

NEWS OF THE COMMERCIAL FOREST SECTOR IN UGANDA

SPGS: Supporting private tree growers since 2004

Issue No. 29 | Sept-Nov. 2010

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- **Safari to UK: some interesting lessons for Uganda.**
- **Plantation Forestry's Contribution to Society.**
- **Timber Market Survey.**



The **Sawlog Production Grant Scheme (SPGS)** is a partnership between the Government of Uganda, the European Union (EU) and the Government of Norway (GoN). Since 2004, over 15,500ha of timber plantations have been supported by many commercial and community growers throughout the country.

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NURSERY CORNER

by SPGS's Atuyamba Alexander &
UTGA's Robert Nabanyumya

SEED UPDATE

Pinus caribaea var. *hondurensis* (PCH) seed from Forest Plantations Queensland (Australia) was all distributed out to members that had booked and pre-paid. Unfortunately no more FPQ PCH seed will be available until mid-2011. UTGA hope to receive more improved PCH seed (F2 ex-Brazil) in Sept. To ensure you have PCH seed for the March/April 2011 planting season, please you need to book (and pay) now. Deposits can be made into UTGA's specific seed a/c – Barclays Bank, Bugolobi Branch - A/C No.6002262361. You can still come over to UTGA offices on Plot 116 Bukoto Street to make your bookings for seed.

SEEDLINGS

As we come closer to the start of the Sept/Oct planting season, we expect all commercial tree growers to check on your seedling suppliers to avoid any disappointment. Remember all SPGS Clients (and indeed all other commercial growers) are strongly advised to book seedlings from the UTGA/SPGS recommended nurseries. To find a recommended nursery near you, check out the SPGS website - www.sawlog.ug

POLYTHENE (KAVERA)

The good news is that the plastic bags used for raising seedlings in nurseries, have been permitted for use. This was after UTGA/SPGS and several other forestry and non-forestry users petitioned for the exemption on the polythene ban. The regulation was passed out under permitted bags and other



SPGS staff (Walter and Alex) carrying out one of the 'pilot' nursery accreditation exercises at Uganda Gatsby Trust's Kifu nursery in Mukono (Aug. 2010). Using a Corrective Action Report system, they now have a few issues to sort out before (hopefully) gaining a certificate.

plastics for exceptional use by the Finance Minister regulations June 2010. Details of the regulation are available at UTGA's office. SPGS has also been conducting some research on raising trees in biodegradable pots: this is being carried out in conjunction with a private nursery in Banda, Kampala. The provisional results indicate that there are problems associated with the root development in these pots and this is an important factor in tree establishment. It therefore looks like there might be a need to improve on the quality of the biodegradable pots to fit commercial use in forestry nurseries.

NURSERY ACCREDITATION

Some 30 commercial tree nursery operators met at City Royal Resort Hotel, Bugolobi on 30th July 2010. The outcome of this meeting was to discuss and agree on a draft check-list for the UTGA/SPGS Accreditation process. Accreditation is the process through which we assess and certify that a given nursery is producing high quality seedlings. Accreditation confirms that the seed being used is genetically improved, seedlings are of high quality and the production practices are technically, economically, socially and environmentally sound.

"So what is now going to happen?" we hear you cry. Well, the check-list is now (Aug. 2010) being tested on a sample of nurseries – both large and small – after which it will be applied to all nurseries that have requested for accreditation. Certificates will be issued to those who meet the minimum standards and UTGA/SPGS will help promote them to growers. Those who don't meet the standards will be reassessed through a Corrective Action Report (CAR) system. If a nursery is found to have seriously broken the rules, the certificate will be withdrawn. The certificate will be valid for one year but renewable after an annual assessment.

Our target is to have the first batch of accredited nurseries by December 2010. Any other commercial nurseries interested in coming on board you are welcome: please contact Alex on 0774-111 459; Email: alexa@sawlog.ug

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Cover Photo: One of the beautiful visitors' sites along the Big Tree Country trail in Perthshire, Scotland. Many forests in UK are being managed for multiple objectives.



OPPORTUNITY KNOCKS

by Paul Jacovelli, SPGS Chief Technical Advisor



Almost as we went to press, a cutting arrived on my desk from the *East African* newspaper (August 16-22, 2010) that caused me to hastily re-write my article. It was head-lined "TIMBER-STARVED KENYA SEEKS NEW SUPPLIES" and explained how a chronic timber shortage has hit Kenya forcing the country to import from DRC and Angola. It seems that since a logging ban imposed in Forest Reserves by government in 2000, Kenya has relied on private growers' trees and Tanzanian plantations for construction timber but all these supplies are now drying up. The Kenya Forests Working Group National Coordinator, Rudolph Makhanu says that "worse is the fact that there is no incentive for farmers engaged in tree farming". Not a good time to die either it seems because the huge rise in timber prices means that coffins which used to sell for around US\$190 are now \$750.

If you are a commercial tree grower in Uganda reading this I am sure you are smiling. Of course, our timber plantations are still young, with many having only started planting in earnest around 2004. Nevertheless, those trees are coming up to 7 years old and some are starting to look like sawlogs! Maybe Kenya needs to look more seriously at the SPGS model, which is certainly achieving results and attracting hundreds of entrepreneurs into tree growing as a business. We know that Tanzania is investigating the possibility, with the Finnish government currently funding a feasibility study there. For those who would like to read about the SPGS model in a nut-shell, access the paper SPGS presented at the Edinburgh Conference at www.sawlog.ug

Whilst Uganda is showing the way in terms of plantation establishment in the region, we mustn't get carried away as we have a long way to go in terms of industry development and to resolve concerns over encroachment and permit allocations in Forest Reserves. Anyway, on a more positive note, we have just concluded a round of site inspections

to all the 198 Clients of SPGS Phase II – well, at least all those who had planted something. We approved **5,190 ha** for the 1st SPGS grant payment, which might sound a lot but is just under 18% of our Phase II target of 30,000 ha. So **KEEP ON PLANTING** is the message! We are currently adjusting existing contracts downwards for those who haven't performed as expected and cancelling those who haven't even started. We will soon be offering new contracts to newcomers and with over 15,000 ha of formal applications on file, there is no shortage of potential growers here.

SPGS's clients' meetings are probably the most important days in our staff's diaries. The enthusiasm and the willingness to share experiences (good and bad!) have to be experienced to be believed. Although there is no substitute for being there, you hopefully will get a feeling of this spirit from Roselyne's article (p.17) and the photos (pp.14-16). These gatherings are not only great fun socially but are an excellent barometer of the state of the commercial forest sector here in Uganda too. Amidst the trees (and over sundowners and occasionally, roasted goat), many serious issues are discussed - including seed quality, encroachment and labour problems and increasingly, concerns over markets, yields and pests and diseases. All this sends a clear signal that the commercial forest sector here in Uganda is evolving and it is up to us all - but especially SPGS and UTGA - to support this process so that people actually make a profit from their ventures and are confident to stay in the business for the long haul.

You will read in this *SPGS News* (provided you make it past page 3 of

course) about an SPGS trip to UK, where five of us attended the 18th Commonwealth Forestry Conference and went on a tour of public and private sector forestry there. "What on earth can we learn from UK forestry that is of interest to us in Uganda" I hear people crying out. The short answer is "a great deal" and I am sure that you will agree when you read the reports inside this issue. The Edinburgh meeting also was important as it showed us where forestry in the 21st Century is heading. Although there was an awful lot of talk about REDD, it certainly seems that



One of the impressive, mature conifer (Sitka spruce) stands in Perthshire, seen along the Big Tree Trail on the Commonwealth Forestry Conference tour.

with climate change high on everyone's agenda, NOW is the time for forestry to deliver, whether it be conserving most of the natural forests left standing or establishing (and managing better) more man-made forests. Are you up to the challenge?

Remember this Newsletter is for you, so tell us what you would like to see included and send us any tree-related tales that might interest other readers. As Engineer Kisembo told our Clients recently at his Masindi plantation "newcomers to this business need not go through the long (and costly) route some of us endured, but can learn from our experiences".

And finally we come to talk about England in the World Cup - but what a shame, there is no more space!



Forestry can Increase Household Incomes

by Mwebaze Yonasani (Kamusiime Memorial Rural Development Pilot Scheme)

It has always been my vision that efficient utilization of forest resources could enhance material and financial benefits to forest dependent communities, leading to transformation of their lives. This would encourage these communities to manage their forests and even improve on the forest cover. Lessons learnt from my recent trip to the UK (visiting both private and public sector) have given me hope that my dream is already becoming a reality.

It is amazing that tree planting in UK started more than 80 years ago by the government through the Forestry Commission (FC) that was created with the main goal of establishing a strategic reserve of timber supply in case of future shortages. Currently forests now cover 12% of UK and the aim is to increase the forest cover to 25%. This involves both private and public (FC) participation.

Trees and forestry plantations in UK are managed not only as a source of timber but as a multi-purpose forest landscape. Smallholders of 0.1 ha – 5 ha represent a significant percentage of the land under forest cover. For example in the county of Northumberland in northern England, 16% of total area of woodland is owned by small holders.

Many of the plantations established with strong emphasis on maintaining the beauty of the landscape. At Kielder forest which is the largest man-made forest in UK, it was clearly stated that although reforestation strategy was a success in terms of timber production, not everybody was happy. By 1970 there was a feeling that many of the forests provided little for a population increasingly hungry for recreational activities. This has transformed Kielder forest and other areas like it into recreational sites attracting thousands of visitors each year for forest walks, cycle, ride horses and enjoying the areas scenery and wildlife. Introduction of recreational activities has not only acted as a revenue generating activities but also as an incentive to tree planting thus increase on the forest cover in general.

Tree planting in Scotland and UK at large has also increased as a result of the need to protect water catchment areas and protection of the quality of water as social and environmental benefits. In terms of wildlife conservation, the FC is conserving and restoring upland bogs and wildlife habitats through planting trees. Special emphasis is put on planting the indigenous Scots pine and also Norway spruce to provide food for the red squirrel, which is endangered specie in UK.

The Government of UK – through the FC - is committed to ensuring that forests are managed in a sustainable business manner by supporting tree planting and providing economic incentives to private tree planters – through planting grants and

tax incentives. These initiatives encourage people to invest in commercial tree growing.

As one way of tackling climate change, the Scottish FC encourages greater use of wood for fuel displacing fossil fuels because wood has been proved to be an environmentally friendly alternative. At South Scotland Conservancy one of the FC's station we visited, David Rodgers a Biomass Development Officer, stressed on how they are promoting the use of wood residues to be converted into wood fuel for heating needs for many householders. David further elaborated on how modern technology is providing user friendly source of energy supply by converting thinning, agricultural residues and recycled timber into wood fuel in Scotland in the form of woodchips and wood pellets.

At Bowmont Forest sawmill, a private estate in Scotland, we were fortunate to see how a wood chipper machine operates courtesy of Mr. Peter Darling the Forest Manager. Peter also took us around the sawmill, which was set up for processing their own plantation's trees.

With the new development in the wood fuel, however, the company has incorporated woodchips production in its operation's plan. He was happy to note that with the right technology and in order to meet the ambitious goals of biomass utilization, what they used to call waste (cut offs, saw dust etc.) is now being converted into woodchips and pellets. Small diameter round wood from thinnings and branch-wood used to be left in the forest plantation are now collected, taken to the sawmill and are converted into woodchips which are later packed and sold to various interested customers.

This has not only increased on the company's sources of revenues through diversification of utilization of forest resources but also increased efficient management of the plantation.

In conclusion, an efficient and diversified wood market in Uganda can make conventional forest management more economically viable to farmers, land owners and the general community. Technology for a better environment has developed the right strategies and the most effective machines for this challenge. We now know what to do, we know how to do it, we also know where we could do it but the remaining challenging question is - when will we do it?

Ed's note: Mwebazi and SPGS thank the Commonwealth Forestry Association for sponsoring Mwebazi's attendance at the Commonwealth Forestry Conference, which enabled him to join the SPGS safari prior to the meeting.



Peter Darling (Forest Manager of Floors Estate, Kelso) chatting to Mwebazi, Alan and Celia on a site that had just been replanted after clear-felling.

A SCOTTISH SAFARI

by David Brackley & Paul Jacovelli



Dave Brackley (far right) with the SPGS group at Floors Estate's small sawmill: one way of adding value to logs.

Apparently it is most unusual to have the words sunny, Scotland and June in the same sentence – but here goes. During a sunny week in June, 2010, an SPGS team were fortunate to visit a number of private and public forestry estates in the Borders region between England and Scotland. SPGS recruited the services of David Brackley

to organize the trip and to escort our group around. Dave is an experienced forester based in Preston, NW England, and he certainly did us proud. The trip made a big impact on the team (as you can read elsewhere in this *SPGS News*) and it gave everybody some great ideas to bring back to Uganda. Below are the highlights of the trip, compiled largely from Dave's notes.

Many discussion points that arose suggested there were a number of issues that had much relevance for Uganda. We hope to further explore these (and other) issues in a later article, as there are clearly many lessons to be learned that could help Uganda's fledgling commercial forest sector. But here is a summary as a taster:

History and Use of Exotic Species for Plantations: when UK started planting in earnest (after FC was launched in 1919), introduced trees proved faster growing and more adaptable than native species. The FC also focussed from an early stage on applied research in plantation establishment and management techniques.

Tree Health: there is great concern about some virulent, fungal pathogens spreading around the UK: the main ones being Sudden Oak Death, caused by *Phytophthora ramorum*; Red Band Needle Blight (*Dothistroma septosporum*) and Bleeding Canker of Horse Chestnut (*Pseudomonas syringae* pv *aesculi*).

Role of State Forest Service: The FC evolved as a strong and competent organisation acting in the interests of regulation, policy development and grant aid for tree planting and management. At times, however, there

have been strained relations between state and private sectors regarding timber supplies, competition and grant rules and structures.

FSC: some in the private sector are seriously questioning the benefits of FSC and Chain of Custody against the increased bureaucracy and costs.

Forest Design Planning: multi-use forests (e.g. timber plus recreation) versus single use (e.g. optimized sawlog production). Questions that arise are how and where to compromise and what is the net cost? Also - who pays? Grant aid is from public funds and the public are increasingly expecting public benefits.

PLACE VISITED	BACKGROUND	KEY ISSUES
Drumlanrig Castle and Country Estate, Thornhill, Dumfriesshire	Family seat of Duke and Duchess of Buccleuch and Queensberry. Entrance to Castle & Gardens is £9 or UGX30,000	<ul style="list-style-type: none"> Importance of quality tourism to the private estate. The Historic Tree Trail inc. UK's oldest Douglas Fir and biggest Sycamore (see photo p.9). Importance of exotic species for commercial forestry in UK.
Forestry Commission (S Scotland Conservancy) Dumfries	State Forest	<ul style="list-style-type: none"> UK Renewable Heat Initiative (grant based on units of energy produced). Wood fuel supply, harvesting & delivery. Wood fuel characteristics and costs.
Stevens Croft Power Station, Lockerbie	E-ON (UK): the UK's largest wood fuel plant. £90m investment.	<ul style="list-style-type: none"> Timber being diverted from normal markets - pulp, sawmills etc. Imbalance between supply & demand will soon occur. Short rotation coppice not taking off: competing with agriculture.
Floors Estate, Kelso	Home to Duke and Duchess of Roxburghe (castle built 1721)	<ul style="list-style-type: none"> Adding value: sawmill, poles etc. + Woodchip boiler heating system.
Kielder Forest, Forestry Commission, Northumberland	State Forest: the largest forest in UK. Entrance free!	<ul style="list-style-type: none"> Multi-use forest - combines timber production with high quality recreational services for public. Forest design planning: importance of public consultation. Wild deer management to control nos. of roe deer (like bush-buck).
Perthshire Big Tree Country*	Partnership between public and private sector.	<ul style="list-style-type: none"> Impressively organised trails to suit range of visitors. Excellent PR/literature and frequent cafes, hotels etc.

