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Cover photo: Freshly harvested logs in a Pine forest plantation, ready for transportation to a sawmill for further processing

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Foreword

Dear Readers,

It is my pleasure and honour to present to you yet another issue of the SPGS III Newsletter – focusing on the role of commercial forest plantations as a vehicle to achieve a green economy. Recognizing the urgency of acting on climate change, many governments have developed green economy or green growth plans and strategies focusing on the link between the economy and environment. Uganda launched its Green Growth Strategy in 2017 as an implementation tool for ensuring that both National Development Plan (NDP) II and Vision 2040 are achieved in the most sustainable manner. The strategy identifies sustainable forestry management through: a) forest landscape restoration especially on private land, through agro-forestry and afforestation b) incentive support programmes oriented towards livelihoods enhancement, environmental stewardship and (c) landscape management for climate change adaptation, mitigation, food security and sustainable energy.

The SPGS III Project, implemented by FAO on behalf of the Government of Uganda, is one of the several recent initiatives on green growth economy. Funded by the European Union, the project aims at increasing incomes of the rural population through commercial tree planting by medium and large-scale actors and the local communities, while at the same time, mitigating impacts of climate change.

Since the start of the third phase of SPGS in 2016, the project has supported close to 300 private sector players to establish 16 000hectares of commercial tree plantations. The target is to establish 25 000 ha by 2020. These high quality plantations help to reduce pressure off the country's remaining natural forests while also creating jobs directly in plantations and related service industries such as tree nurseries. By 2014, it was estimated that the number of jobs created during the previous phases of SPGS was 17 000; this is expected to increase as the industry develops further along the value chain. In this phase, the Project, in addition to tree planting, will also support value addition and processing of forest products such as timber, through promoting efficient processing technologies.

This issue provides Project updates and highlights of key activities. Also read about the Project's participation in public outreach activities such as the World Food Day celebrations in Karamoja region- and how farmers in Karamoja have embraced tree planting.

We have also profiled some of the beneficiaries of FAO's support through SPGS III. They share their experiences in plantation forestry and we hope that these stories can inspire more support for the young yet rapidly growing commercial forestry sector.

I wish to thank the Government of Uganda for entrusting FAO with implementation of SPGS III and the European Union for graciously funding the Project. FAO was honored to organize a field tour for European Union ambassadors in Uganda to a planted forest of one of the grantees in Kyankwanzi District. Feedback from the envoys' visit was positive and a show of commitment from development partners to supporting the country's green growth agenda through commercial tree planting. More highlights of this tour are included in this issue.

Happy reading!

Antonio Querido
FAO Representative in Uganda

EU envoys laud private sector for championing commercial forestry

Ambassadors of European Union countries in Uganda with staff of global-woods AG

Ambassadors of European Union (EU) countries to Uganda commended the Government of Uganda and private investors, for engaging in commercial tree planting to help mitigate climate change and foster sustainable development through income generation. This was during a tour to global-woods AG Limited's forest plantation in Kikonda Central Forest Reserve, Kyankwanzi District on 5 November 2018. Global-woods AG is one of over 300 private sector investors that have received financial and technical support from SPGS III, an EU funded project being implemented by the FAO.

The EU envoys from Germany, France, Ireland, Sweden, Denmark, Austria, Netherlands and Norway were on a four-day retreat in Hoima District to familiarize themselves with developments in the oil and environment sub-sectors in Uganda, where the EU has invested, as part of its support to the Government of Uganda. These investments include the SPGS III project, with funding of USD 17million from the EU, FAO and Government of Uganda.

The EU Ambassador to Uganda, Attilio Pacifici, commended companies like global-woods AG for effectively using the grants to boost their investments and employ more people while adding value to their forest plantation products, such as sawlogs and poles. He also stressed the significance of finding a balance between preserving the natural forests while at the same time investing in commercial tree planting and woodlot establishment to meet the timber and fuel wood needs for both the population as well as industrial use.

The ambassadors called for Government support to foster the industry through supportive legislative framework that promotes legal trade in timber and other forest products. According to Barnabas Vroegop, the Manager- Harvesting, Processing and Sales at Global-woods, the company has started harvesting timber and in the next three years plans to harvest 420 hectares. This timber will greatly address domestic and export market demand.

Leonidas Hitimana, FAO/SPGS III Project Coordinator noted that the next two years of the Project will focus on downstream processing, which he described as a critical stage in the sustainability of the forest value chain. "Through a matching grant model, the project will support the procurement of improvised sawmilling technologies to demonstrate and promote efficient wood processing technologies", he said. The current processing technologies are characterised by high levels of inefficiencies and low output. Better processing technology alongside matching skills will ensure increased output and better return on investment.

EU Ambassador to Uganda- Atillio Pacifici (left) waters a tree seedling as part of tree planting activities at global-woods AG

FAO Deputy Representative- Priya Gujadhur (center) waters a tree seedling as part of tree planting activities at global-woods AG

About global-woods AG Limited

Global-woods AG Limited is a German-based private company operating in Uganda since 2002 after receiving a 50-year tree farming license from the Government of Uganda to establish plantation forests in the Kikonda Central Forest Reserve in Kyankwanzi District. Currently, the company employs about 600 workers, including forest contractors and has so far planted about 8 500 hectares (ha), mainly of Pine for saw logs, and Eucalyptus for the transmission pole market. The company has been a beneficiary of SPGS since 2004, receiving technical and financial support for commercial forest establishment.

Global-woods uses a mosaic forestry model for its forest management; planting tracks of single species plantations while at the same time conserving connective parcels of the natural environment. Extremely degraded areas are rehabilitated through planting of Pine or Eucalyptus trees, with about 2 000ha under conservation, making it the largest privately financed conservation areas in the country.

Certified by FAO in 2018 as a five-star commercial tree nursery, Global-woods' tree nursery provides high quality planting materials for its own plantation establishment, for sale to other growers and distribution to communities interested in planting trees.

Global-woods AG also has a comprehensive Corporate Social Responsibility (CSR) to foster a cordial relationship with its neighbours. CSR initiatives include training community members in savings and financial literacy and adoption of improved farming methods, exposure visits, community tree planting, offering free health services such as HIV testing and immunization and support to water and sanitation improvement in schools.

As a commercial forestry company, Global Woods is committed to providing social, economic and environmental benefits to stakeholders by upholding the principles of economically viable, socially beneficial and environmentally appropriate management of forests that foster a green economy.

Part of the Global Woods planted forest in Kikonda Forest Reserve

a pupil of Bulongo Primary School draws water from a borehole constructed at the school, by global-woods AG

The European Union as a partner for green economy in Uganda

Jalia Kobusinge- Sustainable Development Adviser at the EU delegation in Uganda

The European Union (EU) has a long history of development cooperation with the Government of Uganda, supporting programmes in a range of sectors, from water and sanitation to forestry and climate change. Concerned about the rampant rate of deforestation in Uganda (estimated at 122 000 ha annually, the EU has significantly supported reforestation efforts to support government programs aimed at reversing trends of deforestation- which is in line with the government Green Growth Strategy. Jalia Kobusinge- Sustainable Development Adviser at the EU delegation in Uganda, explains the EU's support towards sustainable forestry sector.

Green Growth Economy and its relevancy to developing countries such as Uganda

Approaches such as Uganda's Green Growth Development Strategy 2017/18 – 2030/31 can help developing countries like Uganda to promote an inclusive green economy. The overriding goal of the concept is to achieve an inclusive, low emissions economic growth pathway that emphasizes effective and efficient use of natural, human and physical capital while ensuring that natural assets continue to provide for present and future generations.

This approach embraces principles such as resource efficiency, equity and social inclusiveness, low emissions and sustainable economic growth. A green growth economy approach, presents an innovative progression path that simultaneously generates inclusive economic development and environment sustainability.

Aligning EU interventions with Uganda Government plans and policies

EU's initiatives are informed by policies and plans of the Government of Uganda as well as international development priorities and trends. Local and central Government authorities, who are also involved in elaboration of the interventions, endorse country-focused interventions. Also involved are other relevant stakeholders including Civil Society Organizations, private sector and target communities.

Investment in forestry is informed by Uganda's Vision 2040 which targets restoring forest cover to 24 percent of Uganda's land area by 2040; the National Development Plan (NDP) II which proposes restoration of forest cover to 18 percent by 2020; the National Forestry Policy; the National Forest Plan (2013); Uganda's Nationally Determined Contribution (NDC) under the Paris Climate Agreement as well as the National, Reducing Emissions from Deforestation and Forest Degradation REDD+ Strategy and Action plan. The forestry enterprise is presented as a national priority.

At regional level, natural resources management, particularly law enforcement and forestry management feature prominently through frameworks such as the East African Community, the Inter-Governmental Authority for Development (IGAD), the Greater Virunga Transboundary Cooperation and the Nile Basin Initiative to which Uganda is a party.

The EU also recognizes international policy commitments assented to by Uganda such as the Paris Climate Change Agreement, Convention on Biodiversity, Convention on International trade in Endangered Species (CITES), UN Convention to combat desertification (UNFCCC). Uganda also expressed commitment towards the Bonn Challenge, further emphasizing the importance of forestry.

Support to commercial forestry through the Sawlog Production Grant Scheme Project (SPGS)

The EU embraces several global instruments that support sustainable forestry for climate change mitigation among other interventions. These include the Forest Law Enforcement Governance and Trade (FLEGT) initiative and the Global Climate Change Alliance (GCCA), which promote governance and fair trade, traceability along the forestry value chain, and help to fast tracking response to challenges, opportunities of climate change and impacts targeting Low Developed Countries and the Small Island Developing States (SIDS) respectively. Through bilateral agreements, the EU supports interventions prioritized by host governments. In Uganda, the EU supports sustainable forestry through programmes like the Sawlog Production Grant Scheme (SPGS), the GCCA initiatives and the Development Initiative for Northern Uganda (DINU).

EU has been funding the SPGS project since 2004. SPGS began as a component of the European Union funded Forest Resources Management and Conservation Programme (FRMCP). Creation of sustainable timber resources was one of the three principal themes of FRMCP. At that time, the financing agreement noted that Uganda was running out of timber resources, hence the eminent need for plantation-sourced timber to meet demand. By end of this pilot, the project had supported planting of 10 000ha. The success of this first phase triggered EU to support a second phase (2009-2015). An additional 32 000ha were planted during this phase. The current phase (SPGS III), has a target to plant 23 000ha. Phase III will also support development of downstream value chain through promoting efficient processing technologies

Employees of New Forests Company- a beneficiary of FAO/SPGS III- debarking eucalyptus trees in the field. The forestry industry has potential to create many rural jobs in areas where they are located.

and development of markets for timber and other wood products. Through the SPGS model –EU has been able to demonstrate the role of private sector players in developing a green economy.

The private sector is a major player in the SPGS intervention, whose engagement is a key driver for the sustainable development of the value chain being the only channel for viable jobs creation, substantial value addition and processing, with the potential to effectively and significantly engage the large and mainly young labour force of Uganda in particular.

