

SAWLOG PRODUCTION GRANT SCHEME



NEWS OF UGANDA'S COMMERCIAL TREE PLANTING FUND FOR THE PRIVATE SECTOR

ISSUE NO. 18 NOV. 2007 - JAN. 2008



INSIDE THIS ISSUE:

- ➲ Poverty alleviation, rural development, industrialisation? Commercial forestry is one answer.
- ➲ Community tree planting interest just keeps on growing!
- ➲ IUFRO Eucalyptus conference in South Africa: Important lessons for tree growers in Uganda.
- ➲ "Why do you grow trees?" - we asked some planters.
- ➲ Report from the successful 2nd SPGS Commercial Forestry Seminar in Kampala.



The SPGS operates within the Government of Uganda's Ministry of Water & Environment and is funded by the European Union. Since 2003, over 7,600 hectares of timber plantations have been subsidized to agreed standards, over 5,000 rural jobs created and the foundations laid for a sustainable and profitable forestry industry. Much more needs to be done, however, to meet the country's timber needs.



DISCLAIMER: The contents of this publication are the sole responsibility of the SPGS and can in no way be taken to reflect the views of the European Union.



SEED UPDATE

By Celia Nalwadda (SPGS Plantation Officer)

The efforts over the last few years of the SPGS and the National Tree Seed Centre (NTSC) are now paying off, with reasonable supplies of the main species now in country (or on the way!). We cannot emphasise enough the importance of selecting the right species for your site and also the use of improved (selected) seed: refer the various SPGS Guidelines or ask us if you are unsure.

PINES:

Pinus caribaea var. *hondurensis* (PCH): the NTSC has stocks of both Brazilian select (200 kg) and Australian seed orchard (156 kg) at UGX 875,000 and UGX 2.3M respectively. Each kilo of Brazil is expected to yield 20,000 germinants and of Australia 35,000 germinants. UTGA will also have some improved PCH seed from Australia by mid-November available to its members (contact SPGS for more details). **NB.** Please note that the SPGS does not support the use of locally collected PCH or *Pinus oocarpa* seed, both of which have very poor form: many have learned the lesson the hard way.

EUCALYPTUS GRANDIS:

NTSC has some Fort Portal seed at UGX 90,000 per kg. Each kilo is expected to yield 150,000 germinants. This seed is collected locally from the impressive mother stand at Toro Botanical Gardens and is approved for use by SPGS clients. SPGS also expects 3 kg of cleaned E. grandis seed from Mondi's seed orchards in South Africa by mid-Nov. '07. Each kilo is expected to yield 2 million germinants. Please make your booking with Josephine at the SPGS office ASAP.

Others:

Musizi (*Maesopsis eminii*): there will not be any Musizi seed available in the near future as the NFA's only seed stand in Namavundo (nr. Jinja) has sadly been degraded. NTSC intends to raise some seedlings from the last available batch and it is vital that those interested make their bookings in advance.

Hoop pine (*Araucaria cunninghamii*): this Australian improved seed was imported by the SPGS and was sown in July at the NTSC. Over 40,000 seedlings (including a specially selected long-internode variety) have been raised and should be ready for planting out by March '08. Clients with suitable sites (deep soils and rainfall > 1200mm) should please let the SPGS know and book seedlings in advance.

To calculate how much seed one needs to purchase:

No. of Kgs of seed = No. of ha to be planted x No. of seedlings required per ha* ÷
Estimated number of plantable seedlings per Kg of seed

* Since we are planting for timber and using improved seed, a spacing of 3m x 3m is generally recommended for most species; this equals 1111 stems per hectare (sph) (10,000 ↓ (3 x 3)) plus an additional 20% for replacement of damaged plants during handling and transportation and for beating up (= 1333 sph).

Remember: Good seed doesn't cost – it pays!

Cover Photo: One of the Luwero communities receiving 10,000 pine seedlings from SPGS in Oct. 2007.



⇒ 6-yr old Hoop Pine at Kifu CFR (Mukono) - recently pruned and thinned by the NFA.

SPGS Publications

Over the last few months we have been busy finalizing a number of reports – some with external consultants, others in-house. As is always our policy, we don't like to see our efforts sitting on a shelf gathering dust and so the following are now available:

- **COMMUNITY PLANTING GUIDELINE:** A practical and well illustrated guide covering all aspects of tree planting on a small scale. This 28-page booklet summarises key aspects from many other SPGS Plantation Guidelines and tries to keep it simple.
- **LESSONS FROM THE IMPLEMENTATION OF THE SPGS:** With the project's achievements and the interest it has created from private growers – we commissioned *Cornelius Kazoora* (Sustainable Development Centre) to document the project's first phase (2003-2006). The resulting report not only records how the project evolved to achieve what it has but emphasizes its potential as a development tool for Uganda. It presents a strong case for continuing the project to capitalize on the enthusiasm generated to date.
- **PESTS & DISEASES IN UGANDA:** or to give it its full title – *Entomology and Pathology Survey with Particular Reference to Leptocybe invasa* (the *Eucalyptus* chalcid wasp). This is the report from the visit in July 2007 to Uganda by *Prof. Jolanda Roux* and *Dr. Bernard Slippers* from the Forestry & Agricultural Biotechnology Institute (FABI). To quote from their summary:

Cont'd. on pg 15

SPGS: WHERE WE ARE NOW



By Allan Amumpe & Paul Jacovelli

It has certainly been a busy – and wet – period since our last newsletter hit the streets and we hope that growers were able to utilise the excellent rains and achieve their planting targets. Amidst the growing excitement here of the forthcoming Commonwealth Heads of Government Meeting (CHOGM), the SPGS staff have been busy visiting planters in the field but increasingly, we are advising Government and potential funding organizations on the importance of commercial tree planting as a development tool.

with great added value opportunities or attracting serious private sector investment.

The SPGS project has been the catalyst for an amazing upsurge of tree planting by private growers: there has been such a demand that we could sign up well over 20,000 hectares tomorrow if the funding was there. At the time of going to press, the SPGS had approved 7,586 ha since starting in 2003 – 75% of the 10,000 ha target. The next rains (March/April 2008) will be the last season under the current SPGS project and since we are both a target

current end date (Sept. 2008) and the growing support for UTGA, which is rapidly becoming the key lobbying group for private tree growers.