* This was visited as part of the Commonwealth Forestry Conference but fitted in well here - Ed.

cont'd on p.21





Thoughts from SPGS Field Inspections

by Nelly Grace Bedijo, Andrew Akasiibayo & Thaddeus Businge (SPGS)

In the last few months, each of our (almost 200) Clients has had a chance to be inspected and many have since received payment for their efforts. Thanks to these field visits, smiles have been put on some faces in terms of payments and the field staff at a number of plantations gained from some practical advice. As is our usual practice, we would like to share some of our findings with you.

We can gladly report that a number of planters are observing the silvicultural, social and environmental practices we preach (who thought our standards were too strict?). There are, however still some mistakes being made - nearly all attributed to poor planning, which definitely has taken a toll in resource allocation (both financial and human). Generally, it now seems the message is reaching receptive minds and results are starting to show.

Land preparation: Quite a number have appreciated the relevance of doing a thorough land preparation, but some are still planting into weeds, which is a big mistake. Remember, weed control starts *before* you plant your trees.

Site-species matching: A few people are planting the wrong species on their sites because they seek advice from the wrong people. Some Clients blamed the nurseries where they received different species from what they ordered (especially with pines). Stick to a reliable nursery with a good code of conduct to avoid such happenings in future (see page 2).

Seed and seedling quality: Many planters now appreciate the importance of only planting healthy, young seedlings and of the recommended size (15-20 cm high from the root collar region). Such seedlings establish faster and register high survival. A few of you guys are still buying overgrown seedlings, which in most cases die (and increase the costs as beating up will have to be done).

Planting: Good planting is being done by many people: the right pit sizes, the right planting depth but there are a few cases where shallow planting has been evident. Shallow planting leads to death of seedlings and results in costly beating up. More training and better supervision is needed.

Chemical weeding: Again many of you are now using glyphosate in a safe and cost-effective manner. However, we want to stress that any chemical weeding should only be carried out by a well trained and supervised team. Chemical weeding can be very cost effective but only if properly executed.

Environmental responsibility: We are glad that many planters are now environmentally responsible in regard to wetland and natural high forest protection. Plantations littered with old chemical containers and polythene bags (kaveera) have also greatly reduced, which is most encouraging.

Compartmentation: An aspect of planning that cannot be left out especially when one is planting large areas, is the use of compartments. These are of maximum size 25ha, having the same species and of the same age and separated by a road or an unplanted firebreak.

Overall many improvements were noted in the plantations: if you follow our advice (especially regarding planning), you will avoid many costly corrective actions. All SPGS's advice is aimed at maximizing the sustainable growth and quality on any particular site. A word of encouragement to the few who did not meet the grade: follow the advice from our field reports and consult what should be your main reference source - SPGS's *Tree Planting Guidelines for Uganda*. Make sure you and your Supervisor/manager(s) have their own copies (see back page).

Walter Mapanda



Walter (left) advising Steven Okurut, whose nursery was the 1st to go through the new accreditation scheme.

Walter Mapanda has been employed by SPGS starting June 2010 as a Plantation Forestry Technical Advisor. Walter holds a Bachelor of Forest Science from Melbourne University in Australia and a Master in Geo-information Science specialising in Forestry for Sustainable Development from ITC in The Netherlands. He is a Certified Chainsaw Operators Instructor, Certified Fire Fighter and Certified Forest Safety and

Health Instructor. Besides he is an active member of the Southern African Institute of Forestry.

Walter has over 20 years work experience in Forestry Education, Training and Plantation Forestry in Government and Private Sector in Southern Africa. He worked as a Lecturer in Plantation Silviculture, Timber Harvesting and Fire Protection at Zimbabwe College of Forestry for over 10 years. He has been involved in on-the-job training programmes for plantation forestry workers in forest safety, forest environment management, veld and forest fire fighting, chainsaw operators, establishment and tending in South Africa, Mozambique, Zambia and Zimbabwe.

He has extensive work experience in Pine and Eucalyptus Plantation Forestry having worked as an Estate Manager for Border Timbers in Zimbabwe and Merensky in South Africa. Walter has been actively involved in Environmental and Fire Preparedness Audits for Plantation Forests. He has participated in several Forest Stewardship Council Audits whilst working in commercial plantation forestry operations. Walter is married to Enver and they have two children, Tunga and Kuzi.

1st Thoughts

I am a person who has always believed that if you know a thing you must teach it. If you are not sure of something you must do information search. As such SPGS is the right place for me to be because it is an organization that combines the competitive advantage of training and that of upholding commercial forestry standards. At SPGS I got the sense that the whole team is functioning, each with their own skills and talents. This is a team that is prepared to challenge the paradigm within which plantation forestry has been operating for over 30 years in Uganda.

PESTS AND DISEASES – What Would Be Your Priority?



At the IUFRO Pests and Disease Workshop in Uganda May 2010 (see SPGS News 28), scientists from each country represented were asked to rate the current and potential P&D problems their plantations are facing. We thought it would help when prioritizing regional research plans (remember P&D show total disregard for national borders!). We also thought it would stimulate comment from readers. Do you agree with their lists?

DISEASE PRIORITIES FOR COMMERCIAL FORESTRY IN EAST & SOUTHERN AFRICA (& AUSTRALIA!)

COUNTRY	MAIN PROBLEMS	SPECIES	MAJOR THREATS	SPECIES
UGANDA	1. Pine wilt 2. Bacterial wilt 3. <i>Botryosphaeria</i> canker 4. Bacterial blight 5. <i>Mycosphaerella</i>	Pines Eucalypts Eucalypts Eucalypts Eucalypts	1. Pitch canker (<i>Fusarium circinatum</i>) 2. <i>Coniothyrium</i> canker 3. <i>Phytophthora</i> root rot 4. <i>Chrysosporthe</i> canker 5. <i>Eucalyptus</i> rust	Pines Eucalypts Eucs/Pines Eucalypts Eucalypts
TANZANIA	1. Canker 2. Dieback 3. Root & Butt disease 4. Heart Rot	Cypress Pines Teak Camphor (<i>Ocotea</i>)	1. See footnote *	
KENYA	1. <i>Botryosphaeria</i> 2. <i>Mycosphaerella</i> 3. <i>Armillaria</i> 4. Powdery mildew 5. <i>Dothistroma</i>	Eucalypts Eucalypts Many Many Pines	1. <i>Chrysosporthe</i> 2. Pitch canker 3. Bacterial wilt 4. <i>Eucalyptus</i> rust 5. <i>Phytophthora</i>	Eucalypts Pines Eucalypts Eucalypts All
ETHIOPIA	1. <i>Botryosphaeria</i> stem canker 2. Top death & stem canker 3. <i>Armillaria</i> root disease 4. <i>Coniothyrium</i> canker	Eucalypts <i>G. robusta</i> <i>P. patula</i> Eucalypts	1. <i>Eucalyptus</i> rust 2. Pitch canker	Eucalypts Pines
RSA	1. <i>Fusarium circinatum</i> 2. <i>Diplodia/Botryosphaeracea</i> 3. <i>Coniothyrium</i> 4. <i>Ceratocystis</i> 5. <i>Phytophthora</i>	Pine Eucalypts, Pines, <i>Acacia mearnsii</i> <i>Eucalypts, Acacia</i>	1. <i>Ceratocystis</i> 2. <i>Phytophthora pinifolia</i> 3. Rusts 4. Leaf blights 5. New <i>Cryphonectriaceae</i>	Eucalypts Pines Eucalypts Eucalypts Eucalypts
AUSTRALIA	1. <i>Quambalaria</i> 2. <i>Kirramyces</i> 3. <i>Caliciopsis</i> 4. <i>Phellinus noxius</i> 5. Bacterial wilt	<i>Corymbia</i> Eucalypts Eucalypts Many spp. Eucalypts	1. Rusts 2. Pitch canker 3. Pine Wilt nematode 4. <i>Coniothyrium</i>	Eucalypts Pine Pine Eucalypts

* We suspect the lack of threats is more due to the lack of Tanzanian pathologists rather than complacency!

PEST PRIORITIES FOR COMMERCIAL FORESTRY IN EAST & SOUTHERN AFRICA (& AUSTRALIA)

COUNTRY	MAIN PROBLEMS	SPECIES	MAJOR THREATS	SPECIES
UGANDA	1. Termites 2. <i>Leptocybe invasa</i> 3. <i>Prunus</i> psyllid 4. <i>Phytolyma lata</i> 5. <i>Cinara</i> spp.	Eucalypts Eucalypts <i>Prunus africanum</i> <i>Chlorophylla excelsa</i> Pines Cypress	1. <i>Sirex noctilio</i> 2. <i>Gonipterus scutellatus</i> 3. <i>Thaumastocoris peregrines</i> 4. <i>Phoracantha semipunctata</i> 5. <i>Ophelinus maskelli</i>	Pines Eucalypts Eucalypts Eucalypts Eucalypts
TANZANIA	1. Termites 2. <i>Cinara cupressi</i> 3. Woolly aphid 4. <i>Eulachnus rileyi</i> 5. <i>Leptocybe invasa</i>	Eucalypts Cypress Pines Pines Eucalypts	1. <i>Sirex noctilio</i> 2. <i>Blastophylla</i>	Pines
KENYA	1. <i>Leptocybe invasa</i> 2. <i>Thaumastocoris peregrines</i> 3. <i>Gonipterus scutellatus</i> 4. Termites 5. Stem borers	Eucalypts Eucalypts Eucalypts Eucalypts Eucalypts	1. <i>Sirex</i> 2. Pine weevil 3. Pine tip borer	Pines Pines Pines
ETHIOPIA	1. Cypress aphid 2. <i>Eucalyptus</i> psyllid 3. Termites 4. <i>Leucaena</i> psyllid	Cypress Eucalypts Eucalypts <i>Leuceana</i>	1. <i>Leptocybe invasa</i> 2. Woolly aphids 3. <i>Thaumastocoris</i>	Eucalypts Pines Eucalypts
RSA	1. <i>Sirex</i> 2. <i>Gonipterus</i> 3. <i>Thaumastocoris</i> 4. Aphids 5. Native insects	Pine Eucalypts Eucalypts Pines All	1. <i>Leptocybe invasa</i> 2. <i>Ophelimus</i> spp. 3. Shoot tip borer 4. Pine Wilt nematode 5. Psyllids	Eucalypts Eucalypts Pines Pines Eucalypts
AUSTRALIA	1. Borers – Giant Wood Moth 2. Scarab beetles 3. <i>Ips</i> 4. Erinose mite 5. Tip borer	Eucalypts Eucalypts Eucalypts Pines <i>Corymbia</i> , Red Cedar, African Mahogany	1. <i>Sirex</i> 2. Asian GM 3. Asian longhorn beetle 4. <i>Creilis</i> psyllid	Pines Euc/pine Pine Eucalypt

Readers are recommended to read the Tree Protection Co-op.'s excellent P&D Newsletter (May, 2010), available at www.fabinet.up.ac.za/tpcp





SPGS SAFARI – IN THE UK

by Celia Nalwadda & Zainabu Kakungulu, SPGS Senior Plantation Officers.

During the month of June, a team of five (Paul, Allan, Zainabu and Celia from SPGS, along with Yonasani Mwebaze from Kamusiime Memorial Pilot Scheme) traveled to the UK to attend the Commonwealth Forestry Conference in Edinburgh, Scotland. Before going for the conference, we took some time for a tour of Scotland's forests, in search of something to learn and carry back home with us to improve our own practices. The tour was mainly in the southern part of Scotland and partly in Northern England. This article highlights the areas from the safari that we thought would be of particular interest to SPGS News readers.

Background

By 1900 forest cover in the UK had been reduced to 5%, and it fell further still during the First World War. Within the past 80 years, a massive reforestation government program has seen over 2.8 M ha planted with trees. Forests now make up 12% of the total land cover in the UK. Of this, 1.3 M ha (47%) is in Scotland. Trees are planted for commercial, environmental conservation and recreational purposes. Many of these forests are currently undergoing transformation into multipurpose landscapes.

Native tree species are planted for restoration of degraded areas while exotic conifers such as Sitka spruce (*Picea sitchensis*), Scots pine (*Pinus sylvestris*) larch (*Larix* spp.) are planted for timber production. These exotics are favoured because of their ability to grow fast in Scotland's mild and wet climate. Broadleaves (mainly indigenous trees like oaks – *Quercus* spp.), are valued primarily for their conservation and landscape value, although if (properly managed) they can also produce valuable hardwood timber.

Public vs Private Ownership

Just as is the case with Uganda, the private sector owns a larger proportion of woods and forests: In Scotland, 36% of Scotland's forests are publicly owned, being looked after by the Forestry

Commission (the equivalent of our NEA), on behalf of the people of Scotland. These are Scotland's national forests. Scotland's forests are the most productive in the UK. They make a significant contribution to Scotland's economy through jobs in the wood processing industry, forest management, and associated industries. Together, timber and wood processing contribute about £650 million each year to the Scottish economy; roughly 1% of Scotland's Gross Domestic Product (GDP). Forestry in Scotland also creates much needed employment (10,700 full-time jobs) and largely in remote, rural areas, where there are often limited opportunities for work.

Bio-Energy

With climate change mitigation high on the agenda of the UK government, we saw clear evidence of them putting their words into practice. We saw large and small scale plants fed from woody biomass (because it is becoming so important, woody biomass will be the subject of a separate article in the next SPGS News – Ed.).

Forests for the environment & recreation

In recent times, priorities have changed from simply producing wood to providing wider multiple benefits from our forests. These may include; environmental conservation and biodiversity conservation. Other than environmental benefits, forests are also planned and designed to provide social benefits such as recreational services for the people. According to Graham Gill, the Forest District Manager of Kielder Forest Enterprise, UK's largest man-made forest, an increased diversity of wildlife in this forest is attracting visitors in growing numbers. About half a million people visit the forest each year to walk, cycle, and ride horses and enjoy the area's scenery and wildlife.

Landscape planning and design

In many parts of Scotland, forests are an important part of the landscape. Forests are designed to blend more naturally with

the landscape. In this way, they too are being actively managed to increase their variety and to contribute to the beauty of Scotland's landscape. Foresters, advised by landscape architects, work in partnership with communities to design the shape and structure of the forests to reflect the distinctive character and diversity of Scotland's landscapes.

Planning of Harvesting

The harvesting operations are highly mechanized and performed by highly skilled labour (see photo p.10). Depending on the specifications such as minimum diameter, length and defects on the log, the harvested logs are piled according to grades which will be sold at different prices. The felling plan is based mainly on the economic age of the block, but also important is maintaining the visual beauty and landscape design of the plantation. At some sites we saw a 'continuous cover' approach being adopted, where individual trees are selected and harvested to ensure that the area is forested at all times.