Fifth SPGS III steering committee meeting discusses Project performance, commends tree growers

The Fifth Project Steering Committee Meeting of the SPGS III Project was held on 8 August 2018 at the Ministry of Water and Environment in Kampala. Key among issues discussed was feedback from a Result Oriented Monitoring (ROM) mission, conducted by the European Union, to assess the Project's performance. The mission noted that the SPGS III Project is relevant to Uganda's national policies and development agenda and responds to needs of various categories of beneficiaries including communities, institutions, growers of all categories as well as service providers such as nursery operators. It further revealed that grantees exhibited high plantation maintenance and establishment standards for good forestry, although communities and institutions needed more support to uphold similar standards. The latter have low levels of financial investment and tend to target low value products such as firewood as opposed to grantees who mainly target high-end products such as electricity transmission poles. This could affect their adherence to standards.

The meeting, chaired by Alfred Okot-Okidi, the Permanent Secretary in the Ministry of Water and Environment (MWE), recommended an extension of the contractual period of all grantees by two planting seasons to allow them more time to plant the entire area for which they were contracted. This would enable the Project to meet its target of establishing 25 000ha by private growers, to help increase the forest estate in Uganda.

During his presentation on the Project's performance, Leonidas Hitimana, the FAO/SPGS III Project Coordinator, noted that the number of certified nurseries had risen by 45 percent from 66 in 2017/2018 to 92 in 2018/2019, a manifestation of the increased interest in tree planting and provision of quality services/inputs. Hitimana also revealed that the Project had achieved about 61 percent progress in plantation establishment, although some growers experienced delays in planting due to unfavorable weather conditions and limited funds. Contract extension would therefore help them meet their planting obligations. The meeting also listened to presentations on integrating gender in commercial forestry and an overview of resin tapping from pine trees in Uganda.

FAO's Deputy Representative- Priya Gujadhur, commended the FAO team working on the SPGS III project and appreciated the steering committee members for their strategic guidance to the successful implementation of the project.

Aloys Lorkeers, Head of Sustainable Development at the European Union Delegation in Uganda, reiterated her commendation, noting that SPGS III is a key pillar of EU's support to Uganda and remains relevant to EU's green growth strategy that was approved in 2017.

Also in attendance at the meeting were representatives from MWE, European Union Delegation in Uganda, Uganda Timber Growers Association (UTGA), MWE's Forest Sector Support Department, Sustainable Development Council, National Forestry Authority, Ministry of Finance, Planning and Economic Development and FAO staff.

Aloys Lorkeers (L), Head of Sustainable Development at the European Union Delegation in Uganda and Alfred Okot-Okidi (R)- Permanent Secretary in the Ministry of Water and Environment (MWE) look at a piece of solidified resin.

Leonidas Hitimana (standing) FAO/SPGS III Project Coordinator makes a presentation during the meeting

By Anita Tibasaaga- Communications Assistant, FAO

FAO supports woodlot establishment in refugee settlements in Uganda

Herbert Wani, Manager at Tree for Life Africa nursery in Bidi Bidi Refugee Settlement, Yumbe District, displays Teak tree seedlings during World Refugee Day celebrations held at Bidibidi Zone I, Romogi Sub-county on 26 June 2018. Nurseries like his will be instrumental in providing seedlings for woodlot establishment in the refugee settlements.

Through the SPGS III Project, FAO is supporting establishment of woodlots in refugee settlements in Uganda, to help meet the growing demand for fuel wood and small building poles. According to the Government of Uganda, the country hosts about one million refugees mainly from the neighboring Democratic Republic of Congo and South Sudan. The growing number of refugees, living alongside the host community population, requires high amounts of woodfuel and this puts pressure on natural resources such as forests. Through this support therefore, FAO/SPGS III will provide high quality tree seedlings and technical assistance towards woodlot establishment to help address this situation. Other planned activities include training and certification of nursery operators and forest contractors, site assessments and planting.

So far, FAO/SPGS III has held consultations and land suitability assessments in Insigiro, Kamwenge, Kyegegwa and Kikuube (formerly Hoima) Districts. By November 2018, 240 hectares (ha), 88 percent of which is located in Kyangwali, was found suitable for woodlot establishment in the respective refugee settlements, ahead of planned planting in 2019.

This woodlot establishment intervention is part of the Project's target of establishing 2 500 ha of woodlots across the country by the year 2020, to benefit public and private institutions such as schools, churches and prisons. All these institutions heavily rely on fuelwood.

Under the leadership of the Refugee Department of the Office of the Prime Minister, the local refugee leadership will sensitize and mobilize refugees to participate in the establishment, maintenance and protection of the woodlots, in addition to availing suitable land.

FAO/SPGS III is engaged in discussions and consultations with Refugee Desk Officers (RDOs) and officials from the United Nations High Commission for Refugees (UNHCR), on the feasibility of woodlot establishment in refugee settlements in the West Nile region. The region is unique in as much as the settlements there are established on land donated by host communities, most of which is under communal ownership; unlike in Mbarara and Hoima districts where the refugee settlements are on Government land.

-Furthermore, the SPGS III Project is providing technical support to develop a Forest Management Plan (FMP) for Bidibidi refugee settlement in Yumbe District, which will guide establishment of fuel woodlots in Bidibidi- one of the largest refugee settlements in the world (about 280 000 refugees). This work is part of FAO's Project titled: "Valuation of forest products for refugee resilience and planning forest resource management for emergency and development needs in Bidibidi settlement, Uganda". The project is jointly implemented by FAO and UNHCR in Bidibidi refugee settlement. Data collection is ongoing, to provide input into the FMP development.

By Vallence Turyamureba-Programme Assistant (Plantations) and Nelly Grace Bedijo –Programme Associate (Plantations), FAO

Stronger together: Ten youths invest collectively to reap from tree planting

Jerome Kayanja (left), one of the Directors of Uganda Imperial Forest Company Limited, with one of the company's shareholders at their plantation in Luwero district

An architect by profession, John Jerome Kayanja has a passion for forestry and a deep love for his country Uganda, which he believes is highly endowed with natural resources to support sectors such as industrialization and modern agriculture. Through some basic research on Uganda's competitive advantage in natural resources' production and suitable areas for investment, he chose forestry. Moreover, he would still be able to practice his architecture while nurturing his forest. However, his fact-finding revealed how costly commercial forestry can be; requiring substantial capital and a continuous flow of income to carry out critical operations such as thinning, weeding and managing unexpected cases like forest fires. Considering the benefits of the investment however, he "sold the idea to like- minded people". Kayanja adds that collective investment in forestry attracts economies of scale, where costs to an individual are spread across a group. "It is also hard for one person to commit to a long-term investment that promises benefits after about 18 years" he says. "However, in a group, there is a higher chance of business survival as costs are spread and there's less pressure on one person", he adds. After deciding to invest part of their monthly salaries in forestry, the group did intensive research to learn more about forest planning, management and financing, realizing that work done collectively attracts more benefits and discounts as opposed to work done single-handedly. As a result, in 2015, Uganda Imperial Forest Company Limited was born, comprising of 10 partners, all of whom have professional careers. Kayanja is one of the Directors in the company.
Aged between 35 and 40 years, the group, which includes lawyers and engineers, came together to invest in forestry for their retirement. That year, they planted 40hectares (ha) of Pine but the trees performed poorly due to a long dry spell.

Challenges

One of the challenges of the group dynamics was the failure of some members to raise the initial share capital. Additionally, Kayanja reveals that it is hard to communicate bad news such as crop failure and loss of money to a large group, even after upholding all the required quality standards, as this demoralizes some of the members.

Another challenge is with acquisition of additional land for expansion of the planted forest. The company applied to lease land from the National Forestry Authority (NFA) but was unsuccessful. The group is also weary of buying land from private individuals as some are not genuine, presenting a risk of making fake transactions.

Located in the cattle corridor area of Nakasongola district, a major problem is from the cattle-grazing community, which is yet to appreciate the contribution of a planted forest to improving the environment and not as a threat to availability of grazing land.

Grant support

Uganda Imperial Forest Company Limited is one of the beneficiaries of a financial grant and technical assistance from the Food and Agriculture Organization of the United Nations (FAO), the European Union and Government of Uganda, through the SPGS III Project. In 2016, the company applied and received a grant to plant 32ha of forest in Nakasongola District. "We really appreciate the SPGS III Project because it is greatly reducing the financial burden to the company", Kayanja says. Through the Project's support, the company's plantation managers receive training and on-site technical advice, to ensure high quality standards. This helps to reduce losses from use of poor quality inputs and poor management.

Although the company received financial support to plant 32ha, it planted 57ha. In recognition of this effort and contribution to increasing the planted area in Uganda, the Project is going to pay all growers, who planted in excess of their contracted area, on condition that the additional area meets the recommended quality standards.

The company has also benefited from visits to plantations of other beneficiaries; exchanging ideas and experiences for better forest management.

According to Francis Ssali, the FAO Cluster Head for the Central Region in which the company's forest is located, the work of Uganda Imperial Forest Company Limited is commendable. "Representatives from the company attend our trainings, the company is receptive to technical advice and adheres to standards, which have resulted in quality plantation and skills enhancement for the staff", he says.

Sustainability

In anticipation of income from the trees, the company plans to start bee keeping within the forest.
Through the Project's support, the company developed and keenly reviews its forest management plan. This guides the team on activities for sustaining a quality plantation and providing high-grade timber that will fetch premium prices on the market. "The forest management plan is a tool that will survive beyond our interaction with FAO/ SPGS III, this is key for our future," Kayanja notes.

By Anita Tibasaaga- Communications Assistant, FAO

Highlights of grantees' field inspections

In August 2018, the FAO/SPGS III team conducted field inspections to check grantees' compliance with the recommended standards, after which grantees would receive payment of the grant. The FAO team also provided on-site technical advice to help grantees improve their forest management practices. While many grantees' planted forests fared well, a few others had challenges such as fires and hailstorms which affected their forests. We now share some findings and recommendations from the field inspections:

Land preparation: Many growers were carrying out proper land preparation although others need to pay more attention to weed management. Weed control should always start before planting. Growers are therefore advised to carry out a pre-plant full cover spray as close as possible to the time of planting and ensure to plant in weed-free areas. When done well, site preparation simplifies subsequent operations and facilitates root development which promotes high survival.

Seed and seedling quality: Today, more than ever, tree growers are keen on seed quality; appreciating that improved seed is critical for achieving fast growth, straight and healthy trees that give high yields. In Uganda, most of the recommended seed is imported and sold by Uganda Timber Growers Association (UTGA) and the National Forestry Authority (NFA). While many growers have endeavoured to plant healthy and young seedlings of the recommended size, others continue to purchase poor quality and over-grown seedlings from non-certified tree nurseries, even when they report otherwise. Often, these seedlings die and this consequently increases establishment costs.

Growing of Eucalypts: Many owners of planted forests have taken up growing of Eucalypts because it grows fast and has a shorter rotation when compared with other timber species. However, as observed in the field, many growers still face challenges in planting and managing eucalypts. Growers need to pay attention when planting, ensuring that they plant on suitable sites in well drained areas while at the same time taking care to control termite attacks and weeds as required. Trees planted on suitable sites do not suffer stunting and often meet the FAO/SPGS III standards. Eucalypts does not tolerate weed competition and so weeding is mandatory. For proper termite control, the following should be undertaken:

- Treat and kill all the anthills on site with a systemic insecticide (termicide)
- Using a knapsack, drench the seedlings with the termicide
- Spray around the planted tree seedling
- Continuously monitor the plantation for any signs of termite attacks and apply the termicide to affected areas as recommended.