Judging by the turnout and the favorable comments received, the 2nd SPGS Commercial Plantation Seminar held on 19th Sept. in Kampala was a great success too. No less than 96 people attended but the most encouraging thing was the mix of people there – from small growers to financiers, from wood buyers to consultants. Our invited speaker from South Africa – Mike Edwards from Forestry South Africa – was inspirational and gave us some great pointers for the future as we attempt to get a plantation industry established here in Uganda: read more on Page 13.

The SPGS was represented at the commercial forestry event of the year in Africa – namely, a *Eucalyptus* conference organized by the International Union of Forest Research Organisations (IUFRO). This was really a great opportunity to learn from the scientists at the cutting edge of *Eucalyptus* plantation forestry. The experience from Brazil and South Africa was particularly relevant to us and many useful contacts were made, which will help us as we embark on developing a forest industry in Uganda. Read the highlights from this valuable meeting from Page 5 onwards.

This newsletter will now become a quarterly publication but you can rest assured that the high standards we have set for ourselves will remain. All previous copies are available to read or download at www.sawlog.ug. Any feedback (good or bad!) is always welcome and we would particularly like to receive more articles and photos from our readers. Finally, from all the SPGS staff we wish all those concerned with tree planting in Uganda a very Happy Christmas and may 2008 bring you all health, wealth and happiness.



Kakama Godwin from Precision Forestry Ltd. explaining to a keen audience about their plantation development during the Client's meeting in Mubende in Sept. 2007.

We have been attending regular meetings of the influential Presidential Investors' Round Table, where the hot topics have been to secure future funding for the sector, solving the encroachment problem and tackling the research and education needs (specifically for commercial forestry). What is most encouraging is the strong support for both the SPGS and UTGA (Uganda Timber Growers Association), which together can really help the private sector to build a world-class plantation industry here in Uganda. People are starting to realize that commercial forestry here offers a win-win scenario: whether you are interested in poverty alleviation goals, building a sustainable rural industry

and quality-driven organization, we must now reallocate areas from those not able to achieve their target areas to those who are doing better than expected.

Our quarterly Clients' field meetings remain one of the most successful ways of improving standards as well as encouraging planters to reach their individual targets. The most recent one to Mubende in early Sept. 2007 was no exception. Both the safari and the meeting were very well attended and as usual, the level of interest and participation was extremely high (see the photos on Page 9). What was encouraging was the Clients' support to continue the project beyond its



Encroachers Threaten Investor Morale

By Sheila Kawamara Mishambi (Secretary UTGA)

Uganda Timber Growers' Association (UTGA) has embarked on discussions with Government to halt encroachment on government forest reserves. The presence of encroachers are affecting investor confidence and hindering the establishment of commercial forestry plantations in Uganda. The high level discussions, which are on-going in the Presidential Investors Round Table (PIRT) forum, have noted that unless this issue is addressed, investors, their financiers and partners are losing faith in Uganda as a serious destination for long-term investment in forestry.

Encroachment in forest reserves in the recent past has been on the increase following the widely reported Presidential Executive Order of 13/02/06 halting the eviction process. This directive has deliberately been misinterpreted to imply that forest reserves and wetlands are available for the unfettered cultivation, grazing and settlement.

In many cases local leaders have been at the forefront of this re-

encroachment process issuing 'permits' and rendering the National Forest Authority (NFA) powerless. UTGA strongly feels that encroachers have become a major source of insecurity to law enforcement officers and are a big discouragement to investors in the sector, some of whom have incurred major losses as a result of hostilities from the encroachers.



Jossy Byamah, Chairman of UTGA, recruiting members at the 2nd SPGS Commercial Plantation Seminar held in Sept. 2007.

UTGA has noted that formerly evicted encroachers have returned; others who were preparing to leave have

resettled and fresh encroachment is taking place, even into reserves that were previously free of encroachers. UTGA is appealing to all its members to provide information regarding the problem of encroachment in their areas of operation and also make proposals on how it can be tackled.

Other issues on the discussion table are the lack of a funding mechanism for forestry investors and the absence of committed donor and corporate support to continue financing the SPGS - at least in the short to medium term. As a lobby group UTGA is seeking funding opportunities to develop the sector. Government is expected to be a major ally to:

- ❖ Open up channels to access funding for commercial forestry establishment, research and specialised training in the sector.
- ❖ Capitalize the private sector by offering soft loans to commercial tree plantation development.
- ❖ Support commercial scale investment for both timber and non-timber forest products to

Cont'd. on pg 6



SMALL-SCALE TREE PLANTING SUPPORT

By Thaddeus Businge, SPGS Plantation Officer

2007 has been a rainy year and thus a good one for tree planters both big and small across the country (of course though we are sorry for those affected by too much rain in the North). The SPGS has continued to receive applications from small land owners that have organised themselves into associations with the aim of being supported by the project to plant "gold" on their land. However due to budgetary constraints, we can not support everyone much as we would love to.

Our emphasis this current season has been largely on our established community groups, although we managed to include two new groups in Rakai - Zirizi and Kampangi. This season alone we gave out 100,000 seedlings of *Pinus caribaea* var. *hondurensis* (PCH), which - if just 70% survive - makes 70 hectares planted by the communities alone. Clearly small planters can make a significant contribution to the 70,000ha of plantations needed by 2025 to meet this country's internal timber demand.

There has been a problem with Eucalypt planting not only by the communities but also the large growers. Many Ugandan tree growers do not understand the silviculture of growing Eucalypts - especially thorough land preparation and 100%

weed control. This leads not only to poor survival and yields but also to stressed plantations that are susceptible to disease and pest attack. Communities and large planters are therefore encouraged to take weed control seriously if Eucalypts are to be planted profitably. Eucalypts are important trees for the communities as the thinnings are good for fuelwood and building poles.