Historic Trees

Scotland is blessed with an unusually rich heritage of historical trees. It is proud of its extraordinary legacy of heritage trees, which are national treasures. Some of the famous trees that we saw were the Drumlanrig Sycamore, an imposing tree more than 300 years old: it is more than 30m tall with a trunk more than 7m in girth (see photo opposite). Such treasures attract many visitors and tourists, and hence earn income for the owners of the forests.

Lessons for Uganda

Finally, there are definitely some similarities in the forestry sectors of Scotland and Uganda: and there are many things we can learn from their practices that could improve our practices.

First we believe planning the design of plantations is one thing we haven't really taken so seriously. A first step would be as simple as beginning with planning our forests into small manageable compartments of 20-30ha for easy management.

cont'd on p.20

PHOTO GALLERY I - HI-LITES FROM UK SAFARI



→ *Mobile chipping of thinning material at Floors' Estate. The chips are used to feed their own heating system.*



↓ *Floors Estate add value to their timber not just through bioenergy but also pole treatment (CCA) and a small (fixed) sawmill.*



A close-up of the wood chips, which get fed automatically into the boiler.



*The SPGS team posing by the UK's biggest Sycamore (*Acer pseudoplatanus*) at Drumlanrig Castle & Country Estate. The tree is over 300 years old and is part of their Historic Tree Trail, which has many interesting (and some very old) trees.*



The owners of Drumlanrig Estate – the Buccleuch family – have over 10,000 ha of woodland, mostly managed under a continuous cover system. The management objectives are timber production as well as landscape, recreation and sporting interests.



PHOTO GALLERY II - HI-LITES FROM UK SAFARI

➔ *At the Duke of Atholl's Blair Castle is an arboretum with some spectacular specimen conifers from early introductions into the UK. The big tree on the right is one of the original parents of the hybrid larch (*Larix x eurolepis*) which out-performs either of its parents - the European larch and the Japanese larch.*

↓ *FC staff at Kielder showing us a difficult re-stock site, which had just been planted but was suffering from an unseasonal drought. In the background is Kielder Water - a massive reservoir in the middle of the forest.*



↑ *Most harvesting is carried out mechanically by very impressive (but rather expensive) timber harvesters, using highly skilled operators.*

← *Graham Gill (Forestry Commission's Forest Management Director for NE England) explaining the management planning for Kielder Forest. Kielder is the UK's biggest forest with 50,000 ha planted with Sitka spruce (*Picea sitchensis*) the region's main commercial species, which comes from USA's Pacific Northwest. Note the excellent forest road too, which enables large trucks to collect the produce.*

PHOTO GALLERY III - BEYOND THE TIMBER: FOREST TOURISM & RECREATION



← *Silvas Capitalis (Forest Head): art in the forest certainly adds some interest, even if it might not be to everyone's taste. This sculpture was created by a group of artists from Chicago, USA, inspired by the Celtic and Roman history and mythology of the Kielder area. Must be something in the Chicago air!*

↓ *Kielder Forest itself attracts a staggering 500,000 visitors each year.*



Many (public and private estates now offer high quality tourism facilities to attract the public to spend some time (and money) there: a good quality cafe and gift shop appear to be mandatory!



↑ *The wooden Visitor's Centre along the Big Tree Country trail in Perthshire, Scotland. Dedicated to the memory of David Douglas, a pioneering plant collector in the 19th Century. The sculpture on the right is a Douglas fir cone (somewhat bigger than life-size) from the tall conifer from NW USA that bears his name.*



↑ *Visitor attractions at Kielder include cycling (including bicycle hire), forest walks (guided or alone), horse riding and picnic sites. See www.visitkielder.com*



PHOTO GALLERY IV - SPGS CLIENT INSPECTIONS

→ SPGS staff inspecting one of the many new Clients under Phase II – to check the area and the standards achieved.



↓ This *Terminalia superba* stand is looking fantastic, we are sure you will agree. It belongs to Jose Ltd. in Mukono and is only 5 years old. We are now seeing that *Terminalia* (and *Musizi* too) need heavy, early thinnings to give their large crowns space.



↓ An all too common a sight: distorted roots due to poor nursery practices, poor pitting or poor planting. Such trees often die in their 1st or 2nd year after planting and many think it is caused by some pest or disease.



↑ SPGS's Roselyne explaining to a grower how poor planning (and weeding) have caused not only poor survival but a great loss of growth to this pine crop. Only contracted growers who achieve agreed standards receive SPGS grants.





HeartWood

12 PAGES OF SCIENCE, REVIEWS AND OPINIONS

No. 6 (2010)

PROTECTIVE CLOTHING – THE LAST LINE OF DEFENCE

by Walter Mapanda, SPGS Plantations' Technical Advisor

Use of Personal Protective Clothing (PPE) makes hazards at the work place more manageable. Provisions of PPE coupled with PPE training programmes enhance employees feelings about the level of safety and security within their work environment which in turn improves the organisation's business performance. PPE provision and training programmes improve productivity by minimizing worker and process downtime (Reliable Plant, 2010). Small investment in PPE and PPE training serves the employers a lot of money by offsetting costs resulting from injuries, chronic health problems and potential workplace fatalities.

Unfortunately, however, in Uganda there are few employers who provide their employees

b) Protective equipment such as safety goggles and respirators (Health Working Lives, 2010).

Forestry has consistently been one of the most hazardous industries in the world. For example, in 2008 the United States logging industry employed 86 000 workers of which 93 died as a result of accidents associated with forestry operations. This resulted in a fatality rate of 108.1 deaths per 100 000 workers which is more than 30 times higher than the overall fatality rate in workplaces of 3.5 deaths per 100 000 in the US in 2008 (Centers for Disease Control and Prevention, 2010). British Columbia Forest Safety Council (2010) compiled five year fatalities statistics for harvesting operations shown in Table 1 below.

Table 1. Fatalities in Harvesting in British Columbia 2006-2010

HARVESTING OPERATION	YEAR				
	2006	2007	2008	2009	2010
Log Hauling	5	1	3	0	2
Yarding / Mechanised Harvesting	2	4	0	1	0
Travelling to and from work	0	3	3	0	0
Manual Tree Felling	0	1	8	2	0
Other	4	2	2	1	0
Direct Fatalities Total	11	11	16	4	2

Source: British Columbia Safety Council (August 2010)

with PPE. Most of those that provide PPE do so without linking it to other measures which protect workers from health and safety hazards. This article defines PPE, explains the importance of PPE and the relationship of PPE to other health and safety protection measures.

PPE is all equipment (including clothing affording protection against the weather) which is intended to be worn or held by a person at work which protects them against one or more risks to their health and safety. PPE includes:

a) Protective clothing such as safety shoes, hard hats, overalls, gloves, high visibility waistcoats and clothing which protects against the weather.

From the above results it is clear that most fatalities occurred in log hauling and manual tree felling section. Workers compensation premiums are affected by injury frequency as well as severity. Therefore, the more injuries a company has, the higher is its premiums. PPE and PPE training reduces injury frequency and severity (Benjamin, 2010).

An injury that could occur in a forestry organization would consist of "direct" and "indirect" costs. Direct costs include ambulance services, emergency room care, examination by a doctor, medication, hospitalization and temporary disability benefits. Indirect costs are normally approximated to be three or four times the direct cost.

IN THIS ISSUE:

- Investment Opportunities for Tree Growers in Uganda
- Training Needs Report
- New Tree Species for Trials in Uganda
- Lots of Interesting Reviews



Walter at the SPGS Clients' Meet, July, 2010

Indirect costs include the following:

- Cost of lost time of the injured employee.
- Cost of lost time of the employees who stopped work to attend to the injured.
- Cost of lost time to conduct an investigation.
- Cost of training a new employee to fill in for the injured employee.
- Cost of training the injured employee to perform a new job while recovering.
- Cost due to damage to machinery, tools, and other property.

Table 2: Hazard and Choice of PPE

HAZARD	BODY PART TO BE PROTECTED	CHOICE OF PPE	COMMENTS
Impart and penetration from falling objects,	Head	Hard Hat or Chainsaw Operator's Helmet	Both work by dissipating force.
Impart and penetration from flying splash, dust, projectiles and falling objects	Eyes	Safety Glasses' Chemical Splash Goggles, eye visor	Used in slashing, pruning and spraying operations.
Noise	Ears	Earplugs and Earmuffs	Earplugs have a fairly high Noise Reduction Rating. Earmuffs have higher Noise Reduction Ratings than earplugs.
Contaminated dust, chemical fumes and mist	Lungs	Respirators	Protect by removing harmful materials that may enter the body via the lungs.
Vibrations, abrasions, chemicals, friction, temperature extremes, cuts and puncture, impact	Hands and arms	Safety Gloves, Chainsaw Operators gloves	Most made of leather or rubber. Designed according to type of work.
Slipping, cuts, punctures, falling and rolling objects	Feet	Steel-toed Boots, Rubber Boots	Are available in rubber and leather.
Cuts, punctures, chemical splash, rain and temperature extremes	Legs and body	Overalls, rain coats, Chainsaw Operators trousers	Are available in nylon and cotton cloth.

- Cost of replacing the first aid supplies needed to treat the injured.

All the above costs can be prevented by providing PPE and PPE training to employees (Benjamin, 2010).

Before a risk control measure is put in place both management and employees must carry out a hazard assessment process which is used to determine hazards in the workplace. Controls for hazards fall in the following two groups:

- 1) Administrative, engineering and industrial hygiene controls and
 - 2) Personal Protective Equipment controls.
- Administrative controls such as shift rotation and engineering and industrial hygiene controls such as process or worker isolation, wetting the environment for dust reduction and good housekeeping must be given the first priority in removing hazards from the work process (Herbest, 2010). When the hazard cannot be removed by the above methods, the use PPE is then considered. Use of PPE signals that despite administrative, engineering and industrial hygiene controls, hazards still exists in the workplace. Hazards where PPE may be used are presented in Table 2.

PPE is used to reduce employee exposure to hazards as a last resort. It compliments but does not substitute Engineering and Industrial and Hygiene methods. PPE is considered as a last resort for the following reasons:

- PPE only protects the person wearing it, whereas measures controlling the risk at the source protect everyone in the workplace.

- Theoretical maximum levels of protection are difficult to achieve and the actual level of protection is difficult to assess.
- Effective protection is only achieved by selecting suitable, correctly fitting, maintaining, using, storing PPE and training the individual wearer.
- PPE may restrict the wearer to some extent by limiting mobility and visibility or by requiring additional weight to be carried. This creates an additional hazard (Herbest, 2010).

PPE must be supplied by the employer free of charge for use at workplace only. PPE issues must be followed by PPE training which boosts morale and instills a sense of confidence in employees that they are working in a safe environment. For most companies, PPE training can be organized through manufacturer representatives, certified safety training consultants and product experts. All employees from line workers to managers must receive some level of PPE training.

This article has defined PPE, explained the importance of PPE and why it should be used as a last resort when creating a safer working environment. It is hoped that Ugandan private sector investors in forestry will realize that creation of a safe working environment is a responsibility of both management and employees.

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About the Author: **Walter Mapanda**

Walter is a Zimbabwean and holds a B.Sc. in Forest Science from Melbourne University, Australia as well as an M.Sc. in Geo-Information Science from ITC in Holland. He is a Certified Chainsaw Operator Instructor, a Certified Fire-fighter and a Certified Forest Health & Safety Instructor. Walter has over 20 years experience in forestry training, education and hands-on management of large commercial plantations – notably with Border Timbers, Zimbabwe and more recently with Merensky in South Africa.



FORESTRY, BIOMASS & SUSTAINABILITY

Investment Opportunities and Carbon Reductions

by Peter Massey

In May 2010, a UK-based, private consultant, Mr. Peter Massey, was sponsored by SPGS to attend this important two-day conference held in London. The following article is extracted from Peter's report.

OBJECTIVES AND BENEFITS

Organized by Environmental Finance, the objective of the conference was to provide up-to-date analysis of the latest developments in policy, economics and financing of biomass and forestry projects, and to help attendees identify new investment opportunities and risks in these rapidly growing markets.

The programme was designed for and attended by forestry sector investors, renewable and fossil fuel energy companies, financial institutions, project developers, policy makers, industry associations, NGOs, and foundations. The conference was well attended by over 80 delegates (NB. the full list of attendees and the detailed programme is available at www.sawlog.ug – Ed.).

The key benefits of the conference were to provide a forum for current key players to address the conference and for attendees to gain a deeper understanding of the forestry and biomass sectors, including carbon finance. Attendees were able to meet and do business with project developers, forestry owners and financiers and other key players in the forestry and biomass sector. The format was highly interactive with plenty of questions and networking during breaks.

As the presentations at the conference are available on-line from <http://www.environmental-finance.com/pages/fbs10-presentations>, summaries of each speaker's presentation will not be given here. The main points which arose which have particular relevance to SPGS are recorded under the following headings:

- Current status of the forestry sector
- The carbon credits market
- Wood energy sector

CURRENT STATUS OF THE FORESTRY SECTOR

The keynote address was given by the Director General of the Forestry Commission in the UK. He emphasised the key role of forestry in terms of providing an investment asset class with strong asset backing and with essential environmental and social benefits including mitigation of climate change.

Forestry was seen to play a pivotal climate change role. Conservation of existing forests and the establishment of sustainable forests to sequester carbon have a positive benefit whereas deforestation is a major contributor to global warming. The sector was seen as an environmental, social and economic key stone offering many investment opportunities.

Sustainability, sound science and robust standards were identified as critical success factors. These are woven into the very fabric of the SPGS project design and are at the centre of SPGS's success.

Much was made of forestry's role in sequestering carbon and the growing importance of developing sustainable energy power plants fuelled by wood. This is a rapidly expanding sector encouraged by grants in many countries including the UK. A wide range of forest types in the UK deliver cost-effective abatement – typically at £25 a tonne/CO₂.

In order to benefit from the current opportunities it is necessary to develop mechanisms and partnerships and a need for innovation and collaboration.

Greater focus on legality in the timber trade, a recognition that forestry ought to be rewarded for its environmental role and an expectation that carbon credits may enhance returns were all seen as positive trends.

Forest and land use based investments are likely to increase due to:

- Growing populations.
- Increasing competition for resources: land, food and forest products.
- Increase in bio-energy and biomass demand.
- Differentiation in relation to other investments: low correlation with other asset classes and economic trends.
- Increasing awareness over sustainability increasing interest in philanthropic investment in sustainable land management.
- Growing concerns over sustainability and climate suggest that good forestry will be rewarded.
- A shift towards a biomass-based economy from the traditional fossil-based society.

On the investment side there are two megatrends influencing timberland investing:

- A shift towards a biomass-based economy

from the traditional fossil-based society driven by climate change and other environmental policies (global, EU, national), and reduced stocks of traditional energy.

- Growing economic importance of emerging markets with China and India at the forefront.

A growing global supply demand gap is evident for those studying future trends driven by expanding populations, increasing consumption per capita due to increased prosperity, climate change drivers and the move towards sustainable energy sources. There is an impending shortage of wood biomass to supply the new biomass energy plants which will have to source raw material internationally.

The timber investment scene and markets are increasingly international in nature as supplies tighten and timber is traded internationally.

Although the relevance may not be immediately obvious, there is a great deal here to encourage SPGS. There is a good fit between the design of SPGS and current key sector drivers. This offers the potential for further funding and for the development of forest industries to supply current markets.