Planting: Generally, good planting practices were observed. Proper and timely planting fosters high survival and reduces extra costs incurred through beating up. Where beating up is necessary, it should be done within the same planting season to maintain stand uniformity.

Some growers planted towards the end of the rainy season and experienced high seedling mortality. The rainy season is becoming more unpredictable with irregular patterns and destructive intensity that have resulted in many growers losing crop. In the grantees' meeting held in November 2017, FAO/SPGS III encouraged growers to use water retaining technologies such as 'Aqua soil' which help to keep moisture within the root base of seedlings, in anticipation of the rains. With these super absorbents, one can start planting even as the dry season is still on and thus widen the planting window while increasing seedling survival. This may imply a 10 percent increase in establishment costs.

Weed control: With the huge rainfall amounts received in most parts of the country, weeding was a major challenge among many growers. Weeds compete with the trees and can affect the newly established seedlings. Delayed weeding results into competition with the trees which affects survival, stunts tree growth and form of the tree. To avoid rampant weed growth, always carry out a pre-plant weed control to reduce on the competition with the already established weeds. Competition from weeds not only retards the trees' growth but also results in stress which renders them susceptible to pests and disease attack. Chemical weeding can be very cost effective but only if properly executed i.e done in a safe manner and carried out by a well-trained and supervised team.

Forest protection: Preventing fire from destroying one's forest plantation is a prerequisite to succeeding

A five-month old Eucalyptus plantation in which weeding has been carefully carried out.

in this long-term investment. Growers are encouraged to create firebreaks of at least 6metres wide within the plantation and 10metre wide along the boundaries, invest in firefighting tools like fire beaters and knapsacks. A small investment in some basic equipment could avert a major loss. During dry periods, growers must have equipment, protective clothing and trained personnel or watchmen for extinguishing fires. Lastly, growers should ensure that all your trees are well weeded during the rainy season such that in the dry season, there are no tall, dry weeds that could spark a fire.

Growers in the cattle corridor region had challenges with animal intrusion into their plantations. Growers are encouraged to take great care to keep away animals and regularly inspect their plantations to check for any damages on trees. Fencing off one's plantation is another way to keep away animals. Growers can also engage the local neighbouring communities to keep away their animals from forest plantations.

Contract Performance: Some grantees have performed exceptionally well by achieving their targets and even planted beyond their contracts allocations; while others are yet to plant. Reasons for poor performance ranged from poor standards, inadequate planning, financial constraints, unpredictable rains among others.

Generally, many improvements were noted in the plantations being established since the last inspections done. FAO recognizes the great efforts of the tree growers and through SPGS III, will continue providing technical support to improve the quality of plantations. In forestry, mistakes are costly and are often only realized after a while. Correcting these mistakes would involve sacrificing the resources already invested, which some growers may be tempted to overlook; costing a lot more in the end.

By Francis Ssali, Programme Assistant (Plantations) - FAO

FAO/SPGS III participates in World Food Day celebrations in Karamoja

(L-R) Ismael Achuku and Robert Simiyu from Kedelma Tree Planting Nursery, in Napak District, display Eucalyptus seedlings and timber products exhibited under FAO/SPGS III

World Food Day is celebrated annually on 16 October, to commemorate the founding of the Food and Agriculture Organization of United Nations (FAO) in 1945 and to promote worldwide awareness and action for those who suffer from hunger and for the need to ensure food security and nutritious diets for all.

The theme for 2018 was ***"Our Actions are Our Future: A Zero Hunger World by 2030 is possible".*** National celebrations were held at Nabuin Zonal Agricultural Research and Development Institute in Nabilatuk district, Karamoja sub-region. The semi-arid region has a unique agro-ecological zone, receiving only one rain season in a year amidst other challenges such as land degradation, vegetation loss due to tree cutting and bush burning, soil erosion, overgrazing and limited water for agriculture and domestic use. However, FAO/SPGS III is promoting commercial tree planting in this region, particularly with tree species suited for drylands areas to foster land restoration, income generation and sustainable environmental management. The World Food Day celebrations provided an opportunity for the Project to showcase its support to commercial tree growing within Karamoja region.

The team displayed an assortment of information and knowledge materials on best practices in tree planting, different types of tree species and their commercial value and suitability, silviculture (plant health) operations such as pruning and thinning as well as recommended standards for operating a commercial tree nursery. Participants also received technical advice on establishing and maintaining commercial forest plantations, identifying and using certified contractors and nurseries. Also on display, to

demonstrate value addition of forest products, were wood products like stools made from ***Gmelina arborea*** tree species, eucalyptus posts made from Eucalyptus clones, various types of timber and timber joints.

One of the FAO-supported nurseries in Karamoja region- Kedelma Tree Planting Nursery exhibited its products during the celebrations. Located in Napak District, the nursery displayed seedlings of recommended commercial tree species for Karamoja region; including: ***Makhamia, Grevillea robusta, Casuarina equistifolia,*** Melia species, Improved ***Pinus oorcapa, Gmelina arborea***, Eucalyptus hybrid clones***, Tectona grandis*** (seedlings and stumps) and Bathedavia (Exotic Mvule). Kedelma produces 65 000 seedlings annually and targets producing 100 000 seedlings for growers in the region, within one year.

According to Ismael Achuku, Marketing Officer at Kedelma Tree Planting Nursery, the exhibition was an opportunity to interact with growers and people interested in buying quality seedlings for tree planting and to increase awareness about the services of the nursery. He commended FAO/ SPGS III for the opportunity to take part in World Food Day celebrations and urged for more openings in the future. Commenting on nursery certification, Achuku said: "We were previously operating as a road side nursery and we were doing many things wrongly, ending up with a lot of wastage. But through FAO/SPGS III, we have received training and improved our operations to meet recommended standards which enabled us to get certification".

The biggest challenge for the two nurseries is the seasonality of tree planting, with only one season in a year. The next planting season is March/June 2019 and they are already taking bookings from potential clients.

For Kedelma and Nabotha tree nurseries, certification is a big plus for the companies because it increases customers' confidence in the quality of seedlings and raises their profile to generate more business.

Through SPGS III, FAO is supporting 36 commercial tree growers in Karamoja region through financial grants and technical assistance for sustainable plantations. While officiating at the national celebration in Moroto District, the President of Uganda- His Excellency Yoweri Kaguta Museveni, represented by Honorable Vincent Ssempijja- Minister of Agriculture, Animal Industry and Fisheries, lauded FAO/ SPGSIII project, for promoting commercial tree planting to Karamoja region and promised to visit the region again to tour more tree-planting projects.

Seedlings of Grevillea robusta seedlings, locally known as Silk Oak. This species is suitable for commercial tree planting in dryland areas such as Karamoja.

By Peter Ssekiranda- Programme Assistant (Plantations) and Anita Tibasaaga- Communications Assistant, FAO

Enhancing knowledge on forestry through public outreach at Annual Agriculture Show

Through the SPGS III Project, FAO used the country-wide platform of the Annual Agriculture show in Jinja, held from 13 to 23 July 2018, to enhance public knowledge on commercial tree growing for income generation, climate change mitigation and sustainable development. The show, organized by Uganda National Farmers Federation (UNFFE), attracted about 1000 agriculture enthusiasts, including farmers, agriculture input companies such as seed producers, private sector players, students and policy makers. During the ten-day event, FAO/SPGS III demonstrated best operating practices for establishing and maintaining a healthy commercial forest plantation, as well as opportunities for value addition to forest products such as timber.

FAO also held a one-day symposium to teach participants about managing pests such as the Fall Armyworm as well as quality forestry standards, tree species, timber types and selection of tools and inputs for a successful commercial forestry plantation. The symposium was held in conjunction with the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and International Centre of Insect Physiology and Ecology (ICIPE). During the symposium, UNFEE President- Dick Nuwamanya Kamuganga commended FAO for promoting tree planting for income generation and climate change mitigation among farming communities. He expressed the Federation's desire to champion commercial forestry throughout the country, working together with FAO.

About the annual national agricultural show

Every year, the Uganda National Farmers Federation (UNFFE) and Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) jointly organize the National Agricultural Show, as a weeklong national celebration of enterprises and innovations in the agriculture sector. The theme for the 2018 show was "Fostering Agricultural Value Chains Innovation For Farmer-Led Food Security, Household Income and Job Creation".

By Anita Tibasaaga- Communications Assistant, FAO

UTGA, FAO organize field learning meeting for tree growers in West Nile region

As part of efforts to promote quality forest plantation establishment and advance the forestry sector, FAO/SPGS III and the Uganda Timber Growers Association (UTGA) organized a cluster meeting for growers in the West Nile, covering Arua, Nebbi, Zombo, Adjumani, Koboko, Moyo districts. The meeting and subsequent field visit were held from 9 – 10 August 2018 in Arua District. Speaking during the meeting, Moses Onono who represented the Board Chairperson of UTGA, appreciated FAO/SPGS III for the financial and technical support in plantation development activities and for promoting standards. He stressed the relevance of the cluster meetings, which give growers an opportunity to learn and share experiences unique to the locations of their plantations, while enhancing their capacity in forest plantation establishment and management. He noted that such exposure visits would enhance development of quality plantations, in preparation for processing and value addition.

The two-day event attracted 62 participants, including tree growers and FAO/SPGS III grantees, nursery operators, forest contractors, officials from the National Forestry Authority, District local governments, UTGA and FAO. It featured a field day held at the plantation of Moses Obeta in Arua, as well as a meeting at Royal Crane Resort Hotel. The meeting helped to demonstrate best practices in forest establishment and maintenance while providing a networking platform for growers and technical teams. Some of the issues discussed were site suitability and species choice, pruning and thinning- with focus on teak as well as forest fire protection and management. Participants also learnt about opportunities for additional revenue through resin tapping, plans for downstream processing and value addition and services of UTGA, such as seed importation and sale of forestry tools.

The meeting was held in partial fulfillment of collaboration between FAO/SPGS III and UTGA to enhance knowledge sharing and skills development among forest sector players in the country.

By Stella Maris Apili- Programme Assistant (Plantations), FAO

He left the bank for forestry business: Meet Vianney Besesa

Vianney (right) and his father Ponsiano (left)- proprietors of Besepo Limited, at their timber yard in Ndeeba, Kampala

For many young people, the choice of a career can be a real conundrum, leading some to take on jobs for the sake of having one but offering very little gratification if any. Vianney Aryatusasira faced a similar predicament before going back to the drawing board to re-design his career path.

"Am born in a family where timber trade is almost the only business we know of. My grandfather- Petero Kamunyu was the first known pit sawyer in Uganda based in Kabale. My father- Ponsiano Besesa is also a re-known timber trader in Ndeeba," says Vianney. Ponsiano Besesa is one of the very first grantees of SPGS in 2004 and a founder member of the Uganda Timber Growers' Association (UTGA). He has planted over 1000hectares in Mubende District.

As his eldest son, Ponsiano has always interested and mentored Vianney into forestry business. During his school holidays, Vianney forewent the pleasures of childhood play and merrymaking to join his father in the forest as a way to make better understand the business. In 2006, he was sent to South Africa for a yearlong attachment with one of the biggest forest companies, in the hope that this

experience would motivate him to see the value in the "green gold" business. On his return however, Vianney got a job with a big commercial bank; an opportunity for him to finally put into practice, his accounting and finance skills, attained while at university- at a "white collar job".