The response we are getting from the communities is very encouraging as the delivered seedlings are planted in time and are being managed at least close to the SPGS standards. And as the saying goes - "seeing is believing" - so the community members who successfully plant and manage their trees always attract the envy of others, which is what brings about the 'birth' of new communities. A perfect example is that of the new communities in Rakai who were attracted into tree planting by their neighbours.

In an era where the effects of global warming are beginning to be felt by all, the community planters seem to understand this too. Many are worried the adverse effects on their local environment and as if to kill two birds with one stone, they will also make money from their trees.



EUCALYPTS & RUGBY: South Africa 2007

By Paul Jacovelli

Some 150 delegates from over 30 countries descended on South Africa during October 2007 to talk about Eucalypts and rugby (more about the rugby later). The occasion was a meeting of the *Improvement and Culture of Eucalypts* section of the International Union of Forest Research Organisations (IUFRO). Given the importance of Eucalypts in Uganda, we thought it important for the SPGS to attend to learn about the latest advances in silviculture and tree improvement and as always, to pass this information onto commercial tree growers here in Uganda.

What is IUFRO?

IUFRO is a non-governmental, international network of forest scientists with around 700 member institutions from 113 countries (see www.iufro.org for more information). Previous meetings of this specific IUFRO section were held in Portugal (2004), Chile (2001), Brazil (1997) and Australia (1995).

Delegates' provenance variation

The origin of the delegates is a good indicator as to the relative importance of Eucalypts in various countries: Australia - the home of most of the species - was well represented, with a mixture of researchers, commercial foresters and seed collectors. The big Eucalypt-growing countries in Asia and the Far East (China, Vietnam, Indonesia and India) were also well represented, as were South America (Brazil, Uruguay, Chile and Argentina). In Africa, of course South Africans outnumbered the rest but (a first maybe?) there was a group of us from East Africa, including five from Tree Farms Ltd. who are establishing plantations in Tanzania and Mozambique (they are also the parent company of Busoga Forestry Co. in Mayuge, Uganda) and two from Kenya's Tree Biotechnology Project.

Pre-conference technical tour

The 6-day tour started in pine sawlog plantations of Mpululanga (around Sabie), where the disastrous fires in July 2007 have left a huge impact (70,000ha were burnt). From there we visited the cooler 'highveld' areas west of Swaziland and ended up in the vast Eucalypt pulpwood plantations of subtropical KwaZulu Natal (see the photos on Pages 7 & 10). Along the way we had many excellent presentations from researchers whilst standing in the midst of their trials: a highly professional show from Mondi, Sappi, NCT, HM Timber and CSIR.

Eucalypts and Diversity: Balancing Productivity and Sustainability was the title of the conference which ran for five days in Durban's impressive International Conference Centre. The main themes of the formal presentations were tree breeding (including quantitative genetics and reproductive biology), silviculture, pests and diseases and wood properties. Over the following three pages, I have summarised what I considered to be the hot topics of direct relevance for Uganda - namely,



The East African delegation at the IUFRO Conference –from SPGS, Tree Farms Ltd. (Uganda, Tanzania & Mocambique) and Tree Biotech. Project (Kenya).

species and productivity research, growing Eucalypts for sawtimber and pests and diseases.

Final thoughts

The SPGS had a prominent display at the meeting and it attracted a great deal of interest. There was no escaping, however, from the fact that we are in a sorry state with regard to plantation forestry research in Uganda. With growers now investing seriously in establishing a substantial plantation industry here, we must quickly address this issue in order to ensure that these plantations are both productive and healthy. Attending this IUFRO meeting, however, has clearly shown me that we don't need to reinvent the wheel and can learn much from the highly professional research going on in numerous other countries.

Collaboration - both within and beyond Uganda's border - is the only way ahead: the world is increasingly becoming a smaller place - as the growing threat from pests and diseases is clearly demonstrating. We have a long way to catch up in terms of forestry research after many years in the wilderness but can greatly benefit from meetings such as this. Many friendships and work contacts were formed and the challenge now is to put Ugandan forestry on the map so that by the next IUFRO meeting in Brazil in 2011, we do not just listen but have our own Ugandan research results to present to the world. Both you and I know that we have the potential in Uganda to have a world class Eucalypt industry - so let's get started.

And the rugby?

Coinciding with the IUFRO meeting was the final stages of the Rugby World Cup and there were times I felt like the only Englishman in South Africa. Although my team scraped through to the final, they finally met their match against the South Africans (and the referee). It was good, however, to see how sport can pull people of all countries and races together. Well done to the South Africans not only for lifting the trophy but also for organizing an excellent conference.



TREE SPECIES & PRODUCTIVITY IMPROVEMENT



An outstanding 7-yr old *Corymbia henryi* (one of the Spotted Gum group – formerly classed as Eucalypts) in a species trial in Kwa-Zulu Natal. Its standing volume was close to 250m³/ha and >65% better than the trial mean.

Listening to Andrew Morris (SAPPI's Research Manager) at the IUFRO conference lead me to search out a scientific publication that influenced me early on in my forestry career – namely, *Requirements for Intensive Silviculture* by A.P.G. Schönau, then working for the ICFR (Institute of Commercial Forestry Research) in Pietermaritzburg:

'After consideration of all the factors discussed, we may conclude that intensification of silviculture is the main solution for meaningful increase of forest production and improving the under-supply position in the South Africa forest industry. However, to achieve this potential improvement we must consider the following to be essential:

1. *Silviculture must become more site related.*
2. *More silvicultural research is urgently needed.*
3. *We must improve forestry education and training.*
4. *We must train more and better forest managers and researchers."*

This paper was published in 1988 and I couldn't write a more fitting

recommendation for Uganda's commercial forest sector today if I tried. The lessons are clear to see: in the next 20 years, South Africa took on board these recommendations and today they have 1.4 million hectares of plantations supporting a major industry.

With reference to Eucalypts, Morris noted that the average Mean Annual Increment (MAI) in RSA increased by 61% from 1990 to 2000. He attributes this increase to three main areas of impact – namely, species choice, intensive silviculture and tree improvement.