CARBON CREDITS

The forestry carbon credit arena remains as confusing and complicated as ever. In order to navigate the twists and turns required to fully assess and possibly secure carbon funding would require a specialist consultant but a successful outcome for SPGS would be far from certain. Discussions were held with specialists at the conference and subsequently with a consultant in Nairobi.

Forestry remains a relatively small part of the carbon credit market. In 2008 the market was valued at only \$150m, of which only \$11m was through the formal CDM market, the balance of transactions being through the informal market. Typically the value of the voluntary transactions is from \$6 - \$10 of CO₂ offset.

CDM – Clean Development Mechanism

- The main formal vehicle for carbon credits is the CDM – Clean Development Mechanism. However, the number of transactions consummated under this mechanism has



been disappointingly small.

- A significant barrier to obtaining finance is the very high transaction cost associated with the complex compliance requirements.
- CDM funding appears to only be for projects which would be viable with CDM funding but not without it. This alone would preclude SPGS plantations.
- There is no retrospective funding for projects already underway.

REDD – Reduced Emissions from Degradation and Deforestation.

- REDD arose from the action plan agreed at the 2007 UN Framework Convention on Climate Change Conference in Bali.
- The goal is to create a monetary value for the carbon stored in forests under threat of deforestation or degradation, allowing developing countries to be paid to protect forests rather than cutting them down or allowing them to be degraded. This was a significant over site in the original Kyoto conference on climate change.
- REDD is primarily to protect and conserve existing forests, particularly natural forests and hence not geared towards the activities of SPGS.
- REDD is in the early stages of development by potential host Governments and is likely to involve bilateral or multilateral agreements between governments. The first stage will be pilot projects in participating countries..
- The only possibility would be for SPGS to seek REDD support for buffer zones or natural forest conservation areas.

The recent REDD+ initiative adds the following to REDD in developing countries.

- Sustainable forest management
- Conservation and enhancement of carbon stocks in existing forests
- Afforestation/reforestation

Halving emissions from the forestry sector by 2030 would cost around \$17 – 30 pa billion compared to the cost of climate change from forest degradation put a \$1 trillion pa.

THE VOLUNTARY CARBON OFFSET MARKET

The voluntary carbon offset market functions outside of Kyoto, and enables businesses and individuals to offset their emissions, either by purchasing offsets that are created in the voluntary market or that are created through the CDM.

Unlike the CDM, there are no established rules for the voluntary carbon offset market. The voluntary carbon market enables those in unregulated countries that have not

ratified Kyoto (such as the USA) to offset their emissions. The voluntary carbon offset market could be worth \$2.2 billion (based on minimum value of \$6.5 / tonne)

Whilst carbon funding for forestry remains complex the potential application of carbon finance to afforestation in Uganda merits further investigation. SPGS should identify candidate organisations, of which Uganda Carbon Bureau is one, that are willing to invest some time and effort in exploring how to take this forward in the Ugandan context.

SPGS has a disadvantage in that monocultures are not popular with carbon credit buyers.

Preliminary discussions, summarised above, were held with Gareth Phillips at Sindicatun Carbon Capital Ltd in London and Tom Morton at J P Morgan Climate Care in Nairobi.

WOOD ENERGY SECTOR

The economic importance of the wood energy sector is generally poorly appreciated. Studies by IIED in Tanzania, for example, show the value to be US\$ 650 million compared to coffee and tea which are valued at US\$ 60 million and US\$ 45 million respectively. In Malawi biomass energy is the 3rd largest industry after tobacco and tea employing 133,000. 13 million are directly employed in the sector in Southern Africa alone –30 million globally.

This sector is generally dismissed (deforestation, drudgery, health risk etc), often criminalised and taxes go uncollected. SPGS could play an important role in the formalisation of bio energy in Uganda, attracting bioenergy generating investment and accessing carbon credits in a well planned and financed energy sector alongside wood processing plants. The transition from informal to formal will require cooperation between growers, generators and government to produce the right enabling environment for the sector to thrive.

At first glance bio energy in the form of large scale dendro-thermal plants or small scale biogas generators appears to be expensive compared to traditional fossil fuel coal and gas generation. However, once the environmental cost of fossil fuels and the advantages of generation on site in remote areas are factored in, a far more favourable picture emerges. This is particularly relevant to the rural areas where SPGS operates.

IIED have undertaken detailed studies of alternative energy sources in developing countries including Uganda where they found 25 kW wood-based gasifiers are cheaper (US\$ 0.11 /kW) compared with solar panels (US\$ 0.19 /kW) or diesel generators (US\$ 0.39 /kW). This would indicate a real opportunity for SPGS growers to supply wood to rural

electricity supply generators as a sound business concept with possible carbon credits. This could provide a vital source of early cash flow.

In Conclusion

- SPGS is developing within the context of a strong and increasing demand for forest products internationally driven by:
 - o expanding populations and increased economic activity, particularly in India and China.
 - o climate change drivers and the associated carbon credit market
 - o the push for sustainable products

This bodes well for SPGS in developing forest industries to supply the local, regional and international timber product markets.

- The carbon credit market remains complex, difficult to access and has high transaction costs. SPGS is not an obvious candidate for carbon credit funding and specialist assistance will be required to assess the options. The informal market is the most likely route for SPGS. The potential for generating saleable credits from sustainable energy generated from SPGS raw material is good.
- There is a real increase in interest and investment in sustainable energy internationally. Wood energy power plants play a significant role in this sector. The economics of wood fired power plants improve significantly in remote locations where it is expensive to transport fossil fuels and it is difficult to capture the economies of scale associated with large power plants. SPGS is ideally situated to become a supplier of raw material for rural energy supply in Uganda.

About the Author: *Peter Massey*

Peter is a professional forester with an MBA and extensive experience in the developing world over the last 39 years in a number of capacities. These include large scale commercial plantation general management, forestry research, investment appraisal and investment management. Peter has worked in Africa, Asia, South East Asia, and South America with specific expertise in Africa. He lived in Africa for 15 years and worked recently in Uganda on the appraisal of SPGS. This has given him a detailed understanding of the scheme and the country and regional context and requirements for success going forward. As a consultant Peter has worked closely with governments, the private sector and NGO's to assist in the development of viable plantation businesses.

LOCAL TERMITE CONTROL STRATEGIES

by Frank Mukalazi

NB. Please note that the practices discussed in this article are not necessarily endorsed by SPGS but are presented here to add to the debate and promote research into termites - the number one pest of eucalypts in the region - Ed.

INTRODUCTION

The major constraint on productivity of plantation forestry in Africa is Arthropod pests. However, very little information is available on farmers' perception of such pests, their control practices and decision making process in forestry. In contrast, traditional pest management practices in forestry have been studied for a number of cropping systems and the results use as inputs for developing Integrated Pest Management (IPM) packages.

As plantation forestry is developed and promoted, there is a need to integrate local control strategies about pest identification and management techniques into the development process in order to improve farmers' pest management practices. This is because farmers have a long experience of growing their crops: experience which has been built up through regular observations and exchange of information through formal and informal networks.

TERMITE CONTROL STRATEGIES

Use of cow's urine and wood ash

Cow's urine and wood ash are mixed and left for a period of 2-4 weeks to ferment. During the fermentation process, toxic substances to termites are released, which cause death to termites. The mixture of cow's urine and wood ash can be poured in a freshly opened mound.

Wood ash contains substances toxic or repellent to termites. Wood ash has been effective in protecting tree seedlings if mixed into plant nursery beds or applied in a layer below polythene planting tubes. The use of wood ash in termite control has not been evaluated rigorously and thus its efficiency remains speculative.

Mechanical destruction of mounds

Mounds can be destroyed by using hand tools. This is because the nests are readily identified and royal chamber easy to locate. Mounds are physically destroyed and the queen removed. However, young colonies may remain entirely subterranean

for their first years and thus be difficult to identify. In addition, if nymphs or alates are present at time of dequeening, replacement reproductives may develop. This explains why de-queened mounds are sometimes recolonised.

Use of torch batteries

Torch batteries can be used as a termiticide. The batteries are broken and contents are missed in appropriate quantities of water. The resultant solution is then poured into a freshly opened mound and then covered. Torch contents can also be poured into mound without mixing with water. Torch batteries are believed to contain substances which are either toxic or repellent to termites.



A common sight in Africa - a termite nest

Use of dead animals

Dead animals such as dogs, snakes etc. reduce termite attack. A dead body is put into a freshly opened mound and covered. During the decomposition of such material, toxic substances are released which result into death of termites.

Use of crop residues

Crop residues are burnt into an open mound. This results into death of queen and alates. The method is effective, however, the main drawback of method is that fire may run out of hand and damage the plantation.

Directing erosion water into mound

During rains, erosion water is directed into an opened mound. This results into death

of termites.

Use of Fish Bones

Fish bones are put into a freshly opened mound and then covered. The rationale behind this method is unclear, but possibly fish bones may contain substances toxic or repellent to termites.

Use of Hot Water

Hot water is poured into a freshly opened mound which results into killing of the queen and termites. The method is effective, however, it is also risky since one can easily get burnt with hot water.

CONCLUSIONS

A variety of approaches such as dead snakes and other animal products are used by farmers to encourage termite predation in mounds. This provides clear evidence that the farmers' indigenous technical knowledge (ITK), if not misunderstood or misperceived, could be utilized to develop novel termite management strategies. Some of the termite management strategies used by farmers are dangerous both to themselves (farmers) and environment. Such strategies need to be revised.

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TREE SPECIES FOR TRIALS IN UGANDA

by Paul Jacovelli

For many years we have had to field questions as to why we don't plant more species and why we rely so much on our old friends, PCH (*Pinus caribaea* var. *hondurensis* for the uninitiated) and Kalitunsi (*Eucalyptus grandis*). Although these species have been crucial for plantation development here, the time has now arrived to do broaden our possibilities. Over the last few years we have been building up knowledge on species from a variety of sources, starting with a review of species research in Uganda (Peter Karani, 2007) and culminating with Colin Smith's 2010 visit (see HeartWood p.9). Over the next few years, we are planning to coordinate a series of formal species trials around Uganda. These will have numerous objectives, including:

- Comparative assessment of growth, form and eventually wood properties.
- Establishing a wider genetic resource base



E. henryi in an RSA trial.

for future breeding work (especially with pests and diseases in mind).

- Investigating the economics of different species on various sites.
- To provide answers to the native vs indigenous debate.
- To provide demonstration plots for future decision-making.

A series of trials will be established in conjunction with private sector growers who are committed to the cause and already some have expressed keen interest in being involved. We are aiming at the March/April 2011 planting season for most of the trial work, which gives us time to plan and prepare. Some of the species we are looking at are included in Table 1 below (though it will depend on seed and clonal availability). Over the coming few months we are going to train people in the techniques of successful trial establishment - from planning through to the nursery, trial layout and eventual monitoring.

Table 1. Candidate species/clones for trial in Uganda

SPECIES	IMPORTANCE	NOTES
Eucalypts		
<i>E. cloeziana</i>	Superbly straight poles & hard wood	Ex-Zimbabwe S.O.?
<i>E. grandis</i>	Proven winner on the right site	Ug land race(s); + improved RSA
<i>EG hybrids</i>	GC, GU & GT?	'New' clones from RSA
<i>E. longirostrata</i>	Hard wood	Hybrids (with EG) in RSA trials
<i>E. pellita</i>	Tropical sp. called Red Mahogany	Fast growing; planted in Brazil
<i>E. tereticornis</i>	Often poor form but hybridizes well	Best Australian sources only
<i>E. torrelliana</i>	Good shade tree: heavy crown	Growing in Uganda
<i>E. urophylla</i>	Tropical sp.	Best Austral./PNG sources only
Corymbia		
<i>C. citriodora</i>	Hard wood but v. good sawtimber	Previously <i>Eucalyptus</i> spp.
<i>C. henryi</i>	A relatively 'new' species	Subsp. <i>citriodora</i> & <i>variegata</i>
<i>C. maculata</i>	Hard wood – like <i>E. citriodora</i>	Performing well in RSA trials
Pines		
PCH	The core species for Ug plantations	Various seed origins to be tested
PCH x <i>P. elliottii</i>	Grows well on sites marginal for PCH	Ex RSA and/or Australia
<i>PCB / PCC</i>	Not widely planted like PCH	Other <i>P. caribaea</i> vars.
<i>P. kesiya</i>	Tropical pine but often poor form	Select provenances only
<i>P. oocarpa</i>	Often poor form but has potential	as above
<i>P. patula</i>	Only suited to cool, high areas	RSA improved seed
<i>P. tecunumanii</i>	Closely related to above 2 species	Hybrids with <i>P. patula</i> in RSA
Other		
<i>Maesopsis eminii</i>	Fast growing on right site	Indigenous spp.
<i>Terminalia</i> spp.	as above	

Please send any feedback to info@sawlog.ug with Species in the subject line.



TRAINING, LABOUR PRODUCTIVITY AND SITE CLASSIFICATION

Earlier in 2010, SPGS commissioned some important studies in areas identified as crucial to the long-term success of commercial tree growers. Draft reports have just (August, 2010) been received from the first batch of these studies – namely:

- ✳ **Training Needs Assessment** by UNIQUE Forestry Consultants – Grit Techel, Kai Windhorst and Jochen Statz.
- ✳ **Labour Productivity and Work Study** by Rory McCaughan, an independent forestry consultant from Ireland.
- ✳ **Developing a Site Classification System for Species Matching in Uganda** by Dr. Colin Smith, a private forestry consultant from South Africa.

NB. Once these reports have been finalized, they will be available to view/download at www.sawlog.ug. In the meantime we have summarized their key findings below to hopefully stimulate some thought and debate from readers. Please send feedback to info@sawlog.ug – put TA in subject box.

TRAINING NEEDS

UNIQUE were requested to assess the training needs of the sector and the institutional training capacities of the main players. Three main focus groups were identified – managers, supervisors and contractors. SPGS's training programme and materials and other existing or potential training providers were also assessed.

Many of the challenges named by the three focus groups tended to be very similar, being related to planning, plantation establishment, maintenance and protection and marketing of products or services. Other challenges are supervision and monitoring of work. Interestingly, here disagreements occur between the three groups, in particular between contractors and investors. Insufficient communication, communication structure and contract negotiation were cited as the main issues.

Training needs expressed by the target groups were as follows:

- Technical skills relating to plantation establishment and maintenance, fire protection, nursery operations, harvesting operations, plantation monitoring (inventory) and pests and diseases.
- Planning on both the administrative and the operational level.
- Business skills, referring to business management, contract management, labour management and computer skills.

UNIQUE's findings on the training providers were particularly interesting:

SPGS: The training courses SPGS provides are highly valued by all participants. Additionally, exposure visits like the Clients' meetings and direct feedback from inspection visits are also building capacity in the sector. The individual workload of each staff member is high, meaning that the organisation is currently stretched to its limits. There is demand for specialized courses and refresher courses as the structure is of the commercial plantation sector is maturing. Hence there is need to identify other institutions to include in longer term training plans.

UTGA: at present UTGA does not have the organisational capacity or in-house experience to offer training. Nonetheless it can play an important part in facilitating efforts of clients to organize training courses themselves.