Eight months into the banking profession however, Vianney realized that he was not cut out for formal employment. His passion revealed itself in his love for business and the business he knew best then was forestry business. "I saw a future in forestry. I would rather spend 10years in that field than in banking, where I have no passion", says the youthful Vianney.

Starting out in tree business

Vianney's first business venture was a commercial tree nursery, which he started in Mubende district in 2008. By this time, Mubende had many commercial tree growers with extensive plantations springing up and creating market for seedlings. After six years in operation however, he abandoned the nursery to concentrate fully on the family's tree plantation and timber business- Besepo Uganda Limited.
"Timber business and forestry is all I know; it's what my family has been involved in forever and so I believe there should be continuity to this legacy", he says.

Vianney now manages the 37-year old business and is responsible for overseeing the day-to-day operations at the company's plantations and timber yard. Besepo Uganda Limited is a private commercial forest and timber company, involved in a wide spectrum of services in the forestry value chain, from nursery management and plantation establishment to harvesting, processing and selling high quality timber, mainly Pine and Cypress.

Experience with commercial tree planting, timber processing and trade in Uganda

Establishing and maintaining a planted forest requires great financing and for many private growers, the level of finances can affect quality and level of operations. For Besepo, forestry investment was to be the family's business choice and in 2009, the family sold its hotel, a multi-story building and channeled the proceeds to its forestry business. But to keep the business afloat, financing has been a challenge especially since many commercial banks do not have favourable financing for long-term ventures such as forestry.

Timber processing and trade in Uganda form a unique and deeply invested part of the entire forest value chain. Processing of timber in Uganda is done either through sawmilling or pit sawing which is less mechanized. According to Vianney, the company uses both techniques although sawmilling fetches a higher price as it produces superior quality timber. "The timber is smooth, straight and you can get the actual size you need such as 4X2 inches", he says. He notes that the company hires forest contractors during harvesting to ensure fine sawmilling.

To maintain quality, the company ensures that timber does not stay too long (at least one week) in the field once harvested and that it is stacked correctly so that it does not mold and get stains. Once the timber arrives at the company's yard in Ndeeba, Kampala, it is placed in a well-constructed shade for good aeration.

Challenges

Like many businesses, timber trading has challenges, including "expensive spare parts". A recent breakdown of one of the sawmilling machines cost the company Uganda Shillings 9million in spare parts. Other challenges include little or no market regulation, which enables suppliers of low quality and poor standard timber to thrive at the expense of ethical businesses as well as access to markets. Currently, Uganda has a ban on exportation of timber and so traders from countries such as Kenya and South Sudan come to Uganda, buy the timber and import back home.

Going forward

Vianney believes that the timber industry in Uganda is growing because the number of people involved in tree planting has increased and the demand for quality timber is soaring. Additionally, foreign investors such as the Chinese are establishing timber processing plants and soon a chipping plant.

He however adds that he would like to see greater law enforcement; from transportation to storage and exporting as this would help to boost the timber industry. "Regulations will help to formalize the industry and foster trade in quality timber. Our market accepts anything and is not discriminative; this should change", Vianney says. He also urges the authorities to become familiar with the relevant regulations such as those governing private tree farmers and to enforce regulations such as in harvesting of timber at the right age. Companies such as Besepo have to compete with road side timber dealers, many of whom sell immature timber and in a competitive market economy, this forces dealers with quality timber to compromise on price.

"In addition to lifting the ban on timber export, regulations should also enhance standards in the industry, such as acceptable construction of yards and also encourage certification of commercial tree nurseries, says Vianney. "Certification and public sensitization on the value of buying seedlings from certified nurseries will foster quality plantations and therefore boost good timber production," he adds.

Commenting on the support of SPGS to the company's tree planting and timber business, Vianney notes that the Project helped the company to change its modus operandi from one based simply on passion for tree planting to a more profitable business model, with standards to ensure quality operation and outputs. "SPGS has helped us clean the business of tree planting to know what we need to do to get a good quality product. This quality improvement is even a bigger gain than the money," he says.

By Anita Tibasaaga- Communications Assistant and Peter Bahizi- Programme Associate, FAO

Uganda's National Forest Stewardship Standard approved

Forest management certification ensures that forest owners maintain economically viable, environmentally appropriate and socially beneficial forests

As part of efforts towards promoting sustainable forest management, Uganda launched its National Forest Stewardship Standard (NFSS) - a standard against which sustainable management practices can be benchmarked. Launched in June 2018, the standard is a set of internationally acceptable, best forestry management practices aimed at promoting responsible forest management. There is no better time for Uganda to have a national standard to guide forest management than now, when the country is experiencing the highest rate of deforestation. According to the State of Uganda's Forests 2015, average forest cover loss is estimated at 122 000 hectares (ha) annually. The country's natural forest estate shrunk from 24 percent of the total land area in 1990 to 11 percent in 2010. To achieve Uganda's Vision 2040 of restoring forest cover to the 1990 level requires a commitment to improve forest management practices for both natural and planted forests.

NFSS and benefits to forest management in Uganda

The NFSS was developed through a consultative process steered by a team of local experts- the Standard Development Group (SDG), over a 10-year period, starting 2008. In March 2018, the NFSS were approved and endorsed by the Forest Stewardship Council (FSC), an international forest certification scheme. Approval by FSC guarantees that the standard is in conformity with internationally acceptable sustainable forest management best practices – and is also adaptable to local conditions. The NFSS is a tool of forest management through which forest owners and managers can conduct self-assessment to establish the extent to which they are meeting internationally acceptable standards of good forest management. Forest managers /owners conforming to the NFSS may pursue for FSC certification. Forest management certification proves that forest managers (or owners) are managing their forests in a responsible way; that is; economically viable environmentally appropriate and socially beneficial forest management practices. Credibly certified forest products give assurance to consumers that forests are well managed to ensure continued benefits for future generations, the rights of indigenous people are protected and that local communities living in or around the forests benefit from their use.

Operationalization of the NFSS for Uganda

Capacity building, particularly the application of the Uganda National Forest Stewardship Standard (NFSS) is vital for effective implementation and use of the national standard in Uganda. In this vein, in November 2018, FSC Africa conducted a training for key stakeholders in forest management including; FAO staff of SPGS III project, National Forestry Authority, National Forestry Resources Research Institute (NaFORRI), Nyabyeya Forestry College, Uganda Forestry Association and representatives of private sector tree farmers among others. Trainees gained basic skills in application of NFSS as a tool for sustainable forest management and were challenged to engage and be a part of operationalizing and promoting the NFSS- and work towards having more certified forests in Uganda.

About the Forest Stewardship Council (FSC)

FSC is a globally trusted Forest Certification Scheme that sets standards for responsible forest management as a solution to deliver positive impacts for forests, markets and people for today and tomorrow's generations. Today, over 200 million ha of forest are certified according to the FSC standard requirements globally, of which over 7 million hectares are in Africa.

Forests managed in conformity with FSC standards are issued with a certificate- that is proof that wood products for example timber from such forests are produced in a sustainable manner. In addition to certification of forest Management, FSC also issues chain of custody certification so that when products leave an FSC-certified forest, they can be tracked along the supply chain, to ensure they still meet best practice standards.

Benefits of FSC Certification

FSC Certification facilitates several social, economic and ecological benefits, including:

Access to niche markets: Worldwide, increasing numbers of consumers are choosing FSC certified products as part of their portfolio, which creates a niche market for certified wood products. Some Governments, International Organizations and multinational businesses impose minimum standards on suppliers of wood and non-wood forest products. By committing to consume responsibly sourced wood, these entities gain a reputational benefit for responsible green consumers.

Export Market: In addition to opportunities for export market for local producers, FSC certified wood products are also likely to attract a premium price from consumers. A global market study in 2014 showed that 82 percent of FSC certificate holders said that the FSC label adds value to their products.

Sustainability: Good forest management practices result in restoration of degraded forests and other fragile ecosystems. It also ensures reduced social conflict in and around certified forests and improved welfare for workers, which enhances sustainability of forest management.

By Zainabu Kakungulu- Programme Associate, FAO and Annah Agasha- East Africa Project Manager, Forest Stewardship Council (FSC)

FSC to issue first group certificate to small-scale tree growers in Uganda

Increasingly today, there is greater urgency to "go green" and enhance efforts to protect the environment and reduce effects of climate change. To this end, there is greate global concern about sustainbale management of forests. The issue of certification of sustainably managed forests has been at the forefront as one of the potential market based- instruments that may act as a positive incentive to manage forestry sustainably. An internationally recognized accreditation system provides evidence that forests are being managed in a way that meets economic, social and environmental standards of sustainable forest management.

Consequently, FAO, in collaboration with the Uganda Timber Growers Association (UTGA), piloted the group certification scheme, by the Forest Stewardship Council (FSC). The process of acquiring certification started after six UTGA members voluntarily joined the scheme, with their plantations forming the first Forest Management Unit (FMU). The selection procedure was through the "coalition of the willing" with an agreement to use a cost-sharing model to meet the cost of certification.

The group then participated in a series of preparation activities and assessments prior to a main evaluation which was conducted in December 2018 by Soil Association- an FSC certified auditing organization. Three of the original six members- Buyigi Estates, Isabella Investments and Kirangwa Plantation, all located in Mubende District, successfully made it to the final audit. This was the first group certification scheme to be audited against the new FSC approved National Forestry Stewardship Standards (NFSS) for Uganda, which was launched in June 2018.
In the absence of any cases of non- conformity lodged against the group, it was declared fit for certification and a group certificate will be issued not later than 90 days from the audit. Once this group certificate is obtained, other members can join by "extension of scope", provided they meet the required standards.

FAO/SPGS III congratulates UTGA and the three pilot members on this important milestone, and pledge our continued support to have more plantations certified.

Severino Jembe (in red jacket)- FSC Auditor guides a team of UTGA members and FAO/SPGS III staff during a field assessment

By Zainabu Kakungulu- Programme Associate, FAO

Skilling young graduates: Maria Nansikombi shares her experience as an intern at FAO

Maria Nansikombi (left) and Diana Ahebwe (right) from Better Globe Forestry Company during a visit to a bamboo tree seedling nursery in Luwero District

With a growing commercial forestry industry, the demand for professional foresters is increasing- hence the need to invest in training and mentoring young graduates.

Twenty four year old Maria Nansikombi is a fresh graduate of Conservation Forestry and Products Technology from Makerere University. Before Joining FAO Uganda in November 2018, she was working as a volunteer at a forest company. Maria is currently working on a special assignment of "Understanding Carbon Financing". In addition, she works alongside the FAO/SPGS III project team to carry out mapping and verification of planted forests, data collection, training and many others tasks.

"I believe that internship is a relevant work experience, which offers fresh graduates an opportunity to interact with senior colleagues in similar fields, while gaining experience by translating their theoretical knowledge into practice. It's a whole new experience; I am getting exposure to the working world and appreciating work ethic", says Maria. She is confident that working with FAO and the United Nations generally, will elevate her professional career and give her a chance to be part of "something great". She believes that the internship will enhance her personal and professional maturity, comparing it to "letting a young bird out of the nest to fend for its self". So far, what stands out for her is the exceptional teamwork spirit at FAO, with staff of varied experience and skills, working well together towards a common goal. "I have joined a family of very hospitable, very informed people, all willing to involve me in the work they do; it's humbling.

