
realisation of our dreams,
and our descendants.”*

This is an extract from the poem
written by Mrisho Mpoto for the
opening of the Green Growth
Platform. (Pictured left)





**The Inaugural Decision Maker's Forest
Academy in Tanzania, 8-10 May 2012**

Immediate action to sustainably manage and use Tanzania's timber resources is essential to avert a looming timber shortage for domestic consumption, and to combat the increasing threat of climate change.

As a part of the Green Growth Platform, UONGOZI Institute organised the inaugural Decision Makers' Forest Academy (DMFA) event. Iringa Region was selected as the venue for the inception of the Forest Academy in Tanzania as a large and representative proportion of the country's forest-related industry is concentrated in this region. The event brought together 39 leaders from the public sector, academia, civil society, the media, and other influential opinion leaders.

Reflecting the unique approach of the GGP, the first Forest Academy in Iringa combined plenary presentations and discussion with a series of field visits to key forestry sites throughout the region.



Lessons from the DMFA Presentations

Enhancing Forest Management through the Clean Development Mechanism (CDM) and Reducing Emissions from Deforestation and Forest (REDD)

This presentation by Professor Yanda, Professor in Physical Geography from the University of Dar es Salaam, focused on the major threats to Tanzania's forests and on harnessing the potential of two international mechanisms to address those threats and arrest the scale of deforestation now taking place.

Major Threats to Tanzania's Forests

- **Demand for fuel**

Overall, 95% of households use wood or charcoal as the source of energy for cooking. Demand for charcoal is also high for export to neighbouring countries, such as Rwanda and Burundi, where stricter law enforcement is in place to protect forests.

- **Agriculture**

As the population grows, more land

is being cleared for subsistence agriculture and cash crops. Large-scale commercial farming is also contributing to deforestation.

- **Agro-pastoralism**

The migration of agro-pastoralists with their livestock from degraded to less degraded areas disrupts natural ecosystems and puts increased pressure on woodland areas.

- **Unsustainable timber harvesting**

- **Increased incidence of wild fires**

The incidence and severity of fires are increasing as global warming leads to extended dry spells and rising temperatures. Intentional burning off to clear land adds to the risk.





Prof. Pius Yanda presenting at the Decision Makers Forest Academy

The Impact of Deforestation and Forest Degradation

Clearing and/or burning of forests in the tropics is estimated to account for 20% of global carbon (greenhouse) emissions. Deforestation contributes to land degradation, soil erosion and loss of biodiversity, even the hydrological characteristics of rivers and catchment areas may be changed. Once the forest is cleared, local climatic conditions are also altered towards higher temperatures and less rainfall in degraded areas.

What to Do?

In response, Tanzania is strengthening law enforcement and advocating participatory approaches to forest management to reduce deforestation. Professor Yanda highlighted joint forest management (JFM) and community-based forest management (CBFM) as two participatory initiatives already in place that need to be built upon. The shift towards more sustainable agricultural practices – agro-forestry, soil and water conservation and

zero grazing – will also be important components of a national strategy to protect Tanzania's natural resources from over-exploitation. Degraded areas can be restored through afforestation.

Two Funding Opportunities

To support the Government's national efforts to improve forest governance and management, Professor Yanda described two international financing mechanisms: the Clean Development Mechanism (CDM) and the United Nations Collaborative Program for Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD).

Clean Development Mechanism

The Clean Development Mechanism (CDM) allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits. These can be traded and sold in emissions trading schemes. Each credit is equivalent to one ton of carbon dioxide.

Industrialized countries can buy CERs to meet a part of their emission reduction targets under the Kyoto Protocol. The mechanism is intended to be win-win, such that developing countries are given the financial incentive to take infrastructure decisions that are less polluting, while industrialized countries are given some flexibility in how they meet their emission targets.

Developing or switching to the use of clean and renewable energy sources are the most common projects under CDM, but another CDM avenue is the establishment of carbon sinks, through afforestation and the expansion of plantations. CDM provides a window for countries who engage in these activities to be rewarded because they are helping reduce carbon emissions. On the positive side, CDM projects can provide employment, enhance the environment, and improve living standards in rural areas whilst mitigating climate change. However, the technical planning, application

and approval process is complex, requiring significant investment and expertise to design projects that are accepted and funded.