Makerere University's Faculty of Forestry: The Faculty is restricted by lack of infrastructure and also the lack of staff with appropriate experience, which hinders training of managers and supervisors. The more theoretical training courses, however, could be held within the Faculty's premises e.g. plantation costing and planning.

Nyabyeya Forestry College: NFC has extensive forest land - mostly planted with pines and eucalypts. However, the stands are of poor quality. Also the technology used and standards are not always up to date or in accordance with SPGS's guidelines. Many staff have had very little experience with commercial plantations.

Other recommendations:

- Contractors are of increasing importance for the sector. Their skills in business and labour management need to be improved immediately.
- SPGS staff need to specialize further, particularly with regard to the more sophisticated and increasing training needs of investors, plantation managers and contractors.
- The potential of the private sector needs mobilizing by facilitating coordination of private sector training or helping to set up Public Private Partnerships.

LABOUR PRODUCTIVITY

SPGS staff identified problems with low labour productivity and also that there was little – if any - historical data upon which to base expected labour productivity or daily task rates for labourers. In order to rectify this, SPGS invited Mr Rory McCaughan to assist them and also to train SPGS staff in Work Study techniques. Rory is an experienced, practical forester who at one time was Mondi's Work Study man in South Africa and Swaziland. After visiting a selection of SPGS Clients, he was visibly shocked with what he found: these are his main findings and recommendations:

The generally poor labour productivity cannot be blamed on one single factor but on a group of factors that have an influence on each other – in particular:

Weed growth:

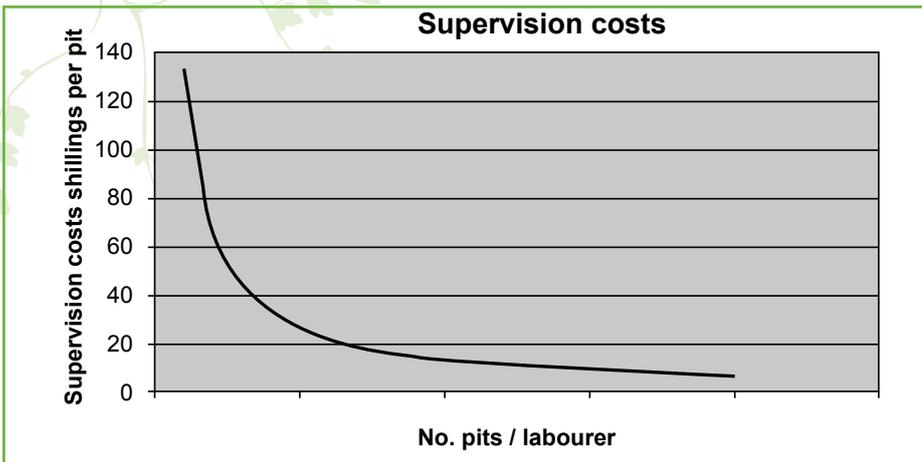
Of the biological factors, the rate of weed growth was far and away the most detrimental to productivity both in terms of tree growth and man-days per hectare expended on weed control. Lack of pre-plant and post-plant chemical weeding leads to very high labour requirements and subsequent slashing operations.

Poor time-keeping:

Of the other factors effecting productivity, poor time-keeping and supervision are the most influential. Poor time-keeping is ingrained in the rural workforce and it is anticipated that breaking this pattern of behaviour will present challenges to employers. Nevertheless, working a full day is a prerequisite for any successful business.

Amongst the many recommendations were the following:

- Contractors (and SPGS Clients) need to be made aware of the inefficiencies of poor time-keeping.
- It is suggested that 8 hours be set as a standard working day (Nb. this is productive time, excluding meal breaks, transport etc).
- Workers should be encouraged to take food to the workplace (or have food provided at the work-place) even if this flies in the face of tradition.
- Employers should consider transporting labour to the workplace: this ensures all the labour arrives at the same time and also encourages teamwork.
- Transport would also allow food and water to be brought to the site, which encourages good performance.



The key role of Supervisors:

With regard specifically to Supervisors, the following were recommended:

- People must be encouraged to employ properly educated Supervisors and give them authority over their workers.
- The use of production and productivity reports needs to be encouraged.
- Supervisors should be given a sign of authority to distinguish them from the ordinary labourer: this could be different colour overalls or hard-hat.
- SPGS should consider specialist Supervisory training, possibly through South African training providers.
- Harvesting and extraction training will soon be required in Uganda and this will be crucial due to the hazardous nature of the operations. Supervisors and labourers will need this specialist training.

The graph above clearly illustrates the impact of poor supervision on productivity and costs.

Work study:

- Employers/contractors need to set minimum production levels for piecework

and labourers on a daily wage, regardless of production.

- Although data is available from the larger South African companies, it is doubtful whether much of it could be applied to Uganda, where the conditions are so different.
- SPGS should provide a service as an 'honest broker' by setting fair task levels for various jobs in individual compartments. The work study data thereby collected could be used in the preparation of production graphs, for the future benefit of the industry as a whole.
- Where the quality of supervision exists, employers should adopt a bonus system to reward (and encourage) good production. This can be applied to workers on piecework and daily wages.

Rory spent time training two SPGS staff members - Peter Bahizi and Charles Odeke - in Work Study techniques. Their skills will be put to good use in the near future. Our thanks to the SPGS Clients who assisted us with this timely study - namely, Brenda Mwebazi (Heart of Gold Tree Ltd. in Mpigi), Ferdult Engineering Ltd (Mukono) and New Forests Company (Mubende) - Ed.



SPGS's Charles Odeke carrying out Work Study in Mpigi

SITE CLASSIFICATION

Dr Colin Smith has produced a detailed site classification system for commercial forestry in South Africa, which is a powerful tool for forest planners (or potential investors) to predict which species will grow where and what yields might be expected.

Introduction

The recent expansion of the forestry sector in Uganda has resulted in more emphasis being placed on better genetic material and silvicultural technology to improve productivity across the range of sites which support plantation forests. Key to most decisions in any forestry management plan is the choice of species to be grown. Since Uganda, by and large, enjoys a climate suited to growing trees, a grower needs to ascertain which species will grow where and which will grow best? Growers are increasingly looking towards opportunities to grow productive and robust species thus reducing risk and increasing the chances of a good financial return.

Objective

The overall objective of this work is to develop an improved site classification system for Uganda with specific reference to species matching and predicting productivity potential. The classification will serve in the first instance as a means to evaluating growth potential of a wide range of commercially valuable species and subsequently as a framework for the establishment of field trials to test the suitability of current and new species, clones and hybrids. The classification can then be refined and improved on the strength of the information and data developed from the trial series. Growers will then have access to a robust system for species choice and predicting potential growth rates.

Methodology

Initially a collation of site requirements for species deemed to have potential for successful commercial exploitation in Uganda was compiled. This information included climatic criteria such as mean annual precipitation (MAP) range, mean annual temperature (MAT) range, mean maximum and mean minimum monthly temperature of the hottest and coldest months respectively and length of dry season. Several sources were utilized including information from species natural habitats (Jovanovic and Booth, 2002) forest plantations (Smith et al. 2005; SPGS 2009) and various other sources such as the World Agroforestry Centre (Orwa et al. 2009), Webb et al (1984) and CABI (2008).

Once the site requirements for species were established this information was matched with existing data. The National Atlas of Uganda (1967) was used to obtain basic information on MAT, mean monthly maximum and minimum temperatures, MAP, rainfall variation, evaporation, geology and soils. Additional evaporation and evapo-transpiration data was obtained from Dagg *et al.* (1970), Rijks *et al.* (1970) and Hardcastle (2003). General information was obtained from Kingston (1974 & unreferenced) and a report on Agricultural production zones by the Government of Uganda (2004).

Available growth data was then sought with a view to relate it to site information to see if any discernible relationships were apparent. The minimum requirements for this exercise were geo-referenced plots or trials and dominant height of such stands. Additional site information was considered to be a bonus and in its absence was estimated from the location of the trial or plot.

Several sources of data were reviewed with a view to using it for this purpose;

- Kriek (1970)
- Alder *et al.* (2003)
- *Eucalyptus* hybrid trials (Epila-Otara and Ndhokero, 2009)
- SPGS permanent sampling plots (Jjumba, 2008)

Rainfall data was then obtained directly from the relevant report or in its absence by the Atlas of Uganda (1967). Mean annual temperature was obtained from the formula provided by Hardcastle (2003) relating MAT to altitude and latitude;

$$\text{MAT } (^{\circ}\text{C}) = 29.76 + (0.6248 \text{ Latitude}) - (0.007 \text{ Altitude}) [1]$$

Evaporation and evapo-transpiration data was obtained from Dagg *et al.* (1970) and Rijks *et al.* (1970) which formed the basis of the figures found in the Atlas of Uganda (1967). In order to obtain a rudimentary estimate of regional water stress, annual moisture deficit was calculated using the equations of Kingston (1974; Equation [2]) and Hardcastle (2003; Equation [3]). This simply reflects the annual total of monthly differences between precipitation and evaporation when the latter exceeds precipitation. The equations used were;

$$\begin{aligned} \text{Annual moisture deficit (mm)} &= 2492.6 \\ &- (8427.0/\text{Evaporation}) + (2143850.0/ \\ &\text{Rainfall}) + (6.18201 \times 109/ \text{Evaporation}^2) \\ &- (2.78204 \times 109/ \text{Rainfall}^2) - (1.40809 \times \\ &\text{Evaporation} \times \text{Rainfall}) [2] \end{aligned}$$

$$\begin{aligned} \text{Annual moisture deficit (mm)} &= 2484 \\ &- (0.593 \text{ Altitude}) + (91.338 \text{ Latitude}) \\ &- (1.084 \text{ Rainfall}) [3] \end{aligned}$$

Where;

Latitude is in degrees (decimal form), latitudes south being negative

Altitude in metres

Rainfall and evaporation in mm

A simple calculation of the ratio of rainfall to evaporation was also carried out. Evaporation was estimated from the Atlas of Uganda (1967) based on the results of Dagg *et al.* (1970) and Rijks *et al.* (1970) for 30 sites (19 in the Atlas of Uganda and 11 from the *Eucalyptus* clonal hybrid study). Additional information on latitude and altitude was determined using Google Earth. Where possible the sites were allocated to the agro-ecological classification of Uganda (Government of Uganda, 2004).

Obtaining growth data for predicting growth potential on proved a challenge. In each report an estimate of dominant height was sought since it is closely related to forest site productivity for a particular species and age (Skovsgaard and Vanclay, 2008). If dominant height is known at any age, it can then be projected to any age of interest in which case it is termed "site index" (e.g SI10 denoting dominant height at 10 years of age).

A feature of all the growth studies is that only approximate locations are given in the reports published to date. It is possible that the exact locations of the PSPs of Alder *et al.* (2003) exist in a database and that the SPGS PSPs are also known or are easily obtained. The same should be true for the *Eucalyptus* clonal hybrid trials but no details are provided in either reports of these trials by either NaFORRI (2007) or Epila-Otara and Ndhokero (2009). The study of Kriek (1970) seemed to provide the most comprehensive of all datasets but for a number of reasons was the most the most difficult to comprehend. The PSP data presented by Jjumba (2008) was too young to make robust projections of site index at this stage and coupled with the lack of reported geo-references, the plots were not considered at this stage. However if more recent measurements of dominant height are available and the sites locations geo-referenced this dataset could prove useful.

Results & Discussion

A basis for the further development of the classification has been established based on the relationship between temperature

and altitude for a range of latitudes. Coupled with a description of commercial species requirements, this has enabled the demarcation of "species zones" related to altitude and latitude throughout Uganda.

The data presented in this report have given an indication that predicting growth potential is most likely to be related indices of water availability as measured by rainfall and potential evaporation. It is clearly not good enough to use rainfall alone as an indication of productivity.

In terms of growth potential the data presented suggests introducing a measure of site water balance as represented by the ratio of rainfall:evaporation or annual moisture deficits as a measure of growth potential.

Further results and discussion of Colin's report (and on the species trials that will follow on from this initial study) will be published in SPGS News No. 30. NB. For references - see full report at www.sawlog.ug - Ed.



Colin Smith at Kasagala CFR in Nakasongola - 6-yr old PCH.



WANT SUCCESSFUL TREE PLANTATIONS?



THEN FOLLOW SPGS'S 14-STEP PLAN

1. **Plan** 12 months in advance and **budget** accordingly (seek professional advice where necessary).
2. **Train** staff in SPGS's techniques to reduce costs and achieve **Fast Growing, High Yielding** crops.
3. **Match species** with site and objectives.
4. Use only select, **improved seed**.
5. Plant only high **quality plants**.
6. **Time land preparation** carefully to coincide with the rains and seedling development.
7. **Pre-plant** weed control where necessary: do not plant into a weedy site.
8. Ensure correct plant **espacement**.
9. **Beat up** failures **soon** (<1 month) after planting.
10. Ensure weed competition is kept to a **minimum** - especially in the early phase of establishment.
11. **Protect** crops from animals and fires.
12. **Monitor** growth and tree health.
13. **Thin** and **prune** on time.
14. **Target** best **markets** for crop and sell at optimum time.

NB. For more information on all these points refer to SPGS's *Tree Planting Guidelines for Uganda*: available from SPGS's office and from www.sawlog.ug

REVIEWS

Fresh from CFA's Edinburgh conference, we came back with suitcases full of interesting material from around the world. These have all (with other imported books) been added to SPGS's library. Note that we have indicated where publications are available on-line too.

BOOKS

CONSERVATION

Wrangham R and E. Ross, 2008. *Science and Conservation in African Forests: the benefits of long-term research*. Cambridge University Press; 254 pp. Scientific research has a long history in Uganda's natural forests – notably, Kibale (chimps since 1970); Bwindi Impenetrable Forest (mountain gorillas since ca.1964) and Budongo Forest (chimps from 1962). The book celebrates the 20th anniversary of the Kibale Chimpanzee Project and has many lessons for us to learn with regard to long-term forestry research.

CLIMATE CHANGE

Read DJ *et al*, 2009. *Combating Climate Change: A Role for UK Forests – The Synthesis Report*.

This report presents the key findings of the first national assessment of UK forestry and climate change. It forms part of the UK's response to the debate on mitigating the impact of climate change. The report clearly states that that UK forests and trees have the potential to play an important role in the nations' response to the challenges of the changing climate. The case for more woodlands is clear: "Woodland creation provides highly cost-effective and achievable abatement of Greenhouse Gas emissions when compared with potential abatement options across other sectors". The final few sentences of this 16 page publication are telling to: "The key message of the Stern review was **Act now or pay later**'. In view of the fact that the strength of the carbon sink provided by UK forests is weakening so rapidly, the key message from this Assessment is **Plant Now and Use Sustainably**". Available to download from www.tsoshop.co.uk/bookstore

PESTS

Speight MR and Wylie FR, 2001. *Insect Pests in Tropical Forestry*. CABI Publishing; 307 pp. This looks like a really useful book for us as we are starting to become more aware of the need to be proactive regarding pests (and diseases) in our plantations. The authors state early on in the book: "We must emphasize that the basis for modern pest management lies with prevention of outbreaks whenever and however possible". The core of the book is a section on the main tropical forest pests and describes their ecology, biology and impact. Following this are four chapters on Managing Pests - starting with Planning, then the Nursery stage, the Plantation stage and then Forest Health Surveillance. Finally it has a chapter on Integrated Pest Management, which basically combines all appropriate pest management tactics into a package which reduces the economic losses caused by insects to tolerable levels. Definitely required reading for foresters in Uganda.