As a young girl, Maria wished to one day become an engineer but was instead offered state sponsorship to pursue a degree in forestry. "I am open-minded, flexible and always ready to learn; so I went for it", she said. Maria would like to pursue advanced studies in forestry, to enhance her career and contribute to the field of forestry. Professionally, she looks up to Moses Otim, a Plantation Manager at Global Woods AG Limited, for his mentorship, brilliance, hard work and willingness to share skills, knowledge and expertise.

FAO/ SPGS III TRAINING PLAN, 2019

Course name	Target beneficiaries/ trainees	Number of trainees	Location (Clusters)	Duration per training	Date
Weed Control	Forest managers and supervisors	80	North & West Nile	3 days	18 – 20 February 2019
			Eastern & Karamoja	3 days	18– 20 February 2019
			Western & South Western	3 days	25 – 27 February 2019
			Central & Albertine	3 days	25 – 27 February 2019
Managing Teak Nurseries	Tree nursery operators	20	West Nile	4 days	13 – 16 May 2019
Contractor Development	Forest contractors	20	Albertine	4 days	17 – 21 June 2019
Training of Trainers (ToT)	Potential trainers in tree nurseries & forest management	10	Central	4 Days	15- 19 July 2019
Clonal Nursery Management	Tree nursery operators	40	Eastern/Northern	4 days	14- 18 October 2019

To register for training, please contact the FAO/SPGS III office via the contact on the back cover page

FAO support elevated me from a forest contractor to forest owner

Ssekidde tends a young tree in his plantation in Luwero District

Passionate, committed, entrepreneurial and visionary Gideon Ssekidde 35, is a forest contractor with many years of experience, gained while working with the National Forestry Authority (NFA) and Planet Green World- a private forest contracting firm. After about six years he embarked on what could potentially be a long and lonely yet rewarding journey of establishing his own business. In 2017, he opened Green Belt Environmental Consult Limited, providing forest contracting services including mapping, planning, demarcation, plantation establishment and maintenance. The company, which employs 150 casual labourers, is located in Luwero District, but has supported growers in Nakasongola, Nakaseke, Masindi, Mubende, Ibanda and Pader districts.

As a forest contractor, Ssekidde's long term vision was to plant trees for income; but he didn't have sufficient capital to establish a sizeable plantation. With some savings from his contracting work, he planted five acres of Pine trees on family land in 2003, and a few years later, used the timber to roof his two-bedroom house, hoping to plant more trees when the finances improved in the future.

In 2016, Ssekidde applied for support to plant trees, through SPGS III and received a grant to plant 25ha in Luwero District. "I had always wanted to plant trees but I had no means; this Project was a God-send opportunity" Ssekidde says. One of his biggest reliefs is that unlike many other growers who engage in forestry with little background information, making numerous costly mistakes, Ssekidde prides in the fact that he made no such errors. As a tree farmer, he reveals that he embarked on tree planting after generating a lot of information and acquiring knowledge the different training courses and field exposure visits offered by FAO through SPGS III. He learnt about forest planning, timely planting, weed control, fire management, matching tree species to suitable sites as well as plant protection. By starting tree planting after understanding all the implications, Ssekidde believes that FAO shielded him from any potential mistakes that he could have made, resulting from poor plantation establishment, which could have cost him the grant. "The only loss that I have so far encountered is a wild fire in which I lost 18ha. But because I knew what to do, I have already replanted that area", he notes.

Ssekidde notes that he has widened his social and professional network, interacting with many people (other grantees) and sharing knowledge and experiences to enhance his tree farming business. Through trainings held for contractors, he has also improved his knowledge and skills in forest contracting.

Through FAO's support, the father of three notes that he has easy and fast access to the technical team of foresters, who provide timely technical advice to help him improve his plantation. He has planted Eucalyptus, which he hopes to sell for transmission poles, and Pine for timber. However, Ssekidde cautions that forestry is a long-term investment and one needs ready cash in order to carry out timely relevant operations such as thinning. "If it wasn't for FAO, EU and the SPGS III Project, I probably would have failed," he reveals. He advises all tree growers and those planning to grow trees to adhere to strict standards in plantation establishment and maintenance in order to enjoy the profits from the business.

Ssekidde advises tree growers to be mindful of the changing weather patterns, to plan early and correctly and use innovations such as the gel-absorbent soil medium capable of sustaining plant growth (aqua soil).

"I thank FAO, the European Union and Government of Uganda for enabling tree growers to avoid mistakes in commercial forest establishment and maintenance and helping growers like me to establish quality plantations", he says. His desire now is for a better regulatory framework to guide market for forest products.

Anita Tibasaaga- Communications Assistant, FAO

Embracing bamboo as a tree species for commercial forestry

The world over, bamboo has increasingly become one of the most sought-after trees because of its versatility for manufacturing a wide range of consumer products- from flooring and furniture, to houseware and decor. Bamboo now favorably competes with traditional tree species such as pine, eucalyptus and mahogany to provide products and services. Bamboo is a woody grass with lancelate leaves and hollow stems that have nodes in between the segments. Bamboo leaves, branches and stems are greenish in colour and they remain so throughout the lifetime of the tree, except during fire outbreak or harsh sunshine. The tree is common in tropical and sub-tropical regions of the world, existing in over 1 200 species and in over 90 genera.

In Uganda, bamboo exists naturally in central forest reserves and is recommended for its eco-friendly characteristics that are critical in addressing climate change and its associated effects. Bamboo, if well-managed, has numerous benefits, including as a source of food popularly called "Malewa" in Eastern Uganda. Other benefits of bamboo include; income generation for communities, landscape restoration, biodiversity protection, provision of poles for construction, weaving and crafts, source of energy for cooking as well as fencing and protection of water sources. Known for its soil binding properties, a cluster of bamboo binds six cubic metres of soil and one hectare sequesters about four tons of carbon in three to four years.

Once considered a "poor man's tree", bamboo has become a high value raw material, especially as a substitute for timber from commercial tree species. Its strength, straightness, lightness, extraordinary hardness, ranges in size, abundance, easy propagation, and short rotation, make it suitable for a variety of purposes and uses. Studies estimate the global bamboo economy is now valued at about USD 60Billion, presenting a huge potential for income generation for rural communities.

A bamboo plantation in Eastern Uganda

In Uganda most bamboo resources are located in protected areas such as forest reserves and national parks. ***Yushania alpine*** commonly known as the African Alpine or mountain bamboo occurs in mountain areas while ***Oxytenanthera abbysinica***, commonly known as lowland bamboo, occurs in Northern Uganda. Small bamboos have recently been introduced as ornamentals and giant bamboo (***Dendracalumus gigantae***) is now raised in many nurseries in the country. The National Forestry Authority (NFA) estimates that bamboo grows in a total area of about 67 000hectares (ha) in the country. By 2013, at least 13 bamboo species had been identified in Uganda.

Why bamboo?

Bamboo is considered to be a sustainable and renewable alternative to hardwoods because it regenerates at exceptionally fast growth rates. A bamboo forest can be harvested after three to four years from the time of planting and so can provide quick return on investment. This makes it a good candidate for poverty reduction and enhanced livelihoods in rural communities.

Bamboo plantation establishment requires minimum capital for investment and builds on inherent plant cultivation skills of local farmers and foresters. It can be harvested all year round, therefore providing regular cash flows. Below are some advantages of growing bamboo.

- Bamboo can easily be intercropped with shallow rooted annual crops such as beans, groundnuts, maize and peas.
- Bamboo has been developed with little artificial selection and is thus resistant to diseases, insects and climatic injuries.
- Bamboo helps to rejuvenate the productivity of degraded land, reduces erosion and other environmental services.
- Bamboo is extremely lightweight compared with hardwoods. Building with bamboo can be accomplished faster than building with other materials. Cranes and other heavy machinery are rarely required. Transporting lightweight bamboo is less costly than transporting its heavier alternatives.
- Bamboo is extremely strong when cultivated, harvested, prepared and stored properly. The strongest part of a bamboo stalk is its node, where branching occurs.
- Bamboo is highly versatile and can grow in all sorts of climate zones and soil types where other crops fail. Solid bamboo grows perfectly in soil with pH of 5.5 to 8, sandy loam to clay loam, sandy soils and can tolerate very poor soils.

Going forward

Skills development in bamboo seedling technology, silviculture and harvesting from countries that have progressed in bamboo growing such as China, are essential. This will enable government bodies and private nurseries to adopt the technology. Good news is that some nurseries have started raising seedlings/culms.

Uganda needs increased awareness about the values of bamboo and its products. This will result into stakeholder involvement in integrating bamboo for landscape restoration & climate change in their programs.

The country can also consider adoption of bamboo for energy production at household level, engaging with agencies in refugee settlements to scale up bamboo growing as an alternative source of energy.

Uganda is now in the process of formulating the Bamboo Policy to guide development, management and utilization of bamboo to harness its potential to improve livelihoods.

By Denis Mutaryebwa, Plantation Development Manager, FAO/SPGS III

Nursery and seed update

Henry Ahimbisibwe (left)- Programme Assistant, Plantation Development at FAO inspects seedlings at Schnelle Tree Nursery in Wakiso. Center is the proprietor- Epaineto Kamya

Seed

The use of improved is crucial for commercial tree growers. Improved seed is seed collected only from superior parent trees from a seed orchard or well managed seed stand. In Uganda, the Uganda Timber Growers Association (UTGA) stocks tree seed and has in stock 70kg of ***Pinus caribaea*** var. hondurensis (PCH) second generation (F2) seed from Forest Plantations Queensland (FPQ) in Australia. The seed is available for distribution to members that had booked. Also in stock is 1.5kg of Eucalyptus grandis seed from South Africa seed orchard, selling for UGX 20 000 per gram for members and UGX 32 500 per gram for non-members. Growers ought to keep in mind that this is clean (disease-free) seed and should yield about one million seedlings per kg if carefully sown and well managed. The prices for Pine seed is UGX 3.6million for members and UGX 4million for non-members, with each kilogramme expected to produce at least 40 000 seedlings. UTGA anticipates receiving additional 50kg of FPQ PCH improved seed; however, importation of any extra seed stock from Australia will depend on local demand.

In order to secure sufficient seed for the March/April 2019 planting season, nursery operators are encouraged to book early due to the high demand for improved seed. To book with UTGA, visit their office on Plot 116 Bukoto Street or call +256 785 343564.

Commercial tree nursery and contractor certification

The FAO/SPGS III private nursery certification scheme has greatly contributed to an increase in the quality plantations established across the country. The Project offers training and recommends acceptable standards to nursery operators, who thereafter receive one-year rating-based certification which empowers them to guarantee customer satisfaction. Certification implies that a nursery is producing high quality seedlings, of superior genetic quality produced through technically, economically, socially and environmentally sound practices. Tree nurseries are audited to ensure that seedlings are raised using the recommended seed sources, in the right quantities for tree growers and using the best operating practices. Certification of tree nurseries helps to ensure that growers use good quality seedlings that will in turn produce quality plantations.