Reducing Emissions from Deforestation and Forest Degradation

REDD is based on the idea of rewarding individuals, communities, projects, and countries that reduce greenhouse gas (GHG) emissions from forests. The program is seen as a significant, cheap, quick and mutually beneficial way to reduce emissions.

- Significant: One-fifth of global GHG comes from deforestation and forest degradation.

- Cheap: Much deforestation and forest degradation is only marginally profitable. Reducing GHG emissions from forests is cheaper than most other mitigation measures.
- Quick: Large reductions in GHG emissions can be achieved with measures not dependent on technological innovations.
- Win-win: Potentially large financial transfers and better governance can contribute to poverty alleviation in developing countries, the preservation of biodiversity and provide other environmental services on top of the climate-related gains.

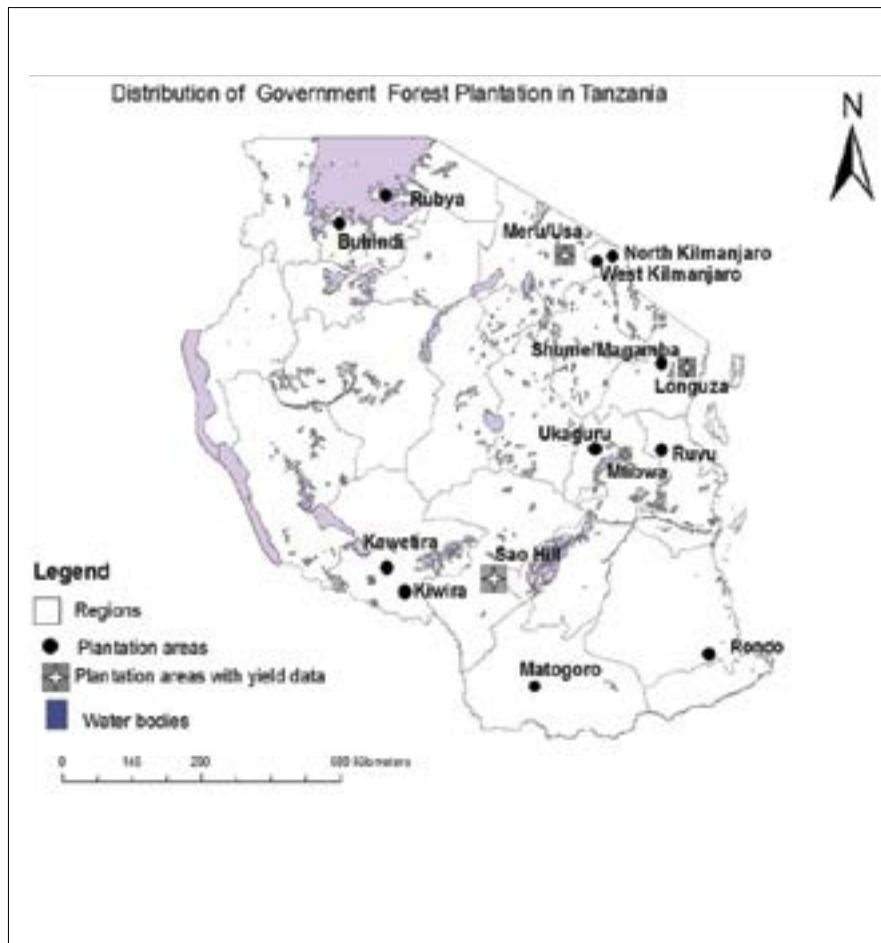
The Economic Importance and Status of Forests in Tanzania

Professor Yonika Ngaga, Dean of the Faculty of Forestry and Nature Conservation at Sokoine University of Agriculture set forth the enormous contribution of Tanzania's forests to the national economy and the vital importance of sustainably managing this vital resource. According to a 2008 estimate by the Ministry of Natural Resources and Tourism, the annual value of forest goods and services in Tanzania per annum amounts to about USD 2.2 billion which is equivalent to approximately 11% of the Gross Domestic Product at the time.

In just two decades, Tanzania has lost 81,000 square kilometres of forest. This area of deforestation is larger than the entire area of Tabora region (76,000 sq. km), the biggest region of the country.