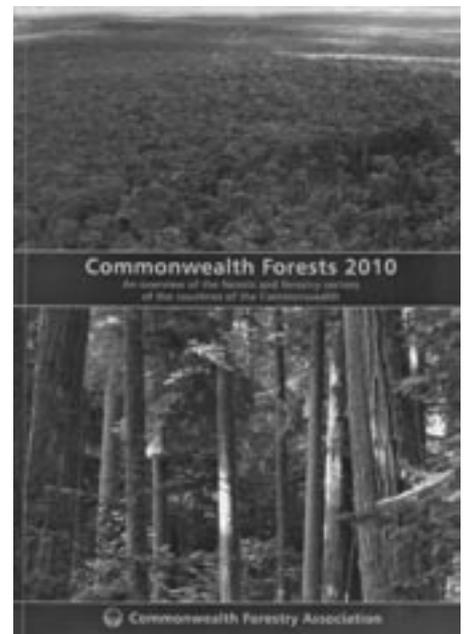
WORK STUDY

Kananwaty G (ed.), 1992. Introduction to Work Study (4th edition). International Labour Office, Geneva; 524 pp. This is the 'bible' for Work Study practitioners. Thanks for Rory McCaughan for recommending and sourcing this useful book for us – Ed.

COMMONWEALTH FORESTS

Commonwealth Forests 2010: an overview of the forests and forestry sectors of the countries of the Commonwealth - is published by the Commonwealth Forestry Association to coincide with the 18th Commonwealth Forestry Conference in Edinburgh. It quantifies and describes the present state of forestry in the countries of the Commonwealth, which account for more than one fifth of the world's forest area and includes Uganda, Kenya, Tanzania and (much more recently) Rwanda. The report identifies common challenges and the opportunities arising from them. It is a sort of cross between a book and magazine and contains much of

interest. We couldn't help but notice an advertisement for African Development Bank's forestry development has two photographs from SPGS (pages 94-95): though one is captioned Tanzania 2008, we can tell you with certainty that it is a 2-yr old demonstration planting of *Pinus caribaea* var. *hondurensis* in western Uganda from Australian seed orchard seed! Available to freely download/read on-line at www.cfa-international.org/



PERIODICALS/ JOURNALS

SA FORESTRY

The June 2010 issue contains many very relevant features for us in Uganda. *Small Growers on the Ropes* tells of the problems being face by small growers in South Africa, with low yields and few replanting their crops after harvest. High transport costs (related to both distance from market and poor rural infrastructure) and fire protection were cited as the growers' biggest challenges: surely important lessons for growers here to learn.

The other article that stood out in this interesting (and very practical publication) was one by Prof. Mike Wingfield, Director of Forestry & Agricultural Biotechnology



Institute (FABI) - entitled *Forest Tree Health in South Africa: Looking Back and Looking Forward*. He notes that over the last 20 years the major threat has been the accidental introduction of new pests and pathogens and cites the examples of pitch canker fungus (*Fusarium circinatum*) and insect pests such as the Sirex wood wasp (*Sirex noctilio*) and the bronze bug (*Thaumastocoris peregrinus*). The author offers some good advice:

“The reality that insect pests and pathogens seriously threaten the future of plantation forestry is now well established. Recognizing the enemies and understanding their modes of action represent the most important steps towards their management and control”.

So no ‘silver bullet’ solution it seems: we just have to do the research and ensure sound management practices to reduce the incidence of current and potential threats to our trees - Ed.

Staying with pests and diseases (they just won’t go away easily!), there is also a report in the same journal on the 20th Annual Meeting of the Tree Protection Co-operative Programme (TPCP), held in Pretoria in May, 2010. Investors are increasingly worried by the susceptibility of *P. patula* to *Fusarium*, with ca.40% of *P. patula* plants coming from nurseries being infected. A key strategy being adopted by York Timbers (one of SA’s major commercial forestry companies) is to breeding hybrid pines more resistant to *Fusarium* - e.g. *P. patula* x *P. tecumani*. To subscribe to SA Forestry see www.saforestrymagazine.co.za

ARBOR VITAE

This well produced publication is always an interesting read and even though it is largely concerned with natural forest management and conservation, it frequently has articles of relevance to us plantation wallas. It is IUCN’s Forest Conservation Programme Newsletter and is available free from www.iucn.org/forest/. The most recent edition (Issue 41 – June 2010) focuses on *Forest Finance*; No. 40 featured *Forests and Climate Change*.

CHARTERED FORESTERS

We were impressed by the Institute of Chartered Foresters’ (ICF) stand at Edinburgh. ICF is the UK’s professional body of foresters and arboriculturalists. It is interesting to read how ICF are driving the profession forward: something we could certainly aspire to in Uganda, with the public’s perception of most foresters probably at an all time low. See www.charteredforesters.org/

FORESTRY

Forestry is a scientific publication published five times per year on behalf of ICF (see previous entry). The sample we were given by Oxford University Press at the Edinburgh conference (Vol. 83 No. 1 (2010), contains an interesting article which reflects the way plantation forestry is changing in the UK – *The effects of transformation of even-aged stands to continuous cover forestry on conifer wood quality and wood properties in the UK* by Macdonald *et al.*

FUELWOOD

The question “Friend or foe?” came to mind when reading an abstract from a paper entitled: *Evaluation of Prosopis juliflora properties as an alternative to wood shortage in Kenya* by Sirmah *et al* (Bois et Forêts des Tropiques 298; No. 4). The authors conclude that the wood from *P. juliflora* (known in USA as Mesquite) can be a valuable alternative source of fuelwood and construction timber in Kenya. Some people, however, see this species as a terrible weed that has invaded pasture land (it was rated amongst the world’s top 100 worst invasive alien species by IUCN in 2004 - see www.worldagroforestry.org/). Whichever side of the fence one sits, the lesson is to be very careful before introducing new species into a region. *Thanks to NORSKOG’s Campbell Day for forwarding this to us - Ed.*

EUCALYPT PESTS

For those of you who haven’t yet received your copy of the International Journal of Pest Management (Vo. 65. No. 2, April-June 2010), Makerere University’s Philip Nyeko *et al* have just published a highly

relevant paper in it - namely: *Variations in Leptocybe invasa population density and infestation on eucalyptus germplasm in Kenya and Uganda*. *L. invasa* is the Blue Gum Chalcid or Chalcid wasp that was first reported in Uganda and Kenya in 2002 and is now found on many of Uganda’s eucalypts. They studied the pest populations across many sites and on different species. There were some interesting conclusions to their study:

- There were significant differences between population levels between sites and between neighbouring trees of the same species or provenance.
- The incidence of *L. invasa* infestation peaked around 10-15 months after planting.
- *L. invasa* adults were observed throughout the year in the study, indicating overlapping generations since the adults are known to live less than 7 days.
- Of all the eucalypts studied, only *E. henryi* and two GC clones (GC581 and GC 578) showed complete resistance to *L. invasa*.

Send us your articles or reviews on any topic of relevance to tree planting in Uganda

“Learn from each other’s experiences. There is no need to make the same mistakes as the past”



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PHOTO GALLERY V - ADVISORS AND VISITORS



SPGS's new Technical Advisor – Walter Mapanda – explaining about SPGS's new nursery accreditation system during the 1st Annual SPGS Meeting between the Governments of Norway and Uganda (17/8/10). We welcomed the new Norwegian Government's Minister Counsellor in Kampala, Morten Svelle, as well as David O.O. Obong, Permanent Secretary to the Ministry of Water & Environment.



↑ *Another recent study for SPGS on Labour Productivity by Rory McCaughan (here training SPGS's Peter & Charles), has been a wake-up call for us all. We clearly all have a lot of work to do to improve productivity (and reduce unit costs).*



↑ *Cornelius Kazora (rt) chatting to the Norwegian Government's Morten Svelle and Ms Helle Biseth (and not forgetting SPGS's Project Manager, Allan Amumpe, left). Cornelius is a founding member of SPGS's Steering Committee.*



PHOTO GALLERY VI - SPGS CLIENTS' MEETINGS

→ *SPGS Project Manager, Allan Amumpe, welcomes Clients at the first of the two SPGS field meetings held in July/Aug 2010. Over 140 Clients attended the two meetings (read more on p. 17).*



← *Growers sharing experiences at the August, 2010 Clients meeting. And rest assured that we will be getting a bigger safety hat for Makerere's Mnason Tweyho (left) before the next gathering.*

→ *Marking this pine crop for 1st thinning was one of the practical exercises during the Clients' meetings.*



PHOTO GALLERY VII - SPGS CLIENTS' MEETINGS



→ Walter introducing 'best practices' with regard to workers' health and safety: food, fuel, water and tools are clearly separated in a designated area.



↑ It seems that the male spectators were enjoying this one: Clients learning how to identify wetland the scientific way during the meetings.

→ With many Clients starting to thin their crops, we thought it was a good time to introduce safe chainsaw use. SPGS will run chainsaw training courses in the near future if there is sufficient interest.

SPGS would like to thank **New Forests Company** for the loan of the chainsaw and PPE (protective gear) that Walter was modelling here. It is interesting that whilst chainsaws can be readily purchased in Kampala, nobody stocks PPE!

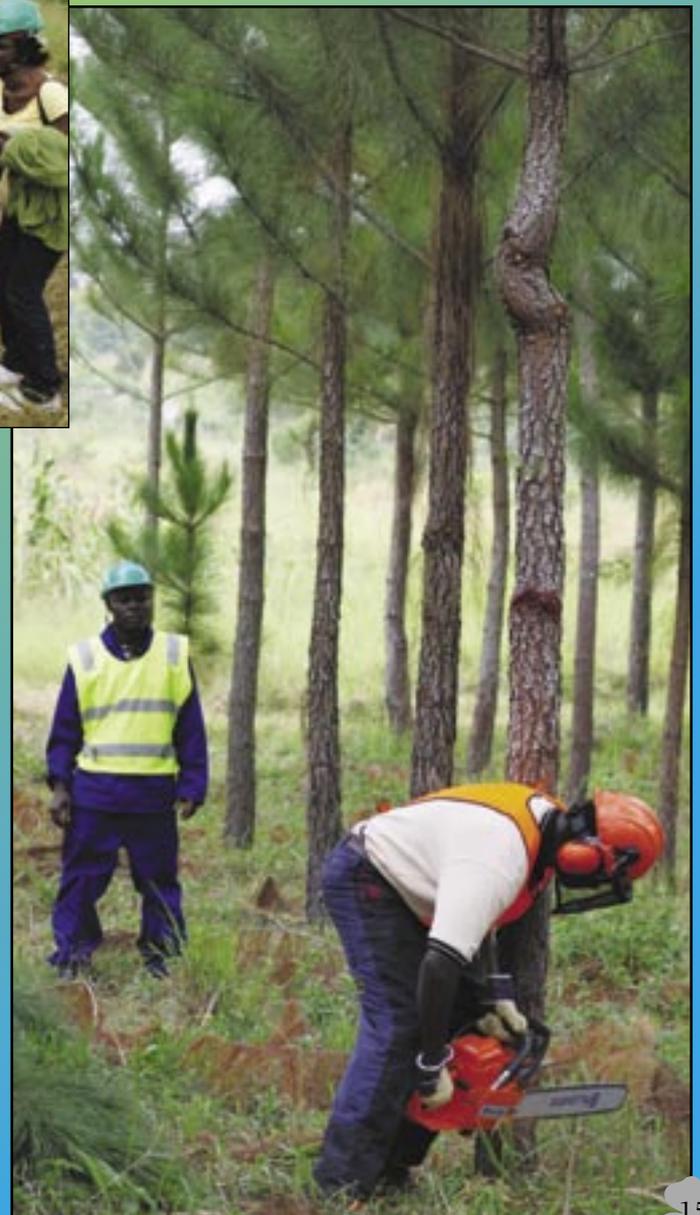




PHOTO GALLERY VIII - SPGS CLIENTS' MEETINGS



← Using a Suunto clinometer to measure tree heights: many were seeing the instrument for the first time.

→ Security was tight as Paul divulges the techniques for achieving fast growth and high yields. This was in a 6-yr old pine (PCH ex-Australia) stand in Kasagala Forest Reserve, Nakasongola.



← Clients listening attentively to Peter Ngategize as he tells people about his experiences in commercial forestry over the last 6 years or so.



→ Growers showing their appreciation at the last stop of the field-trip – at Eng. Kisembo's Masindi plantation.



MASINDI – HERE WE COME

by Roselyne Arinaitwe, SPGS Plantation Officer (Trainee).



SPGS Clients' meetings have developed an exciting culture at which tree growers get an opportunity to interact and together generate ideas on how to move the industry forward. The same meetings provide SPGS staff with a great opportunity to interact with our clients as well as a platform to send some important messages out too. With the ever increasing numbers of clients (198 currently) as well as other interested planters and stakeholders, we have resorted to organizing the same meeting but twice, as we divide the clients into two, depending on their planting locations.



Dr. Peter Ngategize

This time round, we headed north to Masindi on 28th/29th July and again 4th/5th August. The start was Dr. Peter Ngategize's Kika Farm Ltd plantation, in Luwero. Dr. Ngategize has been an SPGS client since 2004 and has planted over 200ha in Mukono, Luwero, Kabale and currently Kiboga. Dr. Ngategize shared his tree planting experience with those present and advised members to do better planning/timing and especially

better weed control..... generally, it was the same old SPGS message but this time round coming from a planter.

Participants were then split into smaller groups to learn about safe harvesting practices, wetland delineation, comparison of weed control methods and marking for a first thinning operation. One interesting aspect of these themes was their practicability, for example wetland delineation using an auger and actually marking trees for thinning. Our new Plantations Technical Advisor, Walter Mapanda, added flair by introducing the aspect of tree felling (including the tools used and health and safety).

After lunch under the trees, we headed to Kasagala CFR, where CTA (Paul) gave a brief on how important such demonstration plantings had been in attracting private sector investment in forestry in Uganda. There was some good discussion on thinning, pruning, tree growth and site fertility. It was then time for people to learn the basics of tree measurement, with many using a diameter tape and Suunto clinometer for the first time.

Then it was onto E.T Dominion Enterprises, whose plantation is near Masindi town. Eng. Ephrahim Kisembo, shared with the planters his tree planting experience given his status as a 'veteran' in the



Eng. Ephrahim Kisembo

business. One interesting bit in Eng. Kisembo's submission was the uniformity of the message with Dr. Peter Ngategize earlier on so much that one would think they had compared notes. He encouraged everyone not to go his way of past mistakes which included using unimproved seed, buying seedlings from roadside nurseries, inadequate weed control and use of unskilled labour. And finally, we were treated to an ET Dominion barbecue: surely no better way to end a hectic field day!

Day two of the Clients' meetings is always indoors and characterized by presentations from the SPGS team, UTGA and a Question and Answer session, which is always the highlight. Both meetings were really interesting and useful and if I am allowed to quote Dr. Peter Ngategize who said - "These safaris/meetings keep getting better and better: they are not the same as what we had before, thank you so much SPGS".

A big thank you to everyone for making the meetings such a success: see you at the next one, which will be early in 2011 (details will be communicated to all Clients). Finally, on behalf of everyone connected with SPGS, I would like to thank our hosts for these meetings – Dr Ngategize, NEA and Eng. Kisembo. During these meetings, we always seek out the views of some Clients and below are some excerpts.