The 2018 certification audit, conducted by FAO and officials of the Forest Sector Support Department of the Ministry of Water and Environment, showed a remarkable improvement in general nursery hygiene, seedling quality and tree species diversity (several nurseries are raising a variety of indigenous tree species). Some of the problems identified, especially among first-time applicants were: low production capacity, sourcing seed from non credible sources and limited technical knowledge and/or training in nursery management. Nurseries that attained the minimum standards received certificates of compliance while those which fell short are encouraged to participate in the next audit exercise, scheduled for March 2019. Interested nurseries should be on the lookout for the advert calling for expression of interest, to be published in the national daily newspapers.

FAO/SPGS III grantees are advised to procure seedlings from only certified nurseries. In addition, FAO procures seedlings for its supported Community and Woodlot beneficiaries from only certified nurseries.

For the period 2018/2019, FAO/SPGS III audited over 200 tree nurseries that expressed interest in certification; the highest number of applications ever received. There was a marked increase in the number of certified nurseries; from 66 in the previous year to 95 in 2018-19 (including two from Karamoja region). Thanks to FAO's affirmative action to boost tree planting in Karamoja, the Project anticipates

that with increased involvement of tree planters in Karamoja, more nurseries will be established and certified in coming years. The growth in certified nurseries can be attributed to the ever-growing interest in tree planting in the country and keen interest by farmers to use quality planting material. Visit the SPGS III website here www.spgs.mwe.go.ug for a list of certified nurseries.

FAO/SPGS III also certifies forest contractors to empower them to provide relevant and quality services to commercial tree growers, for production of high quality timber and poles. Forest contractors have skills and knowledge in core forestry operations such as forest establishment and maintenance, pruning, thinning as well as fire control and management. They provide professional services to many forest owners and/or managers who have limited or no knowledge and experience in commercial forestry.
For the period 2018/2019, 23 contractors were certified; representing a significant increase in the number of certified contractors from only 14 in 2016/2017 when the Project started. This leap signifies an increase in the confidence that growers have in the work of certified contractors thereby creating more business opportunities for the latter and helping to enhance the growth and development of commercial forestry in Uganda. FAO will therefore recommend the certified contractors to grantees, facilitating the development of healthy and quality plantation through professional forest services. Please visit the SPGS III Project website here www.spgs.mwe.go.ug to view the list of certified contractors.

Furthermore, the FAO/SPGS III Project analyzed the business of forest contracting and found it to be dominated by one-person enterprises. However, with the increasing interest in tree planting in Uganda, there is great potential for mid and large sized firms engaging in forest contracting and management.

Training
During the nursery certification audit, it was observed that many new applicants had limited technical knowledge and training in nursery operations. To supplement the technical assistance they received from the FAO team, many expressed interest in training in tree nursery management (especially Teak and Clonal Eucalyptus).

Consequently, the Project has scheduled three training sessions in nursery management in 2019. Please refer to the training calendar in this newsletter for details.

The 2019/2020 certification plan will be announced in 2019.

By Francis Ssali and Sam Odur - Programme Assistants, FAO/SPGS III

Gender equality and women empowerment in a changing forestry landscape

Josephat Kawooya (right) - Programme Associate at FAO/SPGS III guides female tree growers in Luwero

The concept of green economy centers on integrating key aspects of economic performance, including social inclusion. As such, it inherently places a significant emphasis on gender. Experiences of women in relation to forestry have been markedly different from those of men, making gender issues pertinent to forestry. Gender differences are always evident in cases such as access to and control of the forest resource, types of jobs offered to men, women, and many others. Generally, forestry has not been particularly responsive to social equity issues, including those pertaining to gender- despite several studies indicating that improving gender equality and women's participation can enhance social, environmental and economic benefits.

Gender assessment in plantation forestry in Uganda

In 2018, FAO commissioned a study to conduct a gender assessment in plantation forestry in Uganda. The assessment included a gender analysis to explore gender issues at community and household levels and gender capacity needs assessment for key stakeholders in the forestry sector, including Forest Sector Support Department (FSSD), National Forestry Authority (NFA), SPGS and private tree farmers.

This article highlights findings of the study and key recommendations to various players in the sector.

Ownership of forest plantations: The study found that generally, less women than men owned forest plantations- whether for commercial or non- commercial purposes. This was mainly attributed to insecurities in land acquisition and usage and yet land is a key resource in commercial forestry. However, only seven percent of the registered land belongs to women. Inherent inequalities such as the patrilineal inheritance system, which favors men over women in land acquisition means that more land is in the hands of men. In households, men have greater decision-making power to determine amount of land allocated to farming activities. Due to their nature as providers, women prefer agro-forestry models with short-term food crops, while men consider long-term investments such as timber production.

Opportunities for women to acquire land for tree planting: A key milestone in gender mainstreaming in forestry by the National Forestry Authority (NFA) is the development of a Benefit Sharing Mechanism for land in Central Reserve Reserves (CFR), with women and youth allocated quotas of land to overcome the land ownership restrictions. In allocating land to private developers to establish commercial tree plantations, NFA will commit 10-50 percent of the CFR land for allocation to communities adjacent to the CFR. In apportioning the land, at least 30 percent will be set aside for interested women groups and widows in the community, 20 percent to interested youth groups and 10 percent to the landless and vulnerable members of the communities, if any.

Limited access to knowledge and skills in plantation forestry: Results of the study show that men have more access to information and training because they participate more in forestry meetings and trainings. It was observed that when organizing forestry-training programmes, organizers do not always make deliberate efforts to reach out to women- who often are not privy to information about trainings. The heavy burden of domestic work also makes it hard for them to attend training, even if they want to. There is need for deliberate effort to target female farmers for capacity building initiatives.

Limited sources of finance resources for investments due to limited exposure to trusted loans from institutions: Apart from the access to credit and savings schemes with small size loans, women find it hard to access any other sizable loans for investment in forestry.

Recommendations

Promote advocacy for gender mainstreaming in forestry through mindset and attitude change by implementing awareness campaigns and trainings for all players in the sectors. Private institutions and government agencies promoting plantation forestry should develop capacity of their employees to use effective Gender tools like Gender Action Learning System (GALS) to the analysis of gender inequalities and other gender dynamics at household and community levels.

Gender budgeting: Although gender mainstreaming is now a requirement for all government agencies, budget allocation for gender capacity development is minimal. There is need for separate budget line for gender mainstreaming to gain more focus and results.

Gender-responsive indicators: Forestry projects such as SPGS III and Farm Income Enhancement and Forest Conservation (FIEFOC) should have appropriate, qualitative and quantitative indicators at both output and outcome levels and in the reporting, monitoring and evaluation system, to measure changes in gender equity.

Caroline Kembabazi, a tree grower in Mpigi District and beneficiary of FAO/SPGS III grant for prunning and thining, stands in her Eucalyptus plantation

By Zainabu Kakungulu- Programme Associate, FAO

Resin tapping in Uganda: A newfound commercial use of pine trees

Resin tapping of pine trees at Nile Plywoods Uganda LImited's plantation in Jinja District

Although resin tapping is considered a new economic undertaking among tree growers in Uganda, humans have gathered and used resins from plants for thousands of years. In recent years, there has been renewed interest in natural resins, with greater global demand from countries such as China, pushing prices up to about USD 650 per tonne. Many Ugandan tree farmers were reluctant to engage in resin tapping due to fears of possible adverse effects on tree health and quality. Increasingly however, tree growers are enhancing their knowledge on resin tapping and many now believe that resin tapping can give them supplemental income. Resin tapping provides other benefits to growers, including employment creation for rural communities and improved fire management practices by understory vegetation slashing to reduce fuel load. Consequently, about 10 tree growers in Uganda were already participating in resin tapping, as of June 2018.

Commercially important resinous pine species

The production of resin is very common in nature; but only a few plant families can be considered of commercial importance to resin collectors. In Uganda, resin is tapped from ***Pinus carribea*** trees. Other primary sources of commercial pine resin include ***Pinus elliottii, Pinus taeda*** and ***Pinus halepensis*** among others.

Commercial uses of resin

Resins are low volume, high value forest products, commonly used in everyday life and are important non-wood forest products. Resins are used to make adhesives, glaze for foods (in ice creams, sauces and soups), medicine, varnishes, perfumes and cosmetics and for waterproofing. Surfaces that are painted with resin-based solutions retain a thin waterproof layer of resin, as the solvents and oils evaporate. It is this ability of resins to harden that makes them vital in production of commercial varnishes.

Resin tapping methods

Resins are collected from pine trees through tapping using different methods that involve inducing resin flow by deliberately inflicting an injury to a tree. Consideration for the right method to use should be based on its ability to maximize resin yield while minimizing damage to the wood. The depth of the cut/injury into the tree must reach but not exceed the cambium layer, into the sapwood. The most commonly used resin tapping techniques in Uganda are the Chinese and Portuguese methods. The former involves a series of downward-pointing V-shaped narrow grooves (1.5mm wide) cut on the tree stem. The first groove is cut about 1.7 meters above the ground, and subsequent grooves are cut downwards after every two days. Resin oozes out of the newly created groove and flows down the stem to a collection container (plastic bag) fastened to a tree about 40-60cm from the end of the cut. On the contrary, the Portuguese method involves use of a stimulant to stimulate and maintain resin flow.

Resin yield

Resin yield varies with site, from two to four kilogrammes per tree per year with an average yield of three kilogrammes per tree per year or about two tonnes per hectare per year. Variation can be caused by tree size and number of resin extraction faces worked on per tree at a time. Resin yield depends on stocking, age, tree diameter, accessibility of the compartment and steepness of terrain. It is more difficult to work on steep terrain, carrying loads of resin during harvesting, than on flat terrain.

The economics of resin tapping

Resin tapping provides an additional income stream to pine tree growers before final harvesting can take place. The resin tapping business in Uganda is currently dominated by Chinese investors who export it to mainland China. On average, tree growers receive an annual rental fee equivalent to Uganda Shillings 1.6 Million (USD420/ha/year), paid in two installments. On the contrary, some big commercial forest companies involved in resin

The Chinese method of resin tapping

Portuguese method of tapping resin

tapping export resin tapped from their own plantations, directly. In Uganda, the internal rate of return (IRR) for managing a compartment for timber production alone in 15 years is calculated at approximately 27 percent. A combined management strategy of resin tapping with timber production may still provide a means by which forest farmers can optimize their income. Furthermore, the combined strategy of resin collection and timber production reduces payback period of a forest investment by 45 percent.

Effects of resin tapping on trees

Resin tapping is reported to result in discoloration and hardening of wood on the wounded (tapped) area. The oldest and most valuable part of a tree is the butt log (first log of the tree stem) where resin tapping is taking place. The injured portion of the stem therefore affects grade as well as financial value of wood products from that section while the rest of the stem maintains full financial and utilization value. Since resin yield depends on number of trees in a hectare, there is risk of farmers under- thinning or not thinning compartments at all for fear of interfering with the tapping exercise, which will affect the quality of trees at final harvest. However, whatever the effect on the wood as a result of tapping may be, it is over compensated for by the financial returns from resin.

Issues of interest

1. So far no adverse effects have been reported as a result of resin tapping that currently covers about 2000ha of pine plantations in Uganda. However, there is a likelihood of harming the trees during tapping, if clear safe guards are not put in place. This calls for an effective monitoring and training regime for the laborers as well as growers involved in the exercise in order to safe-guard the trees against damage. Furthermore, there is need to modify and adapt methods being used to the Ugandan context. UTGA is already playing a monitoring and liaison role between growers and investors to ensure that tapping is correctly done.