The Pressure of Population Growth on Forests

As the country's population has increased from 24.4 million in 1990 to 41 million in 2010, the total forest



cover has dramatically fallen from 41.5m hectares to 33.4m hectares. Consequently, per capita forest cover has halved from 1.7 ha to 0.82 ha nationally, which is already below the estimated demand at household level of 1 hectare per capita. Even more troubling, per capita forest cover is projected to decline further to 0.54 ha by 2020 and to 0.35 ha by 2030.

Prof. Ngaga's analysis indicates that to meet household demand for wood and maintain the current forest stand will require a five-fold increase in the rate of tree planting to 700,000 hectares annually or an average of 25,000 hectares for each and every region of the country. This will be an enormous challenge. At present, only about 160,000 hectares are being planted annually, and approximately 90% of this is concentrated in four regions: Iringa, Tabora, Dodoma and Tanga.

The National Status of Forest Plantations

In total, Tanzania has just 250,000 hectares of forest plantations, of which, the Government owns about 85,000 ha, private industry around 40,000 ha, and out-grower schemes and woodlots occupy between 80,000 and 140,000 ha. The map below shows the distribution of the government's plantations. Sao Hill Forest Plantation (SHFP) in Mafinga in Iringa region is the largest government plantation. It represents



Prof. Yonnika Ngaga presenting at the Decision Makers Forest Academy

around 50% of the total government plantation area and is currently supplying over 70% of raw material consumed by industries in Tanzania. Given its significance to the national forestry, Sao Hill was one of the locations visited as part of the inaugural Forest Academy (see “A Tour of the Forest Industry in the Southern Highlands” below).

It is expected that, by 2030, the same government plantations that now supply 70% of national timber needs will reduce the supply to 40%. The question, however, is whether the production of private plantations will be able to grow sufficiently to meet this shortfall. Based on demand and supply data and projections, Professor Ngaga's analysis indicates a serious shortage of raw wood material for 10-15 years beginning in 2017, just five years from now. By 2030, the annual demand for timber products is forecast to outstrip demand by about 39 million m³.

What to Do?

Clearly, action is urgently needed for rapid, sustainable development of the forest sector. In order for the sector to grow fast and increase its contribution to the national economy, Prof Ngaga highlighted the following urgent priorities for the sector:

- Enforce existing regulations and guidelines regarding harvesting of forests.
- Improve the management of private and public forest plantations, including fire management, growing stock, and use of improved seeds and germplasm.
- Invest in better technology (machinery and training) to increase the efficiency in wood processing; this calls for partnerships with private companies with supply guarantees considered for serious investors.
- Expand the body of technical knowledge about lesser known species through research and share this information with end users and producers.
- Increase the government budget for forestry, which is seriously underfunded. Only USD 9.9 million is currently allocated to look after 30.9 million hectares of public forest estates; that is only USD 32 cents per hectare of forest.

Highlights from Discussions

Stimulating question and answer sessions followed the presentations by Professors Yanda and Ngaga. Participants asked probing questions and provided thoughtful commentary across many issues related to sustainably managing Tanzania's forests. The following excerpts highlight some of the critical issues discussed.

On household use of charcoal

Plenary participant: *You have told us that we destroy our forests, but perhaps we don't have the luxury of not using them. We have to use them. We have to use charcoal.*

Prof. Pius Yanda: *We cannot stop people from cutting down the trees as long as we don't give them alternatives but there are some other ways of going around it. For example, if we improve the technology which is actually being used for cooking with charcoal, if you use the improved cooking stoves we can cut down quite substantially the demand [for charcoal] that is actually required in the urban centres.*

On current REDD/CDM projects in Tanzania

Prof. Pius Yanda: *Only 3% of all the projects funded by the Clean Development Mechanism (CDM) are in Africa. The rest are in Asia and Latin America. We need to do something in order to access these opportunities. The best way to increase the projects funded by CDM in Africa is through a quota system where we have allocation of resources and say this is for Africa. Then we can compete for the resources which have been allocated for Africa... This will help as it is very difficult competing with countries outside Africa with their technology and expertise.*

Dr. Felician Kilahama: *Land should be looked upon very carefully. If an investor*

(foreign company) gets land, 80% of what is earned will be going back to their countries. I would like to see REDD benefitting communities in real terms, alleviating poverty, getting nutritional foods, kids going to school, hospitals built and to be able to say REDD helped us. In the absence of that, pressure on forests will still be significant.