GODWIN KAKAMA, working with Ministry of Finance and planting in Kasana-Kasambya CFR in Mubende (Precision Sawmills Ltd).

Q: *What did you study at the University?*

A: Commerce/ Finance.

Q: *When and how did you get into the tree planting business?*

A: In 2003, I was convinced by a friend who has been into it for a long time.

Q: *Many people fear getting into the tree planting business because they think its long term, how come you quickly took it up?*

A: My friend who talked to me into it has benefited a lot. People should know it takes patience and when it finally comes, it is worth the wait. When I had just started and the trees were very young I was not feeling the money, I was only putting in with no returns but now I am beginning to see the light.

Q: *Has SPGS been of any help to you?*

A: Oh, pretty much. Apart from the technical advice, I have got over 100m from SPGS. You know before SPGS, tree planters were alone in the business and that is why they were few and SPGS came in and became a good companion.

Q: *Do you think SPGS should continue holding these quarterly Clients' meetings?*

A: I am 100% in support of them because they encourage others and there is sharing in terms of management of our plantations.

Q: *Should we add or subtract anything about the meetings?*

A: Everything is perfect.

cont'd on p.18



MASINDI...

From p.17

PHOEBE NANTABA is a young lady, an accountant with NSSF planting in Buvuma CFR, Mubende.

Q: *An accountant into Forestry? Why is that so?*

A: It is the background at home. Timber paid all our school fees. That was my father's business.

Q: *Are you happy with what SPGS is doing?*

A: Absolutely. Bringing all planters together for these field studies is very important because we get to learn from each other. And recently I got the thinning and pruning grant from SPGS. It really helped a lot.

Q: *Have you ever got money for planting?*

A: No.

Q: *Why is that so?*

A: They inspected me but my trees had crops in them and you know SPGS does not support that. But I was consoled by the thinning and pruning money that I received.

GERALD KAGURUSI is a young IT Graduate who was standing in for the father, Dr. Higiyo Semajege, planting in Wakiso.

Q: *You are so young and probably should be in Kampala on a computer instead of being in the forest.*

A: Ah, no. I have had a great learning time. Besides I am used to being in the farm where am always involved.

Q: *But that is different from tree planting.*

A: I am planning to be a forester as well.

Q: *Waooh, that is lovely. So what inspired you?*

A: My father. He has planted many trees and I am seeing lots of money.

Q: *How have you found the meeting?*

A: I am enjoying every bit. It has been my first time in a forestry seminar but definitely not my last.

Q: *Do you think these field meetings are important? Should SPGS continue organizing them or not?*

A: It is good to keep up the spirit of Clients' meeting because we get to share experiences from one another. Most important was time keeping and the practicals in the field. But I am seeing many old faces, how about SPGS getting more young ones involved?

A GROWER'S VOICE

Below is an excerpt from one of the pioneer beneficiaries of the SPGS project, Engineer Ephraim Kisémbó. Ephraim candidly shared his experiences (both good and bad) with participants at the recent Client's safari in Masindi at his 55 ha pine plantation. Since starting his plantation investment in 2004, Ephraim has come a long way. This is evidenced by the gradual but clear improvements in the quality of his crop. Particularly aware that there are many growers new to the business, he hopes they will learn from his challenges and lessons learnt and avoid some of the pit falls, the older growers like him had to go through.

Q: *If you could rate the top three challenges faced in the early stages of this project, what would these be?*

Ephraim: Inadequate knowledge in commercial forestry, poor planning/timing of operations and low quality seedlings.

Q: *Would you say that you have managed to overcome these and other challenges, and if so how?*

E: I have certainly learnt my lessons, some at a very high cost, but these experiences have made me a better commercial tree planter. However, newcomers to this business need not go through the long route some of us endured, but can learn from our experiences. The vital lessons I have learnt include:

- Careful planning/timing is extremely essential for successful establishment of a forestry plantation. Critical is the time when land preparation starts and when to place orders for seedlings.
- If you are a small scale planter like me, with less than 200 ha planting per season, don't bother raising seedlings on your own. You will just have headache for nothing.
- A good seedling is a must to ensure a good forest establishment. Roadside nurseries are a disaster. You will live to regret the rest of your life!
- Weed control with the use of herbicides (Glyphosate) is more cost

effective when compared to manual methods.

- SPGS field safaris and Client meetings provide excellent opportunities to exchange ideas and learn from each other on how to improve standards and attain the set targets. When the going gets tough and frustration is steadily creeping in, it is an energizing moment. Don't miss any!
- Keep the attitude of "never give up". When in need of encouragement, pay a visit to the neighbouring commercial tree farmers and you will notice that you are not alone.
- Start slow, don't be tempted to set ambitious goals, a maximum of 15 ha a season is a good start.
- Engage a professional Plantation Manager to be in charge of the business. You will have less headaches and sleepless nights. I found my current manager, Annet, through a student placement program that UTGA supports with Nyabyeya Forestry College. With training got from the SPGS practical training courses, she is doing very well.

Q: *Those are very important points, but how do you manage to maintain a skilled work force to put these in practice?*

E: I no longer keep fulltime workers on my plantation; instead I use contractors for most activities. I make sure to keep records of costs, which gives me leverage to negotiate better deals for future contracting activities.

Q: *What about keeping up the standards of the quality of work done?*

E: I pay heed to the observations and recommendations contained in the SPGS field inspection reports. It's important to never be offended!

Q: *Any closing remarks for our readers?*

E: Yes, I have two requests: one is for SPGS to set up regional/cluster based support units to provide regular extension services to clients. The other is to tree growers; commercial forestry is a long term and very expensive investment venture and so we need to protect our interests through collective efforts. Therefore, we should all join UTGA and purchase shares in the UTGA Sacco.

Q: *Thank you Ephraim for your open sharing and useful advice, I am sure many will benefit from it.*



The Contribution of Forest Plantations to the Society of Uganda

UTGA in collaboration with NORSKOG has carried out a study assessing the contribution of plantation forestry to the Uganda economy. The study confirms that the benefits from commercial tree-planting to the society of Uganda are far bigger than the profit it most likely generates to the private investor. The study assessed the total value chain from production of seedlings to processed wood, like sawn timber, produced boards and furniture and identified the following contribution to the society from the forest plantation sector. NB. This report (including more detail on taxation issues) is available from UTGA's office.

Employment of people: The average annual employment or needs for work force generated from plantation forestry was found to be 32,000 man years when the plantation area is 30,000 ha. When the plantation area increases to 70,000 ha which is expected in a few years the employment will increase to 75,000 man years in average per year for a total rotation period. This is a significant contribution to reduce the unemployment rate in Uganda. As the employment needs are not evenly distributed in the rotation period, the needs for work-force in short terms will increase in the years to come, even if the plantation area is kept stable.

Fiscal contribution: The potential contribution to the fiscal budget of Uganda is estimated from the taxations rules of Uganda, combined with the expected output from the plantation activity. With a plantation area of 30,000 ha the average annual contribution to the fiscal budget of Uganda was calculated to become US\$30m and if the plantation area increases to 70,000 ha the annual contribution to the fiscal budget will increase accordingly to US\$70m.

Increased national value production: The contribution to the economy of the society of Uganda, including the state, the investors and the country citizenry, which directly or indirectly contributes in the production line was calculated as an increase of the total national value

production. With a total plantation area of 70,000 ha, the annual average contribution to the national value production is expected to be US\$245m, which is a significant contribution to the economy of Uganda.

Improved trade balance: The needs for wood to the carpentry and construction activities, as well as board industry is to day covered by harvesting of the old plantations, some from imports and some harvesting in natural forests. As the existing old forest plantations vanish, the needs for imported timber will increase, if the needs are not covered from new plantations. Increased import of wood will contribute negatively to the national trade balance. New forestry plantations have the potential to improve this trade balance, and cover most of the needs for raw material to this activity, and even give a basis for improved export of wood products.

Carbon balance: With the expected increase in forest plantation area to 70,000 ha, the annual absorption of CO₂ is estimated to be in the range of 800,000 – 1,300,000 tons, similar to the pollution from 200,000 – 300,000 cars, each driving 20,000 km per year.

Environmental effects - saving natural forests:

The needs for wood and wood products will rather increase than decrease. If forest plantations are not established and able to meet the needs for wood, the needed wood will be taken out where it exists and as long as it exists. The most likely alternative source will be natural forests. With the increasing international concerns about the decrease of natural forests, especially in the tropic areas, the most important identified contribution to the environment from forest plantations is the crucial contribution to save natural forests.

Other Updates

UTGA Membership: UTGA is growing stronger, thanks to some level of increased awareness by Uganda Timber Growers on the need for a collective voice. UTGA membership is now at 109 Members

(NB. Members are encouraged to pay up the subscription fees for this year to keep their membership up-to-date).

Membership Support - UTGA met with NFA several times to discuss issues of land reallocation of Kikonda CFR land (Global Woods' planting) to one of the neighbours, Mr. Asiimwe. The NFA board moved to Kikonda to investigate the circumstances. UTGA attended to the investigation process in Kikonda and had constructive discussions with the NFA board in support of the UTGA member.

Seed Procurement – refer to p. 2 for latest info.

UTGA-SACCO - The SACCO registration process is on-going. The formal application has been developed and the minimum 30 member signatures are being mobilised. An interim Account for the members' savings was opened with Barclays Bank (U) Ltd Bugolobi Branch - A/C no. 6002548699.



UTGA's ED, Robert Nabanyumya, making his point at a 2010 SPGS Clients' meeting.

Herbicides at discount Prices: As most of you may now be aware, UTGA membership has access to herbicides at a discount price of only UGX 8,000 a litre of Weedal 480 SL glyphosate. Because only members of UTGA will be able to access this negotiated price, a card system has been developed where members are given a UTGA membership card which is accepted at the company – Hangzhou Agrochemicals Ltd. (Plot 56/58, 7th Street, Industrial Area, Kampala).

Markets for thinning- We are expecting Nile Ply's Nakasongola chipping (and treatment) plant to start receiving thinnings from members soon. UTGA is however still scouting for further markets for members' thinning material.

Visit www.utga.net for more.



From p.8

SPGS SAFARI ...cont'd.

There are many benefits that can come from plantations including recreational and biodiversity values, if they be so purposefully designed. Creativity and adaptation to changing situations can help in designing new products that can increase the uses of forests and forest products, resulting in more and better benefits overall. More efficient methods of work need to be adopted – e.g. mechanized harvesting and highly skilled labour is something we should also aspire to. We were impressed too by the high level of coordination between the private sector and the Government through the Scottish Forestry Commission: as this is an important factor for the success of the Scottish forestry, and is something worth emulating.

COMMONWEALTH FORESTRY CONFERENCE, EDINBURGH.

The team participated in the 18th Commonwealth Forestry Conference in Edinburgh 28th June-2nd July 2010. The theme of the conference was **Forest Restoration and Climate Change**. With over 400 participants from all parts of the world, the conference was a great platform to showcase the work of the SPGS and also to learn from others. Paul gave a presentation on the SPGS highlighting the role of financial incentives and technical support as a role model for stimulating private sector investment and enforcing best practice. This was very well received, judging from the many questions asked and the numbers that visited the SPGS display

stand wanting to find out more about the project. Paul's paper is available at www.sawlog.ug

The conference covered three broad topics:

- Our common future: sharing experiences from different countries particularly how forestry is contributing to mitigation and adaptation to climate change.
- People and forests: engaging communities and helping societies to adapt.
- Forestry financing: with special emphasis on REDD+

In the next *SPGS News*, we will summarize some of the best presentations and also be following up with some of the many contacts met during this excellent conference.

COMMUNITY SUPPORT

by Charles Odeke (SPGS Plantation Officer)

If the old adage 'Hard Work Pays' is true, then it may soon be a reality for some of our SPGS-supported communities. We at the SPGS think that some of our tree planting communities deserved some recognition: enter the SPGS 2010 Awards initiative. The rules of the game are clear and simple: the community should be supported by SPGS, have a track record of being well organised and active, and above all, have well maintained trees. Yours Truly will soon be roving around to collect the evidence and the winners will be announced (and some great awards presented too) during SPGS's Annual Commercial Forestry Seminar (to be held late Nov. 2010 – watch our web-site for details).

Awards aside, the demand for seedlings from our supported communities never gets satisfied! Both SPGS's Phase I and II communities have kept planting and planting as fresh applications from new communities requesting support keep coming in to SPGS. We hope we shall meet the ever rising demand curve. For your reminder, we supplied about 500,000 seedlings to 43 communities during March/April' 10 season and good news is that most of the communities managed to plant their seedlings on time and are reportedly maintaining them well.

Plans for Sept/Oct.'10 season are equally big: 52 communities have been earmarked to plant 440,000 seedlings (Pines, Musizi and Eucalypts). Notable among these communities are Kigando (+5 others) planting around SUB Ltd in Kikonda CFR near Hoima. Mukuju (+8 others) are planting around Hon. Ekanya in Tororo CFR, and Kagoma community (+3 others) planting next to Precision in Kasana Kasambya CFR in Mubende. Communities in the Northern cluster are missing as



Kikaaga Community planting near CBM in Mbarara with SPGS support (May, 2010).

they plant in March/April season only. This strategy of concentrating community support around SPGS commercial planters as opposed to scattering everywhere is in line with the new working model of SPGS Phase II's community support.

Whilst communities are sprucing up their plantings to attract SPGS's attention, my plea is you should not forget to weed and protect the planted trees from fires and livestock. As you know, trees are your bank – busy keeping and multiplying your millions while keeping your environment safer!

TRAINING NEWS

Thaddeus Businge, SPGS Senior Plantation Officer



As we approach the end of the first year of SPGS II, we have a clearer idea of the training needs of our clients. We have run at least one course for each cluster, with the most recent in Luwero on 22-26th August, 2010. Since Phase II began (July 2009), the courses we have run have included *Plantation Planning and Establishment*, *Commercial Tree Nursery Management* and *Small Business Skills* (the latter aimed at Contractors). To date (Aug.'10) these training courses have attracted 251 trainees adding up to a total of 964 training man days.

A Training Needs Assessment has just been carried out for SPGS by Unique Forestry Consultants. Unique interviewed a number of planters, managers, training institutions and SPGS staff. Their draft report is now with us and it is going to be an extremely useful study to help prioritize future training under SPGS. We will be discussing their ideas with many over the coming few months. Other consultancies have also been carried out - including Work Study/Labour Productivity, Site-Species Matching and Plantation Yield Modeling. As you can see these are important topics and specific training will be required in order for us to apply them. Once SPGS staff are trained, we will - as always - pass on our knowledge to you.

In June 2010, Walter Mapanda joined SPGS as Plantation Technical Advisor. With his wealth of practical experience, Walter will be taking a leading role in training (see article p. 6). He has attended a few of our courses and has already recommended improvements to make them more effective. Those of you who attended the recent Clients' Meeting in the SPGS's Central cluster will have seen Walter ably demonstrating the safe use of a chainsaw. With many pine crops now

approaching 1st thinning stage, the thoughts of many growers should be turning towards thinning. The chainsaw is a highly effective tool but must only be used by a trained operator wearing appropriate PPE (Personal Protective Equipment). If there is sufficient demand, we are considering running a chainsaw course in the near future.