2. Since the yield of resin is dependent on number of trees in a hectare, there is risk of farmers under-thinning or not thinning compartments at all for fear of obstructing the resin tapping exercise which will in turn adversely affect the volume and quality of the sawlogs obtained at final harvest. Forest owners are encouraged to carry out all the recommended (three) thinning operations irrespective of the possible effects of thinning on resin yield. Where possible, growers should start tapping resin after third thinning so as not to interfere with thinning operations.

3. Presently, growers are paid a fixed rental fee per hectare of plantation irrespective of the amount of resin collected. Building the capacity of growers to correctly estimate yield of resin from their plantations as well as helping them to understand the dynamics involved in international resin trade will enhance grower's capacity to negotiate for better prices in future.

4. As a new undertaking in Uganda, the resin tapping business is unregulated. It is therefore imperative to develop resin tapping procedures, guidelines standards and regulations to safe-guard trees from excessive damage, ensuring product quality and protecting growers against exploitation. FAO/SPGS III working closely working with UTGA and MWE is in the process of developing resin tapping procedures and guidelines in the short and long term respectively.

Conclusion

From the foregoing, pine resin is important in the production of a variety of products including fragrances, perfumes and waterproofing materials among others. Resin tapping provides annual revenues of a stand from 10 years until clear-felling, increasing its internal rate of return that otherwise would not be possible with timber production alone. Provided appropriate safe guards are put in place to minimize possible adverse effects on trees, tree growers in Uganda should be encouraged to participate in resin tapping.

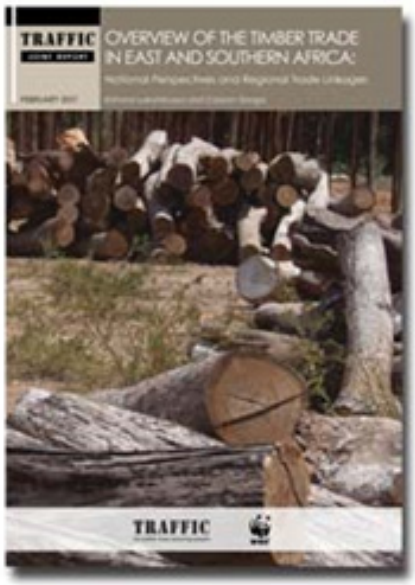
Next steps

1. FAO/SPGSIII, in close collaboration with MWE and UTGA, intends to develop procedures and guidelines to guide both growers and business people on how to sustainably tap resin for their benefit.

2. FAO/SPGSIII, in close collaboration with MWE and UTGA, also plans to develop a resin tapping practical training course for both tree growers and resin collectors aimed at building their capacity to tap resin without harming trees as well as improving productivity.

By Henry Ahimbisibwe- Programme Assistant (Plantations) and Walter Mapanda- Plantation Development Adviser, FAO/ SPGS III

Book review: Overview of the Timber Trade in East and Southern Africa



This publication provides an overview on how the member states of the 2015 Zanzibar Declaration on Illegal Trade in Timber and other Forest Products, namely Kenya, Uganda, Mozambique, Madagascar, Tanzania and Zanzibar are addressing illegal timber trade. The Declaration was signed in 2015 as part of an initiative to address rampant illegal timber trade in eastern and southern Africa under the umbrella of the Southern African Development Community (SADC) and the Eastern African Community (EAC).

The report gives an outlook of the legal instruments and agencies in the various countries, which are responsible for guiding the implementation of harvesting and handling, export and import of timber in the timber trading nations, as well as an assessment of the timber flow and volume of timber exports, imports and domestic consumption. The report further briefly profiles some of the leading timber companies in each country and provides a list of some of the most harvested species.

Although not well monitored, the authors note that domestic timber consumption is estimated to be ten times more than international exports. China is the main importer, especially for natural heavy forest timber with a reddish hue. Imports to the regions mainly comprise of sawn timber from softwoods, electricity poles from Eucalypts and other processed forest products such as paper, plywood and fiberboard furniture from South Africa, Kenya, China, and India.

With the ever-declining forest estate in the region, almost all of the countries have invested in establishing softwood and eucalyptus plantations. In the case of Kenya and Uganda, these plantations are expected to provide the majority of raw products for their domestic industries within the next 10 years.

Key among the findings in the report is the existence of legal instruments (policies, laws and international protocols) that help to guide timber-trading nations to regulate timber trade. However, a myriad challenges still cripple the timber industry. These include: inadequate capacity of most forestry departments to routinely monitor the industry, unregulated and fragmented timber harvesting and processing, absence of records of the volumes of raw material consumed, exported or imported, along with undeclared taxes paid by forestry companies have greatly affected the sustainability of timber trade.
To address these challenges, the authors suggest several recommendations at different stakeholder levels. Undoubtedly, if adequately reviewed and relevantly applied, these recommendations will certainly help the region to attain a fair, equitable and sustainable timber trade. The report recommends among others, the need to review national legal frameworks and empower governments, non- profit organizations, industry and other stakeholders to map out and verify national timber harvest and trade controls; supporting private sector initiatives and companies to understand relevant aspects of laws, regulations, administrative circulars and contractual obligations that affect forestry operations, timber processing and trade.

This report is available on the TRAFFIC Website (https://www.traffic.org/publications/reports/timber-trade-in-east-and-southern-africa/)

Citation: Lukumbuzya K. and Sianga C. 2017. Overview of the Timber Trade in East and Southern Africa: National Perspectives and Regional Trade Linkages. Traffic, WWF.

Reviewed by Andrew N. Akasiibayo- Programme Assistant and Maria Nansikombi- Intern, FAO

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TIMBER MARKET REPORT- Quarter 3 and 4, 2018

Table 1: Current retail prices for selected timber species and size

Specie	Size	Average Price
	(inch x inch x foot)	(UGX)
Eucalyptus	Poles 4-6 inches	3,000
Eucalyptus	4X3X14	19,000
Pine	12X1X14	50,000
	6X2X14	18,000
	4X2X14	12,000
Mahogany	12X2X14	115,000
	8x2x14	85,000
Mahogany (Congo)	12X1X14	110,000
Mahogany (Uganda)	12X1X14	75,000
Mvule	12X2X18	170,000
	12X2X14	125,000
	8x2x14	110,000
	12X2X18	160,000
Nkalati	12x2x14	85,000
	12x1x14	55,000
Kirundu	12X1X14	7,000

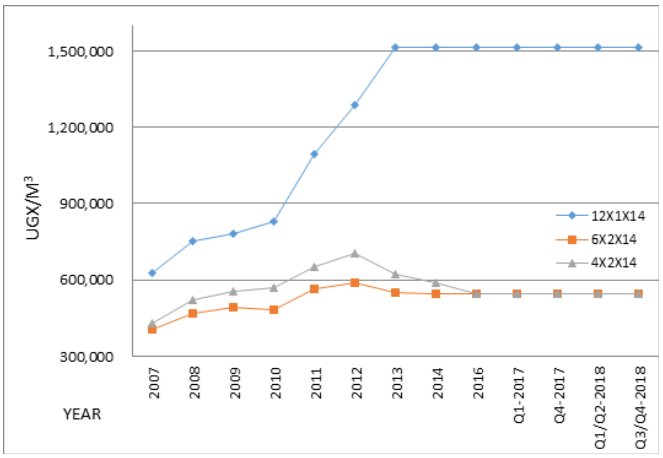
Kampala retail prices, Q3 & Q4, 2018 (Source: FAO/SPGS III)

Table 1 above shows the average timber prices as reported by timber dealers around Kampala in the second half of 2018. Generally, the prices for locally sourced and imported boards (hardwoods) remained constant.

Figures 1-3 show the price trends of major species traded in Uganda in the recent years based on dealers' retail prices in Kampala city. The constant prices were mainly attributed to increase in supply.
In the case of pine and eucalyptus, most of the forests planted between 2005 and 2011 are being thinned and the boards from the thinnings brought to the market.

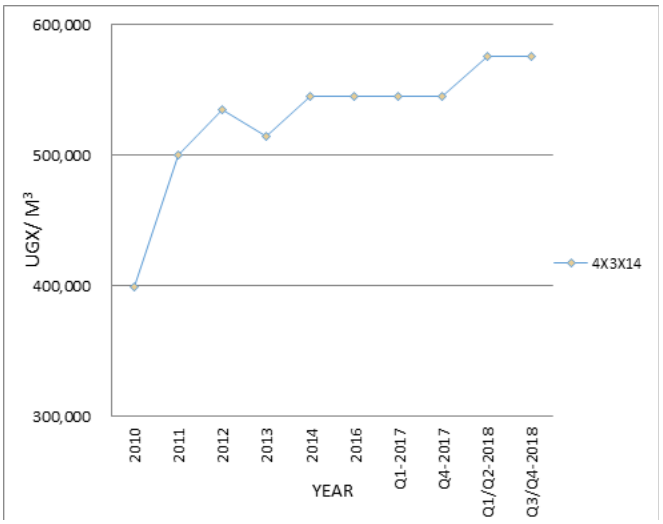
Additionally, the Kenyan market contributed to staying the prices at a constant since the traders were willing to purchase the thinned wood at a premium price.
The overall supply and demand for hardwood remained high, on account that often, in the second half of the year, a lot of construction work is mainly interior finishes where hardwoods are mostly used.
The key hardwoods in the market were, Mahogany (Khaya spp.) and Nkalati (***Afrosesalicia cerasifera***). Mvule (***Milicia excels***) was not available in the market, this was attributed to scarcity and the dwindling demand.

Figure 1: Price trend for pine



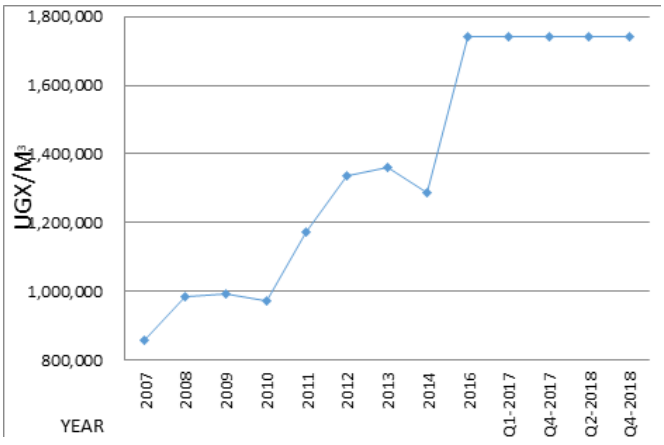
(Source: FAO/SPGS III)

Figure 2: Price trend for Eucalyptus



(Source: FAO/SPGS III)

Figure 3: Price trend for Mahogany



(Source: FAO/SPGS III)

Table 2: Current retail prices for treated and untreated **Eucalyptus poles for different sizes**

Size	Price (Seasoned poles)	Price* (Treated poles)
(Metres)	(UGX)	$
10	172,500	163
12	282,500	234
14	302,500	274

(Source: FAO/SPGS III)

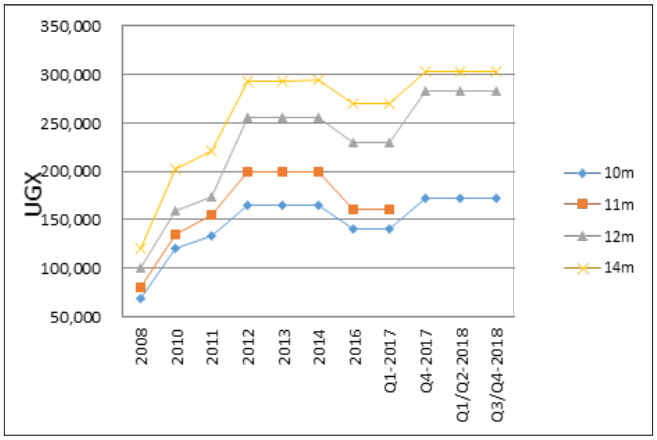
*$ =UGX 3,740 @ 14/12/2018

Table 2 shows the average prices for seasoned poles and the selling prices for treated poles as reported by operators of the different pole treatment plants.
Figure 4 shows the price trends of the eucalyptus poles in Uganda over the past few years as reported by operators of different pole treatment plants.
A constant price was observed and this was attributed to the tendering process by the Uganda Electricity Distribution Company Limited (UEDCL) where the purchase and the sale price remains constant for a given year. UEDCL is responsible for the electricity distribution network in Uganda. The unchanging price could also be attributed to the steady supply of poles.

