



FORESTRY DEVELOPMENT TRUST
UENDELEZAJI MISITU TANZANIA

ADVISORY PANEL NEWSLETTER

Q4 2014/2015

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OVERVIEW: QUARTER 4 2014/2015

As Year 2 drew to a close, Quarter 4 was dominated by FDT's first planting season, with all teams working hard to scale up activities and deliver results in the field. Initial results have been generally positive, but many lessons have also been learned from the piloting of various interventions.

The major developments in Q4 2014/2015 can be summarised as follows:

I.1. GENETIC RESOURCES (COMPONENT I)

- Following importation of improved seed and hybrid clonal material (two shipments), all four species trials were established at Kisolanza in Mufindi district, Lwangu and Tanwat in Njombe and Uchindile at Green Resources. Each species trial consisted of aggregates of three trials; Eucalyptus clonal hybrid, Eucalyptus species and Pine species which were planted in land areas of 5 ha and above depending on land and labour availability. A significant amount of time and resources was utilised in land preparation, fencing, planting, fertilizer application, termiticide application, repeat application, first survival assessment and blanking (carried out in three trials). Bulking of remaining clones for future trial establishment will commence after an agreement is reached between FDT and Green Resources management.
- Three one hectare District demonstration plots were established, involving normal site preparation, fencing, planting and blanking two weeks post-planting. Final blanking following a second survival assessment (30 days post planting date) will be concluded in Q1 2015/2016.
- Seedlings for grafting purposes for *E. grandis* and *P. patula* have been purchased, potting mix and plastic bags have been purchased to be utilized in Q1 2015 in preparation for grafting season June/ July for *E. grandis* and November/October for *P. patula*.
- Seed for species trials and breeding populations will continue to be purchased. 300 individual families of *E. grandis* and 300 families of *P. patula* have been purchased from CSIR in Pretoria South Africa. Seed for seedling seed orchard establishment for both *P. patula* and *E. grandis* are still being negotiated and all seed should be in Tanzania towards the end of Q1 2015/2016.
- A stakeholder workshop was hosted by TAFORI on 14 April and resulted in overwhelming support for the draft national Tree Improvement Strategy and also established a Tree Improvement Working Group (consisting of TAFORI, TFS, TTSA, SUA, GRL, KVTC, MPM, TANWAT, NFC, SHIVIMITA, TGA apex body, FDT and PFP).
- Planned activities:
 - Second blanking of trials and demo plots, plots pegged and signboards erected.
 - Procure all pine seed for species trials, seedling seed orchards and breeding populations, ready for sowing from June 2015.
 - Procure all pine seed for commercial nurseries (C2) ready for distribution in June 2015.
 - Plus trees selection to continue with Green Resources, Sao Hill plantation and all trees mapped (GPS).
 - Visit seed orchards/seed production areas belonging to TTSA/TAFORI in northern part of Tanzania and where possible seed collection on individual tree basis/family should be organised and TTSA infrastructure and manpower to be utilised.
 - Visit TAFORI arboretum in Lushoto and where possible identify and sample Eucalyptus seed collected for species trial establishment.

- Seed collection from Tanwat, Green Resources and SaoHill plantation to be arranged through TTSA.
- Potting of *P. patula* and *E. grandis* seedlings for grafting purposes.
- Identification and negotiation of terms for nurseries to be used for pine species trial establishment (seeds to be sown at the end of June).
- Further development of Tree Improvement strategy document.