On tree planting in schools and environmental education

Plenary participant: *We have an opportunity in getting the young society members to participate in tree planting and make them see that they could benefit from trees in their future lives. In 20 years, their trees will be ready for harvesting and could help them. This should start in schools. School children can plant a lot of trees. We need to incorporate environmental education, forest and agriculture subjects in our curricula.*

On diversifying forest products beyond timber

Plenary participant: *All presentations focused on forest harvesting, whether sustainably or not. I believe forests have more products than just timber... this is an opportunity for other industries to be established or resurrected as a means of adding value to our timber products. Value addition industries could benefit from this.*

On the dissemination of research findings

Prof. Yonika Ngaga: *Dissemination of information is a critical issue here in Tanzania. One of the reasons why we are not developing is because we are not disseminating information. We need to develop an institutional link which can link research findings, those who are disseminating and what people need. If that link is missing, we will keep on talking and talking till we are buried.*





Conclusion

Green Growth is vital for sustainable development due to its consideration for social and environmental components that compliment, rather than work against the economic elements. Forestry and related activities are an ideal sector where the elimination of the growth vs. environment dichotomy is both necessary and appropriate. Forest management and governance are vital issues for development in Tanzania, Africa and the global context of mitigation and adaptation efforts relating to climate change – not to mention the fact that there are tremendous emerging and long-dormant opportunities.

To build a sound, well-regulated and sustainable forestry industry, one that meets the demand of a rapidly growing population, contributes to poverty reduction and participates in global efforts to avert devastating climate change requires knowledge, vision and strategic partnerships

across all sectors of society. The success of the first Green Growth Platform event in Iringa provides a blueprint for bringing together diverse stakeholders to discuss and experience relevant industries.

UONGOZI Institute, through the Decision Makers' Forest Academy, will continue to promote forestry and related activities, opportunities and challenges as part of the platform's efforts to promote Green Growth. The connections between individuals, institutions and the environment are more important than ever before as the planet approaches tipping points in global warming. UONGOZI Institute will actively support leaders in achieving national development and global stewardship of natural resources to ensure that growth is both socially inclusive and environmentally sustainable. The success of the Green Growth Platform is a great step in the right direction of developing a prosperous and desirable Tanzania.

Trees – Paper - Wood

A Tour of the Forest Industry in the Southern Highlands

The second day of the Forest Academy was fully dedicated to a tour of key forestry sites in the Iringa region. Field visits were planned with the aim of exposing participants to the value chain for forestry products, from forest plantations to the production of timber by-products. The particular region was selected for the visits given the large scale of forestry activities that take place in the area. The forest based industry in Tanzania is largely dominated by sawmilling, woodworks/furniture marts and joinery. Other industries include paper, as well as wood based and pole treatment plants.

Sao Hill Forest Plantation

Participants at the Sao Hill Plantation The Sao Hill forest plantation is the largest state-owned industrial plantation in Tanzania, representing around 50% of the total government plantation area, which currently supplies over 80% of raw material consumed by industries in Tanzania. The plantation was developed with the objective of providing pulp wood and timber as raw materials to wood industries, as well as protecting water catchment areas and preventing soil erosion, improving local climate, and acting as a buffer between local



Land preparation before planting is normally done by casual labourers under supervision of foresters. This is done by clearing, heaping and eventually burning of debris which begins after the long rainy season.

people and the natural forest.

The main species of trees on this plantation consist of pine and eucalyptus. However, no bucking or dividing the logs by size and quality for different uses is done at the plantation, this is done on the outskirts of the plantation where a number of micro-mills with small-scale wood processing machinery (ding-dongs) are situated.

Logs suitable for sawn timber are used to produce sawn wood, poles, wood based panels and kraft paper,

with most sawn wood used for construction and furniture. At the moment, approximately 700,000 m³ of trees are harvested annually. These are eventually used for commercial wood (construction, etc.), paper making, pellet making (for packing boxes) and export.

A proportion of the timber felled on the plantation is left unused at the felling site. As a result, some of the wood is collected by villagers to be used as fuel wood, the remainder is burned on site to prepare the land for further cultivation.