A high demand for poles by Rural Electification Authority (REA) and UMEME Limited also ensured a stable price for the poles. REA is Uganda's statutory agency responsbile for rural electrification intiatives such as grid extension and renewable energy generation while UMEME Limited is Uganda's largest private electricity distributor. It is expected that the prices will change when UEDCL offers new tenders at the beginning of 2019.

Clonal eucalyptus poles were outstanding in most of the pole treatment plants.

Figure 4: Price trend for Eucalyptus poles



(Source: FAO/ SPGS III)

OTHER NEWS FROM AROUND THE WORLD

Ghana could restrict exports to added-value products
A Senior Minister in the Ghana Government has hinted that Ghana could soon stop exporting raw materials to international markets as part of the 'Ghana beyond aid' strategy. Minister Osarfo Marfo made this known when addressing the Ghana/Indian Trade Advisory Chamber (GITAC) in 2018.

Ghana's timber exports comprise mainly raw materials for other industries such as plantation logs, sawn wood and plywood. The government is seeking ways to encourage more domestic processing of its timber in a bid to increase earnings.

Statistics from the Ministry of Trade and Industries show Ghana's trade in goods and services with India exceeded USD 3 billion in 2017, of which exports accounted for about 80 percent. The government has recognized that the private sector is the engine of national growth and measures are being planned to support expansion of private sector processing of wood products.

By Bahizi Peter- Programme Associate, FAO

East African standards for wood poles and blocks for power and telecommunication lines

One of the important factors to consider in the design and economical use of wood poles for the support of aerial communication and power lines is the value of the maximum fibre strength for the different species of timber used for wood poles. The fibre strength is affected by the amount of seasoning (reduction of moisture content of wood before its use) that the wood poles have received. The growth characteristics of timber free from decay and other defects are also important in the determination of the mechanical strength of the poles for assessing the safe loads in service.

Table below shows tree species from which poles are produced.

Trade name	Botanical name
Redwood or scots pine	*Pinus sylvestris*
Corsican pine	*Pinus nigra*
Douglas fir	*Pseudotsuga menziesii*
Dunkeld (hybrid) larch	*Larix eurolepis*
European larch	*Larix decidua*
European spruce	*Picea abies*
Lodgepole pine	*Pinus contorta*
Sitka spruce	*Picea sitchensi*
East African pencil cedar	*Juniperus procera*
Eucalyptus	*Eucalyptus saligna* or *Eucalyptus grandis*

The Standards for the East Africa Market are as below. The overriding standard is that wood has a minimum fibre strength of 39 megapascal (Mpa). Other standards are:

Prohibited defects

- Cross-breaks (cracks);
- Decay, except as permitted for firm red heart in, defective butts and decayed knots.
- Dead streaks.
- Hollow butts or tops, except as permitted under hollow pith centers;
- Marine borer damage;
- Holes, open or plugged, except holes for test purposes, which shall be plugged;
- Nails, spikes and other metal not specifically authorized by the purchaser.

Permitted defects

- Firm red heart not accompanied by softening or other disintegration (decay) of the wood is permitted.
- Hollow pith centers in the tops or butts and in knots are permitted in poles that are to be given full-length treatment.
- Sap stain that is not accompanied by softening or other disintegration (decay) of the wood is permitted.
- Scars: Turpentine acid face scars are permitted anywhere on the pole surface.

Limited defects

- Bark inclusions: Depressions containing bark inclusions should not be more than 50 mm in depth, measured from the surface of the pole.
- Compression wood: the outer 25 mm of all poles shall be free from compression wood visible on either end.
- Dead streaks: A single, sound dead streak is permitted in East African pencil cedar, provided the greatest width of the streak is less than 25 % of the circumference of the pole at the point of measurement.
- Defective butts: Hollowing in the butt caused by "splinter pulling" in felling the tree is permitted, provided that the area of such hollow is less than 10 % of the butt area. Also hollow heart does not occur closer than 50 mm to the side surface and provided that the depth of the hollow does not exceed 600 mm, measured from the butt surface.
- Insect damage: Insect damage, consisting of holes 1.5 mm or less in diameter, or surface scorning or channeling is permitted provided there is no active infestation and the strength of the pole is not affected by the degree of damage.
- Knots: At any cross section along the length of a pole no knot with a diameter measured at right angles to the length of the pole, which is greater than 1/5 of the circumference shall be permitted. Also the sum of knot diameters at the cross section shall not exceed 1/4 of the circumference of the pole.

NOTE: The limitations of knots are based on past practice and satisfactory performance.

Scars (cat face) — No pole shall have a scar or turpentine cat face located within 600 mm of the groundline. Other sound scars are permitted elsewhere on the pole surface, provided they are smoothly trimmed and do not interfere with the cutting of any grain, and provided that

- The circumference at any point on trimmed surface located between the butt and 600 mm below the groundline is not less than the minimum circumference specified at 1.5 m from the butt for the class and length of the pole and
- The depth of the trimmed scar is not more than 50 mm, if the diameter is 250 mm or less, or 1/5 the pole diameter at the location of the scar if the diameter is more than 250 mm.

Shakes: Shakes in the butt surface which are not closer than 50 mm to the side surface of the pole are permitted, provided they do not extend to the groundline. Shakes or a combination of connected shakes which are closer than 50 mm to the side surface of the pole are permitted provided they do not extend further than 600 mm from the butt surface and do not have an opening wider than 3 mm. Shakes in the top surface are permitted in poles that are to be given full length preservative treatment provided that the diameter of the shake is not greater than 50 % the diameter of the top of the pole.

Sweep: Pole shall be free from short crooks. A pole may have sweep in one plane and in one direction, provided that, a straight line joining the surface of the pole at the groundline and the edge of the pole at the top in 90 % or more of the inspected lot, shall not be distant from the surface of the pole at any point by more than 25 mm for each 1.5 m of length between these points (see Figure 1). In the rest of the inspected lot (i.e. 10 %), the poles may have a maximum deviation of 25 mm for each 1.5 m of length measured as above.

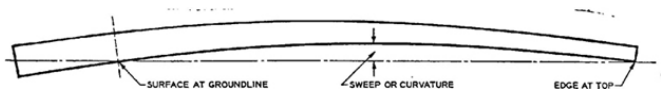


Figure 1: Measurement of sweep in one plane and one direction

Slope of grain — Spiral grain shall not exceed a slope of 1 in 6.

Slits and checks — In the top, a slit or a combination of two single checks; each check terminating at the pith Centre and separated by not less than 1/6 of the circumference, having one or both portions located in a vertical plane with 30O of the top bolt hole shall not extend downward along the pole more than 150 mm and in the butt, a slit or combination of two single checks shall not extend upward along the pole more than 600 mm. All other combination of checks or a split shall not extend downward along the pole more than 300 mm.

Reference: EAST AFRICAN STANDARDS (EAS 322:2002)

Reviewed by Peter Bahizi- Programme Associate, FAO

Forestry quick facts

1 *Pinus caribaea var. Hondurensis* (PCH) is a fast growing tropical Pine species that adapts to a wide range of sites. Under favourable conditions, PCH generally forms a straight stem of up to 45 cm under favorable conditions. It is the prime species for timber plantations in Uganda, especially for the shallower soils on lower elevation sites. Improved seed is recommended for commercial planting in Uganda and this can be sourced from Uganda Timber Growers Association in Bukoto or the National Tree Seed Centre in Namanve. PCH demands good silvicultural practices to help it thrive and produce an average increase in size of the tree or an average volume yield of about 30 cubic meters per hectare per year. Rotations for sawlogs are expected to be 18-25 years.

SPGS Tree Planting Guidelines for Uganda, 2013

2 *Tectona grandis* (Teak) is one of the world´s most versatile and valuable plantation species because of its excellent wood properties. The stability of teak wood as well as its strength, pleasing colour, attractive grain pattern and favourable working and finishing properties make it suitable for many uses. Teak is widely cultivated in plantations in the tropics for its high value wood. Teak plantations are bound to fail, and many have failed, on account of poor site selection and use of poor planting stock. In Uganda, planting of teak is most suitable for sites with very low altitudes, as in Northern Uganda.

SPGS Teak Silviculture Guidelines, 2014

3 *Eucalyptus grandis* (EG) can grow extremely quickly but it requires good land preparation and thorough weeding. EG can produce timber and large poles in only 8-15years; but only if thinned early and effectively. It is also essential to use only improved seed. EG is easy to raise from seed and coppices vigorously. On suitable sites and with good silviculture, EG can produce outstanding growth with trees reaching an average minimum annual increase (MAI) in size of about 50 cubic meters per hectare per year, as has been realized in Western Uganda. Average MAIs expected in Uganda are cubic meters per hectare per year. However, poor silviculture retards the growth of EG.

SPGS Tree Planting Guidelines for Uganda, 2013

4 Forests influence climate change mainly by affecting the amount of carbon dioxide in the atmosphere. When forests grow, carbon is removed from the atmosphere and absorbed in wood, leaves and soils. Because forests can absorb and store carbon over an extended period of time, they are considered “carbon sinks”. This carbon remains stored in the forest ecosystem, but can be released into the atmosphere when forests are burned. Overall, the world´s forest ecosystems are estimated to store more carbon than the entire atmosphere.

Green Facts. https://www.greenfacts.org/en/forests/

5 The Stage of market development plays a critical role in defining the type of forest activities that prevail and the impact of trade on the economic viability of these activities. Forests and forest-based livelihoods are strongly affected by the serious inequities in international institutions governing market structure and competition, trade rules, barriers and disputes in the many sectors, which compete or involve forestry. Policies and institutions determine and influence patterns of trade, while the scale and dynamics of trade can influence the nature and quality of forest governance.

Food and Agriculture Organization of the United Nations (FAO)
http://www.fao.org/docrep/007/ae017e/ae017e09.htm

Compiled by Vallence Turyamureba- Programme Assistant, FAO

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