1.2. SKILLS AND KNOWLEDGE (COMPONENT 2)

- During the tree nursery operator training this past year some 8kg of improved *Eucalyptus grandis* seeds imported from Zimbabwe were loaned to 19 nursery operators. Village nursery operators trained by FDT raised around 1.1 million improved *Eucalyptus grandis* seedlings during the 2014/15 planting season, selling 90% of this to farmers for planting this season. For the coming season, FDT has ordered 85 kg of improved *Pinus* spp. seeds (37kg *P. patula*, 24 kg *P. elliotii*, 16kg *P. taeda*, 8kg *P. caribaea hondurensis*).
- To date, 80 Community Agents have registered close to 3,000 tree growers in 40 villages throughout the project area. The registration included the initial sensitisation of tree growers and an extensive survey about their current and anticipated investment in tree plantations.
- An estimated 2,323 tree growers were trained in this first growing season by FDT and its network of nurseries and CAs. These included 1,705 tree growers trained by our Training Coordinators, Field Foresters and network of CAs (much of this training was conducted during the establishment of the 19 new village demonstration plots) and an additional 340 customers were provided silvicultural practices information by our network of nurseries. The “training of trainers” – including CAs and nursery operators, who are themselves small-scale tree growers – covered roughly 100 individuals. Further, a number of farmers also received information via radio announcements, as well as visits to village demo plots established last season.
- 19 new village demonstration plots were established this past quarter, in addition to the 4 already existing ones in Kilolo district. The common layout of these plots include 8 treatments, consisting of improved and local *Pinus patula* seedlings and improved and local *Eucalyptus grandis* seedlings, each with and without fertiliser application.
- In terms of private investment in medium scale tree plantations, FDT has so far identified three entrepreneurs who offer tree plantation establishment services to Tanzanian investors who do not originate from the plantation localities. This business model is to be reviewed for consideration to promote this enterprise opportunity in other tree growing areas.
- Draft forest plantation and woodlot management guidelines, prepared by Prof. Chamshama from Sokoine University of Agriculture, were discussed at a stakeholder meeting hosted by TAFORI on 15 April. They received support as a national reference document by both the private and public sector, with a final draft to be prepared by the end of May 2015. Illustrated and simplified audio-visual and printed learning material will be developed in Kiswahili for FDT community agents, nursery operators, FDT field foresters and other extension personnel.
- An outline for the production of a series of training videos was produced and the production company chrismorgan.tv tasked with their production.
- Planned activities:
 - Identify 30 new private tree nurseries, with training to target all nursery operators identified by FDT as well as nursery operators from other organisations.
 - Recruiting 40 new community agents from 40 new villages.
 - Fill Njombe-based field forester position.

- Begin the production of the training videos, with first modules covering species and site selection, nursery operation and plantation establishment.
- Produce “One acre tree planting packs” for Eucalyptus to increase the availability of improved planting materials and cater for the demand from tree growers.

I.3. SECTOR INSIGHT (COMPONENT 3)

- The final report of the Geospatial Insight pilot remote sensing study (pine and eucalyptus woodlots and plantations) was submitted to FDT on March 24th and plans made for ground truthing prior to wider circulation and potential roll-out to the entire Southern Highlands.
- An initial value chain analysis of wood products study (conducted in August 2014) yielded a considerable amount of data but with uncertain conclusions. Further analysis is required to inform the design of interventions required in wood products markets. Initial work to determine the scope, focus and resourcing of an in-depth forestry markets study is ongoing, with close support from the MEL team. The study is expected to draw from existing studies and market system development / M4P approaches, with a strong emphasis on political economy analysis and economic analysis of opportunities for value chain development. Meanwhile, the Farmer Registration Survey being carried out will identify initial targets beneficiaries who are considering harvesting in 2015. This will inform the development of market-focused interventions seeking to increase farmer incomes from wood product sales prior to 2018, as well as helping to shape the overall Component 3 portfolio.
- Planning started for renewed efforts to understand growth and yield of Pine and Eucalyptus planted in woodlots, given the variable results of a survey conducted in November 2014.
- The North Ruvu bioenergy economic model was revised and updated by Nick Embden, with discussions ongoing as to how best to deploy the modelling work done to date as part of a broader strategy of working with government, in particular concerning potential public-private partnership arrangements within productive forest reserves.
- FDT sent three delegates to a pan-African BEAM Exchange market systems workshop in Dar. The FDT representatives at this event are currently working to build in-house capacity on market systems development approaches at FDT.
- FDT also benefited from engagement with other Gatsby ‘sector transformation’ programmes at the Gatsby Retreat in Dar in March, and welcomed in particular the contributions of the Springfield Centre, market systems specialists who will be working closely with Gatsby.
- The Gatsby Kenya Forestry team’s visit in March marked a promising start to what should be a productive and close partnership, particularly as each team is approaching the problems of East African forestry from fairly different angles, and thus have a lot to learn from one another.
- Planned activities:
 - Development of an overarching strategy and Theory of Change, drawing together the various lines of work already initiated and ensuring a strong strategic focus.
 - Launch of the market study, which will be supported by the MEL team and involve some externally commissioned expertise.
 - Ground truthing exercises to verify the findings of the pilot remote sensing study, potentially followed by roll-out across the Southern Highlands.