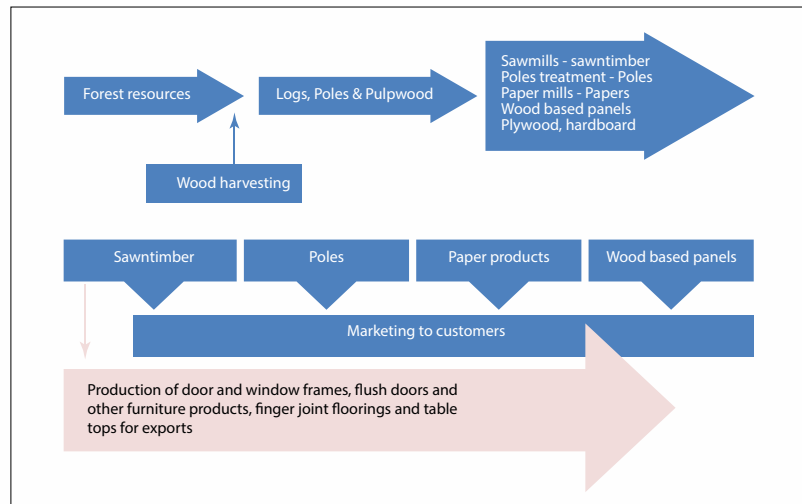
Sao Hill Industries

The Sao Hill Industries facility houses a privately-owned timber farm, the largest sawmill in East Africa and the largest electricity pole plant in the region. The company is a subsidiary of Green Resources AS group of companies, one of Africa's leading forestation companies; it plants and grows trees to generate carbon credits and bioenergy and to manufacture wood products. The original sawmill was built with the Norwegian Development Aid in the 1970s; and subsequently acquired by Green Resources, a Norwegian firm, when it was privatised by the Government of Tanzania. Sao Hill Industries only harvests plantation forests and re-invests all carbon offset revenues generated from their own plantations in Southern Highlands of Tanzania, with 10% of revenues allocated for community development (see <http://www.greenresources.no/> for more information).

The mill produces sawn timber as well as pallets, doors and other value added products. Sao Hill Industries also operates two timber treatment plants and several charcoal kilns.

As a part of the field visit, participants were given a tour of the sawmill and observed the treatment and pre-sale processes for timber and wooden electrical poles. All the trees (pine) purchased for the production of timber are sourced from the Sao Hill plantation. The trees (eucalyptus) purchased for the production of electrical poles are sourced from the Sao Hill plantation and other sellers.

Schematic Description of Production flow of Forest Products



Tanzania Market Study 2011





Mufindi Paper Mills

Mufindi Paper Mills Limited, privatised in 2004, is a fully integrated paper mill producing approximately 40,000 tonnes of industrial kraft paper per year from pulp wood sourced from the Sao Hill plantation. Further plans are in place to increase production to 150,000 tonnes per year.

The kraft paper produced is primarily exported to Kenya, which consumes approximately 30,000 tonnes per year. Tanzania consumes approximately 12,000 tonnes, and the remainder is exported to Uganda and Malawi.

The mill is powered by electricity from both the national grid and power generated on site for meeting the electrical energy requirements

for its operations with plans of exporting it to the grid.

The Government of the United Republic of Tanzania has extended a sovereign undertaking to the Paper Mill, which guarantees a minimum off take of 500,000 m³ pulp wood logs leaving aside 300,000 m³ to the Saw Log Operators.

Matembwe Tree Growers' Association

The Matembwe Tree Growers' Association, known by the Kiswahili acronym UWAMIMA, established in 2009, is an association of local villagers who own forest plantations in the Matembwe region. The association currently has 45 members and around 1,500 hectares of woodlots.

Associations such as UWAMIMA assist in the achievement of economies of scale for small-scale tree growers as they work together in seeking markets and negotiating sales for their timber. They also play a significant role in enhancing the quality standards of tree farming. Some of the key challenges for UWAMIMA members include a shortage of high quality seeds; proper technical training; adequate capital and frequent fire hazards, all of which have become easier to address as a part of the association.

Top: UWAMIMA chairman, Yohana Kikungwe, addresses participants as they tour the small-scale plantations.

Bottom: One of the plantations under UWAMIMA.





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