The last course of this project year will be conducted on the 26th - 30th September 2010 in Gulu and will be in *Plantation Maintenance*. For those interested, there are limited places and the deadline for booking (upon payment of Sh. 150,000) is 17th September 2010. Please book early to avoid any disappointments. And if any of you has any training needs, do not hesitate to contact us.

From p.5

A SCOTTISH SAFARI

Woodfuel: the UK has embraced the need to look for alternative and cleaner energy sources and is championing wood fuel but do the economics stack up and is there sufficient supply to support the demand being created?

SPGS would like to thank not only Dave for a great tour but also our hosts who agreed to our visit and who made us feel so welcome: they include: The Forestry Commission of England & Scotland: at Kielder: **Graham Gill, Doug Howieson and Marie Clay;** and in the Dumfries office - **David Rodgers;** Floors Estate: **Peter Darling;** Steven's Croft: **Ian Collison.** And not forgetting Dave's sister-in-law for the best home-made ice-cream you have ever tasted (so if you are near Dumfries at any time head to Drummuir Farm Ice-Cream Parlour and tell them you know Dave!).

DID YOU KNOW?

BEWARE THE ELEPHANTS

Thailand's capital city, Bangkok, is being over-run with elephants. What has this got to do with forestry you ask? Well some 2,400 trained elephants and their handlers have lost their jobs extracting logs from the country's forests. With the forest industry in a slump, they have resorted to turning tricks for tourists but the risk (to man and beast it seems) has led the authorities to fine anyone caught feeding them
[The UK's Sunday Times].

FOREST INVENTORY FROM SPACE

By using NASA satellite data, scientists from NASA have mapped the world's forests and found that tallest forests are in the USA's Pacific Northwest and the shortest in broad area across Canada and Eurasia. The map is being used to calculate the amount of Carbon released by humans each year that gets absorbed by the forests.

However, one of the more immediate and practical uses of the map is predicting the spread of forest fires. The map is available to view online at www.nasa.gov
[The UK's Independent].

TALKING TREES

Some trees can 'talk' to each other it seems. When the weeping willow (a common UK tree species) is attacked by various insect pests, they can emit a chemical that alerts nearby willows of the danger. The trees then respond by pumping more tannin into their leaves making them unpalatable to the insects. Amazing but true!

PINE CONES

In ancient Greek culture, pine cones were regarded as symbols of fertility and even now the tops of wooden bed-posts are often embellished with carved pine cones
[Mirov & Hasbrouck's *The Story of Pines*, 1976].



TIMBER MARKET REPORT – July 2010

Table 1 shows retail prices as stated by timber dealers across Kampala in the second quarter of 2010. Prices for eucalyptus and pine have increased significantly when compared to the first quarter in 2010. The price for Mahogany stayed the same, while Kirundu and Mvule show a very slight downward trend.

Table 1: Current retail prices for selected species and sizes

Specie	Size (inch x inch x foot)	Price per piece (UGX)
Eucalyptus	Poles 4-6 inches	2,100
Kirundu	12X1X14	9,300
Eucalyptus	4X3X14	10,000
Musizi	12X1X13	13,500
Pine	6X2X14	15,200
	4X2X14	12,000
	12X1X14	25,100
Mvule	12X2X13	60,800
Mahogany	12X2X14	63,900
Nkalati	12X2X14	68,000
	12X1X14	40,000

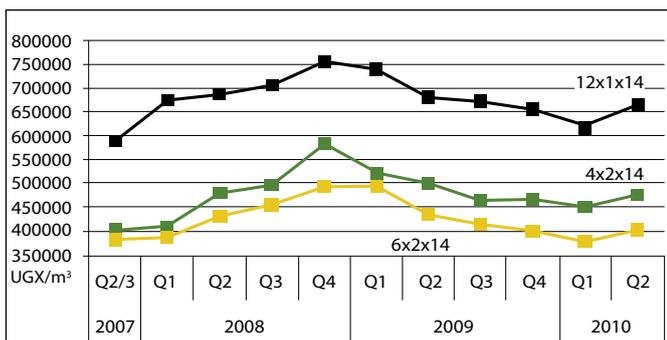
Kampala retail prices, 2nd quarter 2010 (Source: UNIQUE)

Prices, especially for timber species with a large turnover such as pine, eucalyptus and Kirundu are expected to go up in the third quarter 2010, due to UNRA's enforcement of maximum tonnage carried by trucks. Dealers stated possible price increases for up to UGX 1,500 per piece.

Two other potentially interesting species, cypress and Musizi can at the moment not be found in significant quantities in Kampala markets. The old cypress stands on CFR's have been harvested while Musizi as of now is not established as a major plantation species, meaning the supply comes mainly from single trees grown in agricultural areas.

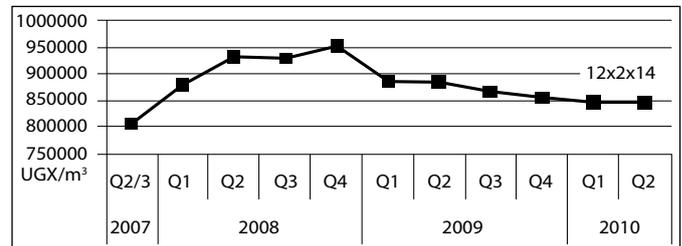
Figure 1-3 show the price trends of major timber species in Uganda over recent years, based on retail prices in Kampala. Until 2008 prices were steadily increasing, but dropped when the financial crisis reached Uganda. Since 2010 prices seem to be once more on the upward trend or in case of native species remain steady at a high level.

Fig. 1: Price trend for Pine



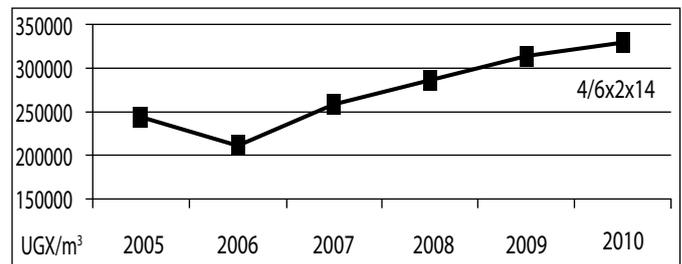
(Source: UNIQUE)

Fig. 2: Price trend for Mahogany



(Source: UNIQUE)

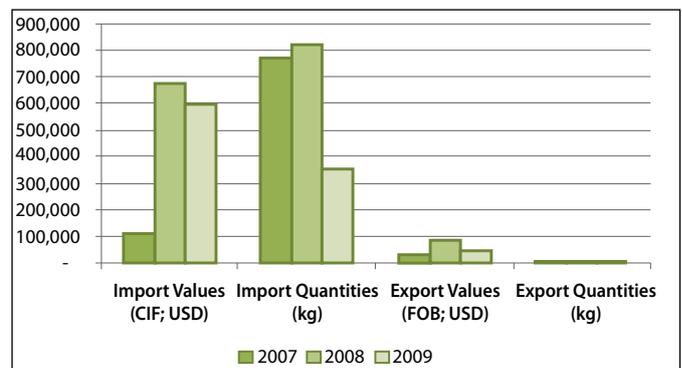
Fig. 3: Price trend for Eucalyptus



The trend is given across standard sizes, the value for 2008 was interpolated (Source: NFA street comparison and NFA timber yard price list)

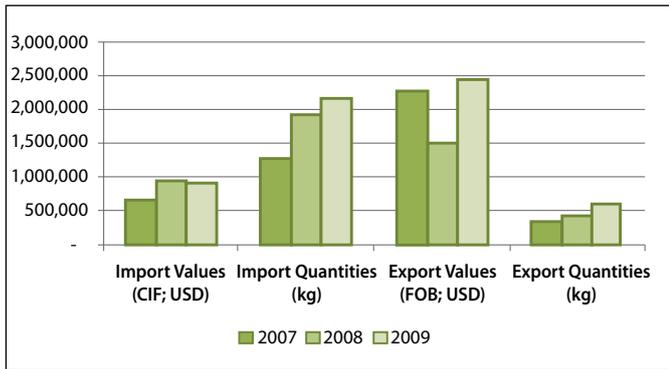
Fig. 6 shows imports and exports of sawn timber and plywood. While the import quantity of sawn timber decreased in 2009 to less than half of the year before, the import value stayed almost the same. The most likely explanation is that timber imports of cheaper timber species that can be supplied locally decreased while those of the more valuable timbers like Mvule or Mahogany were still imported due to their scarcity in Uganda. Timber imported illegally is not reflected in that statistic. More plywood is imported than exported. However there is a large discrepancy between export quantity and value. Here it can be assumed that most of the plywood exported is not produced in Uganda but simply traded onwards to DRC and Sudan. The major supplier of plywood for Uganda is Kenya.

Fig. 4: Sawn timber imports and exports



(Source: UBOS, based on URA data, 2010)

Fig. 5: Plywood imports and exports



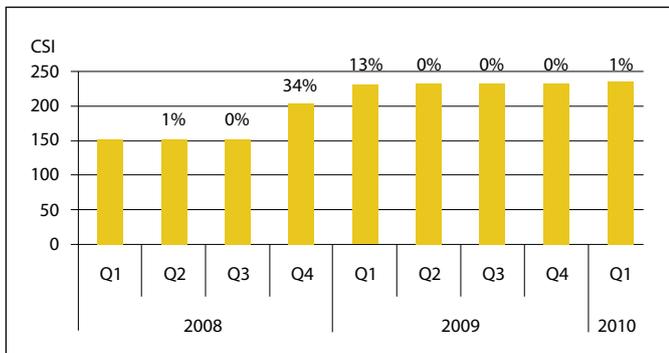
(Source: UBOS, based on URA data, 2010)

The construction sector index (CSI) is calculated by the Uganda Bureau of Statistics (UBOS) based on a monthly survey. The CSI is comprised of building materials and labor costs in the construction sector and is calculated for six different project types. Timber is included only in the construction of houses (residential buildings constructed i) privately or ii) by construction companies and iii) non-residential buildings). Across these three timber and wood products contribute with 9.9% to the actual building.

Fig. 6 shows the development of the CSI for timber since 2008. While it does not indicate changes in volume or provides prices for different wood products, it can serve as an indicator of the overall price trend for timber since 2006 (the base year). After a sudden increase in prices at the end of 2008 prices for timber used in the construction sector have remained stable. The discrepancy to retail prices (which showed a strong downward trend in early 2009) may be caused by an increase in volume of timber used for construction, due to lower prices. Ultimately the CSI can only serve as broad long term indicator but is not likely to show smaller or short lived changes in the timber market.

NB. Editor's note: we are planning to publish this market report every 3 months in SPGS News. Let us know what you think of the information provided here and what you would like to see in future reports.

Fig. 6: Timber in the Construction Sector Index



The percentage above each column shows the increase of timber prices in comparison to the period before. (Source: UBOS, 2009, 2010)

MARKET NEWS FROM AROUND THE WORLD



Thanks to NORSKOG's Arné Rorå for this information.

BIOMASS now generates 32% of all energy in Sweden. Biomass energy has now surpassed oil to become the number one source for energy generation in Sweden. The increased competition for logs and wood chips between the pulp industry and energy sector has pushed wood fibre prices to new highs. In local currency (Swedish krona), pulpwood prices in Q1 2010 were almost 20% higher than five years ago.

GLOBAL SAWLOG PRICES are up 17% over the past 12 months, with the biggest gains seen in Northern Europe and Oceania.

EUCALYPTUS LOG prices in Brazil have gone up 25% in the past year. Demand for *Eucalyptus* logs has increased in some regions in Brazil not only from pulp and panel manufacturers, but also from sawmills that are producing timber from both pine and *Eucalyptus* for the construction market. The Brazilian pulp industry consumes some 45% of harvested *Eucalyptus* logs, while an estimated 48% is used for fuelwood and for making charcoal for the steel industry. A growing but still small consumer of *Eucalyptus* logs is the sawmilling sector, that in 2009 used around 4% of the total log harvest.

QUOTATION

"We are drowning in a sea of information but are starved for knowledge"

John Naisbitt (US Business writer; 1929-)

FEEDBACK

"Thanks to you and your team for the Tree Planting Guidelines: it is a big resource for contractors!"

Joseph Ikwap (Contractor: All Round Foresters).

"Thank you very much for the arrangement of the workshop in Masindi (August 2010) and several plantations in Luwero. Also thank all the staff who were so helpful and took their time to explain to us everything carefully"

(Olama Marino).

"Thank you for the latest Newsletter. We are always happy to read SPGS News as the articles are very useful to Green Resources staff here in Tanzania. We are discussing possible contributions from our forestry operations in Tanzania: something will happen in the near future!"

(Mwaniki Ngibuini).

New Competition

- 1 What tree species is this germinating seed?
- 2 What tree species is this flower from?
- 3 Identify 3 safety concerns here.

Great prizes are up for grabs – a digital camera + copies of *Plantation Guidelines* + SPGS ‘goody bags’ (caps, shirts and stickers etc.).

Send in your answers before 31st October, 2010.



COMPETITION No. 28

The competition in *SPGS News* No. 28 certainly got you thinking. Not one person achieved the perfect score of 5, with one picture stumping everybody it seems. The damage to the eucalypt stem (see photo below) was caused by hail stones, during a storm in Uganda Gatsby Trust's Fort Portal clonal nursery. The other photos were (as many of you knew):

1. The beautiful *Spathodia campanulata*, commonly known as Nandi Flame, flame of the forest and the African tulip tree.
2. The unmistakable Sausage tree, *Kigelia Africana*.
3. *Senna* (formerly *Cassia*) *spectabilis* – a common sight around Uganda.
4. The Blue Gum Chalcid (or Chalcid wasp), *Leptocybe invasa*, on a eucalypt seedling.

So everyone who scored 4 out of 5 went into an SPGS cap and the winner was (drum roll....) - **Onzima Luke Patrick**, DFO from Kyenjojo. Copies of *Plantation Forestry in the Tropics* & SPGS's *Tree Planting Guidelines* are on the way to him. The Runners-up emerged as **Ariho Julius**, NFA GIS Database Manager, and **Murrami Moses**, Nursery Manager for UGT at their Mbale clonal nursery: these receive the *Planting Guidelines* and smart, new SPGS caps.



ESSENTIAL READING



“I wish I had known this before wasting my money” is commonly heard by people we visit or talk to. If you don't want to make the same, costly mistakes, then you must get hold of the **2009 SPGS Tree Planting Guidelines**. And don't forget a copy for your field manager(s) too. Written in plain, non-scientific language and with many colour photographs of good and bad practices, no tree grower can afford to be without one. Only Ushs40,000 (US\$ 20) per copy: it will save you this money many times over – guaranteed - or your money back!



Our roving reporter cum nursery advisor, William Davidson, captured this scene at the Fairway Hotel in Kampala. It was the day after the IUFRO Pests conference in May, 2010 so they obviously waited for the foresters to disappear before bringing the chainsaw out.

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IN THE NEXT SPGS NEWS - NO. 30!

- We look back over 6 years of SPGS.
- SPGS's 2010 Awards to the best growers of the year.
- Further reflections on UK forest industry.
- Adding value in forestry.
- SPGS's annual Southern Africa safari.

NB. Due 1st Dec. 2010; deadline for articles Monday 8th Nov.

Readers' contributions welcomed.

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