In terms of species choice, in the cooler areas there has been a shift from *E. grandis*

to *E. nitens*, *E. macarthurii*, *E. dunnii* and *E. smithii*. In the sub-tropical areas (more akin to Ugandan conditions), *Eucalyptus* hybrids (especially GU and GC - *E. grandis* x *E. urophylla* and *E. grandis* x *E. camaldulensis*) have almost completely replaced pure *E. grandis*. This came about after many years of research – testing species, understanding their site requirements better and creating 'new' trees through selective breeding. The search for new species (and hybrids) was also driven by the increasing threat of pests and diseases.

The silvicultural practices that have been most significant have been thorough weed control with herbicides during establishment and also fertilization at planting. Intensive soil cultivation, which was initially thought to promote Eucalypts' growth, is not now recommended but there is more emphasis on the quality of planting stock and planting practice.

Brazil is another country we can learn much from when it comes to growing Eucalypts: they have a cool 3.4M ha. In 1965 the average MAI of Eucalypts in Brazil was around 10m³/ha/yr; now it is closer to 40m³/ha/yr

(and well over 50 on the best sites). In a fascinating presentation, the Brazilian researcher, José Gonçalves, attributed this increase to the switch to hybrid clones – mostly GUs – but also to the adoption of site specific silviculture. He highlighted the shift away (like in South Africa) from intensive to minimum cultivation – including managing residues rather than burning them, which has the advantage of water retention and also weed suppression.

Gonçalves records the substantial productivity gains in response to fertilizer application over most of Brazils' Eucalypt plantations but emphasizes that there is no 'one size fits all' solution. Over most sites, however, phosphate (P) shows the largest gains, whereas the response to other nutrients (especially K and N) intensifies as the number of rotations increase. Highly weathered soils may also have micro nutrient deficiencies – notably Boron.

Details of the two papers mentioned from the IUFRO conference are as follows:

Gonçalves José *et al.* Assessing the effects of early silvicultural management on long-term site productivity of fast-growing Eucalypt plantations: the Brazilian experience.

Morris Andrew. Realizing the benefits of research in Eucalypt plantation management.

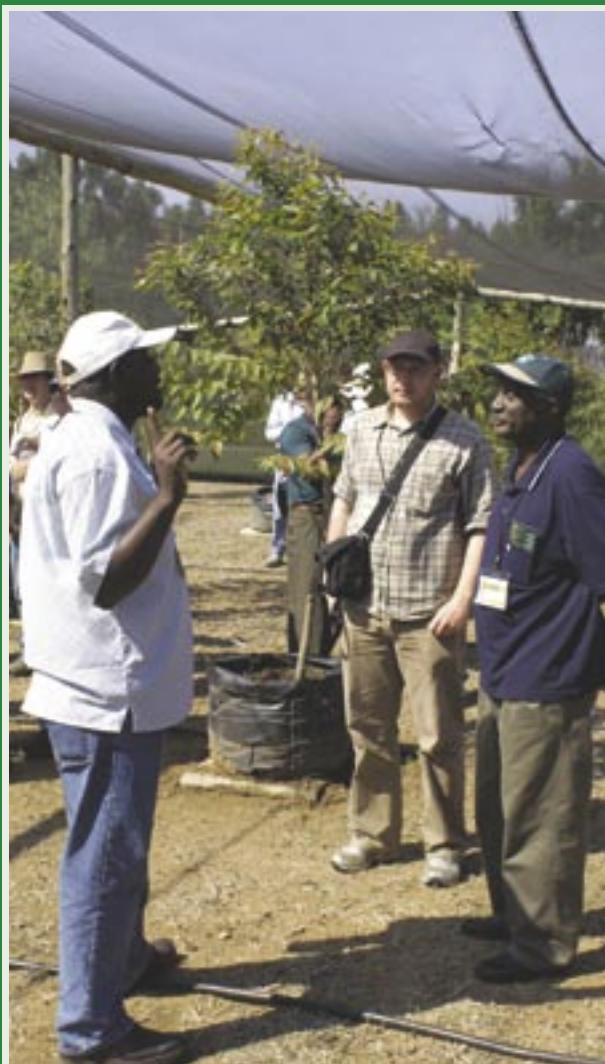
Copies of these (and Schönau's paper) are available free from the SPGS.

From pg 4

stimulate employment, economic growth and meet future national demands for forestry products.

Back home and on a happier note, UTGA now has a website www.utga.net. Check it out and please send in your comments and suggestions. As more tree planters are joining the UTGA family, we welcome all our new members – including Dr. Ruhakana Rugunda, the Minister of Internal Affairs – to the timber-growing fraternity. If you are a tree grower please visit our website and register now.

PHOTO GALLERY I - IUFRO TOUR



Allan in deep conversation with Endre Hansen and Jossy Byamah (both of Tree Farms Ltd.) about the research needs for Uganda. This is Mondi's potted Eucalypt seed orchard in Piet Retief, where they create new genetic combinations for their tree breeding programme.



Delegates discuss a hybrid clonal trial at Zenith Estates, KZN. Hybrids of a 'new' species – *E. longirostrata* (with *E. grandis* and *E. urophylla*) are being compared with GUs – the hybrid that would normally be planted on such a site.



CSIR's 7-yr. old hybrid pine trial (*P. elliottii* x PCH) near Nelspruit shows impressive form and vigour.



Mark Holmes, Manager at Mondi's enormous clonal nursery at Kwambonambi, KZN, explaining to the visitors how he knows when the cuttings are ready to plant out. He calls it the Viagra test: we leave the explanation to your imagination!



PHOTO GALLERY II - SPGS SEMINAR 2007

Some (not all!) of the participants at the Seminar.



Below are some of the speakers at the seminar, (See Page 13).