I.4. MONITORING, EVALUATION AND LEARNING

- The initial focus for the MEL team in Q4 was on the finalisation of MEL Frameworks (including component-level Theories of Change, monitoring plans and risk/assumption assessments), before designing and rolling out a range of field monitoring activities, tracking the Trust's performance during the 2014/15 planting season.
- Monitoring efforts in the field included (preliminary results given in Annex):
 - Farmer knowledge survey - A number of initial farmer training sessions were observed by the MEL team, with farmers being interviewed before and after the session in order to better understand their current knowledge of silvicultural practices, as well as their expectations of the support provided by FDT.
 - Farmer adoption survey - A detailed survey of woodlot establishment practices (the focus of training to date) was conducted, involving inspections of newly planted woodlots across the Southern Highlands. The MEL team opted for a smaller sample size of more intensive woodlot observations in order to avoid the potential bias of farmers reporting their own practices.
 - Nursery survey - All nineteen partner nurseries were surveyed in order to explore their experiences working with improved seed loaned from FDT for the 2014/15 planting season. The survey also looked ahead to nursery operators' plans for next season.
- Planned activities:
 - Reflecting on lessons learned from the planting season.
 - Planning for 2015/16, including MEL transition plans.
 - Review and development of Theories of Change and monitoring plans.
 - Support the development long-term sustainability strategies for FDT.
 - Continued monitoring in accordance with the MEL Frameworks of each component.

I.5. ORGANISATION AND GOVERNANCE

- On the operations side, the Trust benefited from useful feedback from the Gatsby London operations team, the annual Gatsby Retreat, a Gatsby London security review, and the DFID Annual Review, and is working on strengthening internal processes in the coming months.
- Simon Milledge arrived in Quarter 4 to assume his position as Component Director of Sector Insight.
- Under Component 1, Rashid Mgeni was appointed on a permanent basis and two interns, Paulina Hussein and Anania Mtafya, were given 6 months contracts until end of August 2015. Afrika Chongolo was also appointed to the position of field supervisor, based in Kisolanza.
- Mussa Gwalema was recruited as the Private Sector Engagement coordinator under Component 2.

ANNEX FIELD MONITORING FINDINGS

The following sections provide a summary of *preliminary* findings from the aforementioned monitoring work. Field monitoring activities are continuing into 2015/16 Q1 as the planting season continues in many parts of the Highlands, and full monitoring reports will be developed separately following the conclusion of these activities.