**Mike Edwards, ED of Forestry
South Africa.**



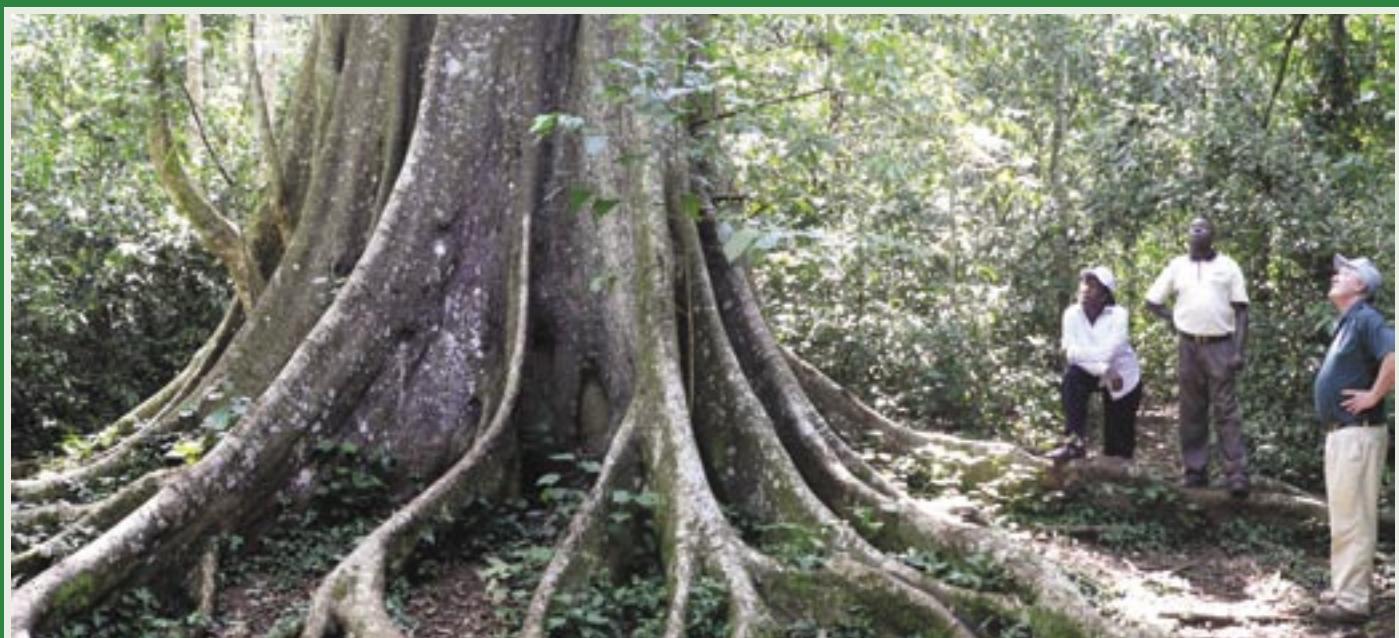
**Paul Jacovelli, SPGS's Chief
Technical Advisor**



**Dr. Timm Tennigkeit, Unique
Forestry Consultants**



**Allan Amumpe, SPGS Project
Manager.**



We made sure that Mike saw at least some trees during his brief visit here. This was in the famous Mabira Forest en route to seeing some plantations in Jinja. Mike was accompanied by Sheila Kawamara Mishambi (UTGA) and Charles Odeke (SPGS)

PHOTO GALLERY III - CLIENTS' MEETING (SEPT. 2007)



Paul preaching about the importance of thinning on time and to the correct stocking. There is a great reluctance to thin, with growers thinking the more stems the better! This was in the 4-yr old PCH demo. plot in Kasana-Kasambya CFR near Mubende.



*The crowd making their way through Richard Bakajja's p03/04 pine plantings in Kasana-Kasambya CFR. The debate was about the poor form of *P. oocarpa* compared with the Australian PCH, pruning and thinning.*



Bric demonstrating how to undertake wetland delineation i.e. to determine where to start planting in a wet zone, like this valley in Precision Forestry's planting in Mubende. FSC demands such scientific methods.

Prossie Tumushabe explaining to the assembled planters her experiences since starting planting. A combination of rains and poor roads meant that we could not travel to Prossie's planted area.



PHOTO GALLERY IV - IUFRO TOUR (Cont.)



A mini-hedge system for commercial propagation of *Eucalyptus* hybrid clones at SAPPI's Shaw Research Centre. This employs raised sand beds and taking very young cuttings in order to improve the productivity and rooting of cuttings.



A 7 yr old *E. nitens* progeny trial: part of SAPPI's cold tolerant Eucalypt (CTE) breeding programme at Lothair.



Nightfall doesn't stop Mondi's highly mechanised harvesting operation in KZN. This machine is debarking and cross-cutting hybrid Eucalypts for pulpwood.



Mondi's containerized nursery in the KZN Midlands.

Eucalyptus for timber



A mature 18-yr old clonal E. grandis stand. HM Timber are one of the few (but growing number of) companies managing Eucalypts for timber in RSA. This impressive stand had been thinned 3 times (now standing at ca.300 sph), pruned to 7m and had a standing volume of 370m³/ha.

Just when we were thinking that the world's 14M hectares of Eucalypt plantations were all being grown for pulp and paper, came along two champions of growing them for sawlogs. It was encouraging to hear Evan Shield at the IUFRO meeting talking about growing Eucalypts for sawlogs. He presented a strong case that pruned *Eucalyptus* trees which have been maintained as free-growing – that is, without competition – are largely free of most of the adverse wood quality characteristics that have given the genus a bad reputation when it comes to timber quality. He went on to argue that with the price for hardwood logs forever increasing, that this would be a highly profitable venture.

Like the Eucalypts, Shield has migrated from Australia to South America but has traveled widely and clearly knows his subject well. He presented evidence that the key to producing high quality Eucalypt timber is heavy, early thinning and also pruning. Provided the thinning

is carried out at the right time and is intense enough, it maintains the 'free growth' of the most vigorous trees. This appears to minimize the growth stresses and leads to high quality timber being produced.

Shield emphasized that Eucalypt sawlogs from under-thinned (or unthinned) plantations will have more severe 'growth stress expression'. Since most stands fall into this category, sawmillers to date have generally been supplied with stressed logs, leading to low recovery of quality timber. "More Eucalypt plantations are ruined for timber production by late thinning than by any other cause" Shield quoted from one grower.

One interesting aspect of adopting this heavy and early thinning regime is the possibility of growing Eucalypt sawlogs on more marginal sites than would normally be considered and even 'co-cropping' with animals or crops, since the sawlog crop can be spaced more widely on such sites: food for thought indeed!

The second paper by Kotze and Luckhoff reiterated the importance of thinning on time and investigated various thinning regimes aimed at producing a 43cm DBH tree in 15-20 years. The authors work for Komatiland Forests in RSA, who have some 5,000ha of *E. grandis* grown predominantly for sawlogs.

Kotze and Luckhoff used computer simulations to illustrate how an *E. grandis* stand grows under various stockings, which helped determine the optimum time to thin at various tree spacings in order to maintain 'free growth'. Free growth means that the tree canopies grow without touching each other and to maintain this, the 1st thinning needs to remove around 50% of the trees, which may reduce to 30% with subsequent thinnings.

Their study showed that thinning *E. grandis* at 3 years was too late: competition sets in before 2 years (at initial stockings of 1372 sph and 1111 sph) and the trees had not reached the 43 cm DBH at 20 years. The regime they favoured was planted at 1111 sph, 1st thinned at 2 years to 400 sph then 2nd thinned at 6 years to 200 sph. This is radical stuff compared to what most growers are used to: but the message is clear – if you want big and high quality sawlogs quickly (as we certainly do in Uganda), then thin early and heavily.

The IUFRO papers referred to here are available from the SPGS:

Shield E. Whither Eucalypt sawlogs?

Kotze H & J. Luckhoff. A new thinning regime for *E. grandis* sawtimber in Komatiland Forests.



PESTS & DISEASES

"There is little question that pests and pathogens are set to challenge eucalypt plantation forestry worldwide, more than ever before" said Mike Wingfield at IUFRO's Durban meeting. Even though he acknowledged that he is sometimes known as Professor Doom, there is no denying that the industry is already experiencing unprecedented levels of incidences in all countries where eucalypts are planted. If the number of papers on tree health presented at the conference is an indication of this worrying trend, clearly the honeymoon period is over for Eucalypt growers in Africa.

Wingfield's important presentation certainly made his audience sit up and listen. He charted the arrival of various pathogens (mostly fungi) in South Africa, with the vast majority being discovered in the last 15 years. With insect pests, the threat seems to have escalated just in the last 3-4 years. It was noted that South Africa has planted eucalypts commercially for over 100 years and in this regard, the number of important pests and pathogens is relatively low. In countries with relatively new Eucalypt planting programmes - like Thailand, Vietnam and China - however, the appearance of debilitating pests and pathogens now seems to be occurring much more rapidly.

Wingfield speculates that this trend is likely to be due in part to the much greater movement of people and products around the world now. Additionally, the massive reforestation programmes in South and East Asia in particular, has meant that huge quantities of seed (and rooted cuttings) have moved between countries as never before. The risk of transmitting pests and pathogens between countries is clearly greater than ever.

Most of the problem species affecting Eucalypts originate in the native areas of the host trees. When they are accidentally reunited with their hosts overseas, they find large plantations, no natural enemies and hey presto..... their populations explode. There are also a number of worrying trends where pests and pathogens from the country where the trees have been introduced, suddenly switch to the introduced tree species. Examples are the fungus *Puccinia psidii*, which is native on *Myrtaceae* in S & C America and has spread to nearby Eucalypt plantations. We saw on the field trip another example too - the Cossid moth (*Coryphodema tristis*) - a species native to RSA which has suddenly started attacking *E. nitens*.

We also saw the serious impact of the 'bronze bug' (*Thaumastocoris peregrinus*) on many species of Eucalypts during the field trip too (see photo). This insect was first recorded in RSA in 2003 and had spread throughout the country in just three years. With the chalcid wasp (*Leptocybe invasa*) well established in Uganda (and recently identified in RSA too), let us hope this one does not get a visa to come to Uganda.

So what can be done about the situation? Wingfield made it clear that there is no 'silver bullet' or miracle cure but he stresses that there are excellent opportunities to reduce the impact of pests and pathogens affecting Eucalypt plantations. The first is stepping up the development and testing of 'new' species - and especially hybrids - for resistance. Wingfield predicts that tools such as genetic modification to avoid the impact of pests and pathogens, will become important (as in agriculture), although there are environmental issues that will have to be addressed for this approach to be accepted. The most important tool for managing insect pests remains biological control by using natural enemies.



*The devastating impact of the aptly named Bronze bug - *Thaumastocoris peregrinus* - as seen from the coach as we toured through the Natal Midlands. This sap feeding insect severely defoliates trees and has rapidly spread since it was 1st identified in 2005 in RSA's Eucalypt plantations.*

As we embark on expanding the planting of Eucalypts (and other species) in Uganda, what lessons can we learn? I would suggest an Action Plan along these lines:

- Raise awareness of current and potential threats to all tree growers

(publications/press).

- Build on the collaboration already started with FABI, to keep abreast of tree health matters.
- Agree a strategy for routine monitoring of plantations and also how to deal with pest identification and outbreaks when they occur.
- Initiate a tree breeding programme which screens for resistance to the main threats.
- Seek funding opportunities to undertake essential research in the sector.

For this to succeed, collaboration is the name of the game as is the involvement of private growers to drive the process forward. Your suggestions would be welcome.

The paper referred to in this article is from the 2007 IUFRO conference: **Wingfield Michael J et al.** Eucalypt pests and diseases: growing threats to plantation productivity. It is available from the SPGS.

THE 2ND SPGS COMMERCIAL FORESTRY SEMINAR



Just some of the attentive audience at the Seminar: next to Peter Karani (looking much more serious than the ladies next to him) are Ruth Kyeyune (representing Enterprise Solutions) and Brenda Mwebase (Kamusiiime Association, Bushenyi).

The SPGS hosted the 2nd Commercial Forestry Seminar at Kampala's Sheraton Hotel on 19th Sept. 2007. The participants numbered 96, which came dangerously close to some not getting lunch! The general level of interest, the questions raised and the feedback received following the meeting all told us that it was an extremely successful event.