FARMER KNOWLEDGE SURVEY

The survey focused on the knowledge requirements of farmers and their expectations of the FDT training. Below are the summary findings of the knowledge survey:

- Farmer understanding and expectations of training: Farmers responded positively to the training. Some of the approaches discussed at the training were new to the farmers, such as fertilizer application, whilst others were known practices that were not adopted due to a lack of understanding of the benefits or importance of the practice (such as land clearing). Some farmers expected that all topics relating to silvicultural practices and marketing would be covered in the single training session, at which point the training facilitators explained that this was the beginning of a process of delivering information on a range of issues, beginning with a focus on woodlot establishment.
- Current planting practices: The majority of the farmers indicated that land clearing and preparation are not considered important, as they believed trees can grow in any conditions and also didn't have any knowledge on the effect of planting trees without clearing the land. Also all the farmers had positive response towards planting pine species compared to eucalyptus, as they believe it's easier to sell it compared to the eucalyptus.
- Key practices not currently applied, and why: Land preparation is the number one best practice that is rarely performed, despite being critical, especially when eucalyptus is the tree in focus. This is because of the lack of knowledge on the importance of land preparation, different types of land preparation. Farmers mostly understand 'land preparation' to mean total tillage, which can be expensive. As a result, the majority of them shy away from it. Also many believed that spacing doesn't make any significant difference, and many did not apply fertiliser, as it is considered to be too expensive.
- Farmer learning objectives: Farmers expressed interest on (a) species selection, mentioning the different microclimates, (b) how much fertilizer should be applied for the trees and is there any fertiliser specific to trees, (c) what is meant by "improved" seedlings and what is their availability and (d) what are the different ways of dealing with termites?
- Any other information requirements of the farmers: Farmers in general want to understand (a) what the practical contribution of each practices is, (b) the availability of types of fertiliser and the appropriate timing of application, (c) market information for their produce (particularly for eucalyptus), and (d) the availability of improved seeds.

FARMER ADOPTION SURVEY

The adoption survey involved direct observation of some 70 newly planted woodlots across the Southern Highlands, seeking to examine the extent to which farmers had adopted the establishment practices that they were trained on this season. For all relevant aspects of woodlot establishment the practices employed were examined in detail, along with the reasons behind farmers' choice of action.

A full report will be produced in Q1 2015/16. However, initial findings can be summarised as follows:

- Some 60% of beneficiary farmers applied improved practices this season - Since this season's focus was exclusively upon woodlot establishment, "adoption" was defined as conducting some form of land clearing prior to planting and planting according to a regular spacing regime of between 2m x 2m and 3m x 3m.
 - Almost half of beneficiaries were judged to have successfully applied 'uniform' spacing (the highest of five grades that woodlots were assessed against).
 - Over three quarters conducted appropriate land clearing or ploughing.
- This is compared against a baseline of 37% applying 'good' establishment practices prior to FDT intervention - although this is believed to be a substantial overestimate based on field observations and farmer knowledge survey - Data from the household survey was used to construct a similar composite indicator of good establishment practices. However, unlike the practices survey, the household survey did not involve direct woodlot observation. Instead, farmers were asked questions such as whether or not they planted in rows or conducted land clearing, running a risk of strong positive bias in farmer responses. Further research will be conducted to refine this baseline estimate.
- Until the baseline can be appropriately revised, we will assume that, of the 60% of farmers adopting improved practices, 23% of adoption is attributable to FDT interventions - This percentage has been applied to the total number of farmers trained this season in order to arrive at the overall farmer adoption numbers quoted below.
- Fertiliser application rates have increased, from 15% to 23% – Fertiliser application was omitted from the definition of "adoption", as it is a rare and unfamiliar practice amongst tree growers that was not expected to take hold quickly. However, significant increases in application were recorded between the baseline and adoption surveys.

NURSERY SURVEY

Initial analysis of the nursery survey reveals the following:

- Three quarters of the seed taken on credit from FDT was planted this season, with the remainder being kept for next season.
- Nurseries managed to raise around 150,000 seedlings per kilogram of seed on average, leading to the production of some 1.1 million seedlings.
- 90% of these seedlings have been sold to date, with sales continuing in the Mbeya region, where the planting season continues into April due to longer rains.
- Around three quarters of FDT-supported nurseries were judged to be providing adequate silvicultural information to their customers this season, leading to some 340 farmers being trained by nurseries.

A full nursery survey report will be produced in Q1 2015/16.