The objective of the meeting was to inform a wider audience about the progress to date - and the opportunities being created by commercial forestry in Uganda. The important issues affecting the sector - especially funding and encroachment concerns - were clearly spelt out too. The titles of the various presentations were as follows:

1. *A Review of Private Tree Planting Under the SPGS 2003-07* - Allan Amumpe.
2. *Time to Raise the Profile of Commercial Forestry in Uganda* - Paul Jacovelli.

3. *Sawlogs – A Great Business To Be In* - Mike Edwards (Forestry SA).
4. *Carbon Financing Opportunities for Uganda* - Dr Timm Tennigkeit (Unique Forestry Consultants).
5. *Standards? What Standards?* - Bric Milligan.
6. *Uganda Timber Growers Association* - Jossy Byamah (UTGA Chairman).
7. *A Virtual Tour of Forestry in South Africa and Swaziland* - Dr. Florence Nangendo (private tree grower).
8. *Eucalyptus: Friend or Foe?* - Paul Jacovelli & Franz Eichinger (Horizont3000).
9. *Uganda Timber Market Study 2007* - Kai Windhorst (Unique Forestry Consultants).

The audience was a healthy blend of growers (large and small), potential investors, donors, policy makers, timber buyers, various NGOs, research and education folk, consultants - you get the story?

Certainly not the usual workshop crowd anyway (and no - we didn't pay any allowances for attending, although everyone did receive a great chopping-board made from home-grown *Eucalyptus grandis* (courtesy of SPGS and the Sustainable Batch Production project supported by Austrian Development Cooperation and Horizont3000).

We believe that the message came through very strongly that a great start has been made by private growers in Uganda over the last few years, with over 5,000 jobs and close to US\$20M committed already. But much more needs to be done and the industry is now at a cross-roads, with the SPGS funding ending in 2008 and rampant encroachment stalling further planting in many Forest Reserves.

We were very fortunate to have a guest speaker of the calibre of Mike Edwards, ED of Forestry South Africa, which represents 90% (>2500) of all registered timber growers in RSA. Mike's excellent presentation left us all in no doubt about the importance of forestry to the RSA economy: it contributes 14% of agricultural GDP; 6% of manufacturing GDP; earns US\$1.4B in exports; 330,000 direct jobs (close to 2M including dependents).

Mike ended by making a strong case for a forest owners' Association such as UTGA to "collectively negotiate and drive the well-being of the forest industry in Uganda". It is up to all concerned in the sector to ensure that the 2008 Seminar will not be an obituary for the industry but a celebration of its continued expansion with support from all sides concerned.

NB. All the Seminar's presentations are available on a CD (free!) from the SPGS office.



20 YEARS?.... WHO, IN UGANDA, WAITS THAT LONG?

By Celia Nalwadda, SPGS Plantation Officer

Flamboyant, party lovers, friendly, easy going... these are the words that come to mind when you think of Ugandans. But patient? No! For those who think otherwise, try driving on any Kampala street! However, lately some (hopefully sane) Ugandan guys and gals have decided to invest their hard earned money in a venture that will take up to twenty years to give returns. I sought out some of them to find out who they are and why they have chosen to invest in plantation forestry.

Obaa Jimmy (hotel owner in Lira):

Jimmy says tree growing was the only feasible enterprise that could make use of the marginal land he owns in Lira. The area is dry and the soils are too shallow for agricultural crops, or grass for animal grazing but are ideal for pine trees. He has set aside 120 hectares for a commercial plantation and SPGS is subsidizing 25 ha of these, so Jimmy

doesn't have to wait all of 20 years without getting some of his money back. Besides, he reasons that planting trees will contribute to the environmental rehabilitation of his area. A smart businessman indeed.

Robert Bariho (Mpigi Businessman):

Robert is an analytical person who wastes no time in unprofitable ventures. Having cleared over 100 ha of his private land in Mpigi for a dairy farm, Robert met a rich uncle to one of his friends and discovered

the secret to all that wealth was timber. Immediately, dairy farm plans went through the window and on that land in Mpigi now stands an expansive pine plantation, with Eucalypts on the lower lands. Robert has expanded his plantation to over 250 ha, 220 of which are benefiting from SPGS support. This astute businessman has done his maths too, and expects a profit of over Ushs. 1.5 Billion, which is certainly worth waiting for!

private land in Mubende. Of this, 50 hectares is benefiting from SPGS support. Prossy employs one full time plantation manager, four full time nursery workers and 60 casual workers per month - all from the surrounding community. How about that for a holistic approach?

Apio Stella (Stay-home Mother, Gulu); Gervase Ndyanabo (Company Secretary, Luwero) and Dr. Florence Nangendo (Social Scientist, Mpigi):

Stella is planting in Opok Central Forest Reserve in Gulu while Gervase and Florence are planting on private land in Nakasongola and Mpigi respectively. Both Stella and Gervase are beneficiaries of the SPGS grant and Florence is a hopeful applicant who has benefited greatly from SPGS technical support (including a visit to Southern Africa earlier this year). All three assert that their money is better off in a well managed commercial forest

plantation than in a bank savings account. For one, comparing these two options, the multiplier is over four times higher with a plantation, plus land under plantation in the future, as the industry develops, will be accepted as guarantee for a bank loan. Gervase and Stella reaffirm the environmental benefits and sentimental Florence just loves the scenic view of her trees standing all neatly together!

So, is this an insane group of people, or a far sighted, calculating lot? You decide.



Mr. Obaa Jimmy proudly posing in front of his 2 year pine plantation on his own land in Lira.

Prossy Tumushabe (Mubende Economist)

Surprisingly, this beautiful economist is not in it just for the money. Prossy believes in moving forward together as a community. For her, an economically viable investment that could also provide employment for the surrounding local people while promoting environmental sustainability is just what she needed. She wisely chose commercial plantation forestry and together with her husband, Dr. Godfrey Bahigwa, are now proud owners of more than 85 hectares of pine on their

INVESTORS' PROFILES – II - NILE PLYWOODS LTD.



By Charles Odeke, Plantation Officer SPGS

Has it been your thought that Jinja is only famous for hydro-power and being the source of the Nile? If so then you need to think again for there is much more. In the heart of Jinja town is a modern plywood manufacturing industry that does not only produce a wide range of wood products but also employs a huge number of people.

According to Sebastian Joseph, Nile Plywood (U)'s MD, the operation started in a low profile in 1994 with severe threat from the Kenyan and Chinese products. Over the years it captured the local market with good quality Ugandan products. *"This was possible by modernizing the plant to international standards and by investing further in modern facilities to achieve best quality products"* says Sebastian. NilePly was proud to say that their products now account for around 75% of the Ugandan market.

The company manufactures a variety of wood products that comprise plywood, blockboard, flush doors, decorative veneers, chipboard and ceiling boards. The challenge to the company, however, is to find sufficient raw material. The company reportedly buys its logs from mature tree plantations planted long ago by the Uganda Forest Department. Indeed, NilePly's large green trailers ferrying huge *Eucalyptus* logs, are a common sight on our roads.

At present these logs come all the way from the West Nile – a round trip of some 1,200 kms or 5-6 days of travel. *"Our hope is that if many people get into serious tree planting business, this distance will be reduced and we save on transportation costs"* adds Bhaskar, the company's Plantation Manager. In fact Ms Migereko of Wakitaka Farms (a company planting next to NilePly in Ngereka CFR) was all smiles about the market assurance for their sawlogs. But much more commercial planting is needed.

Asked whether the factory operates at full capacity, "not at all" was the immediate answer; *"currently the company operates at only 40% capacity"* said Sebastian. The industry annually consumes about 30,000m³ of wood in order to operate at 40% capacity. At 100% operating capacity, the industry would consume 75,000m³ of wood or nearly 200ha of well grown, mature pine plantations per year.

In order to meet this wood demand, the company is involved in an aggressive commercial tree planting campaign in different CFRs in and around Jinja. *"In fact, we are managing over 1,200ha of Pine, Eucalyptus and Terminalia trees in Ngereka, Lubanyi, Nsube, Mutai and Kagoma CFRs"* says Bhaskar (NilePly's Plantation Manager).

The company's role in improving rural livelihoods is amazing. NilePly employs around 600 local people in and around the factory alone. Some 200 more are



Charles and Thaddeus (SPGS) admiring some of Nile Ply's products at their Jinja factory

employed in the company's timber plantations. *"As the company expands its plantations within and outside Jinja, more jobs will be created so rural people directly improve on their household income"* said Sebastian. He went on to add that besides the local taxes that it contributes to NSSF & PAYEE, the country benefits significantly through foreign exchange from their exports to Rwanda, Sudan and DRC.

In his own words, Bhaskar makes a wild call to timber growers- *"There is an acute shortage of quality logs in the country so people should plant more trees to meet the ever increasing demand for timber and its products"*. Amen to that we say.

From pg 2

"The threat of pests and diseases poses a serious problem for the tree industry in Uganda as no structures exist to effectively deal with such outbreaks (like the chalcid wasp). It is imperative that formal structures are implemented without delay. These should ideally include representatives from the private sector as well as government and research organizations".

The report is well illustrated and as we said in the last newsletter, it is a timely wake-up call.

- TIMBER MARKET SURVEY:** the results of the 1st market survey are now available. The study was carried out by *Kai Windhorst* of Unique Forestry Consultants in conjunction with SPGS staff. This should be of great interest to growers and timber buyers alike and will be periodically updated.

All these reports are available to download at www.sawlog.ug but hard copies are available at our office: the Community Guideline is free, the others are UShs10,000 each (to cover copying/printing costs).



Byenek Simon Ogwal, Manager of Kifu Clonal Nursery standing amidst hybrid Eucalypt cuttings. The SPGS is working with Uganda Gatsby Trust to help promote these clones, which should be ready for March 2008 season.

SPGS CLIENTS' SAFARI

The next Clients' field safari and meeting is scheduled for 30th & 31st Jan. 2008. Provisionally it will be to Luwero, Nakasongola and Masindi. Lots to see and learn - mark it in your diary. Book your place after the Christmas rush with Josephine. At this meeting, we will be announcing the prizes for the prestigious **SPGS Awards** for 2007. Categories include (all for plantations established in 2007) - the **Best Plantation**; the **Most Improved Planter** and a new one of the **Best Community Planting**.

TRAINING UPDATE

With Christmas nearly upon us and a lot of field visits to get in after the recent planting season, the next formal training course will be held on 11-14th February 2008 (venue to be confirmed). It will be a **Plantation Maintenance** course, focusing on post-plant operations – especially weed control but also includes pruning, thinning and basic tree measurements. It is a very practical course and a great opportunity for your field managers to gain experience of the many 'new' techniques the SPGS has been introducing over the last few years – all aimed at helping growers establish **fast growing, high yielding** plantations. Make sure you send your supervisors on this course and book early with Josephine as it will be popular (and we limit numbers strictly to 25).

IN THE NEXT ISSUE

The next SPGS News (due out late Jan. 2008) will be an exciting one too. We will focus on the 'hot' topic of the moment – namely, **Climate Change and Carbon Funding**. By then the dust will have settled after the big climate change summit in Bali (due to be held in Dec. '07) and we should have clearer ideas about how tree growers in Uganda could attract Carbon funds to fund tree planting. We will also feature **Eucalyptus clones** – explaining the exciting opportunities being created by hybridizing species, which can produce trees suitable for sites where *E. grandis* is struggling. The SPGS has recently been working with Uganda Gatsby Trust and we will explain why this partnership is important.

Contractors: as the number of people offering Contracting services to establish plantations increases here, we provide some helpful tips to sift the 'cowboy operators' from the more serious ones in the business.

We will also feature more of the fascinating **Planters' Profiles**.

Make sure you are on the SPGS's database to receive your free copy and please spread the good news - extra copies are always available from our office.

SPGS OFFICE CONTACTS:

Plot 92 Luthuli Avenue, Bugolobi, Kampala.

(coming from Kampala-turn rt. at Shell Bugolobi & proceed for 1.5kms-office on right).

Tel: +256 312 265 332/3 Emails: info@sawlog.ug Web-Site: www.sawlog.ug