

SGG FIELD VISIT TO N.E. TANZANIA FEBRUARY 2016

NB. This report should be read in conjunction with the report summarising the SGG fieldwork undertaken in the same region in October 2015.

INTRODUCTION

Between Sunday 21st and Friday 26th February, SGG visited three Rotary Clubs, 11 schools, 12 farmers and a Rehabilitation Centre for the Disabled in order to count trees planted in the last 3 years. The responsibility for this task lay with Paul & Carole Keeley, both Directors of Sustainable Global Gardens, and Martha Cronin, a postgraduate student from Edinburgh University who is undertaking agroforestry research in Tanzania. The prime purposes of this counting was:

- to assist in the judging of a school tree-planting competition organised by the Rotary Club of Rombo Mkuu;
- to monitor progress made by Ndaswa & Upendo tree-planting groups in the locality of Mengwe and Mamsera villages in Rombo District; and
- to make a first visit to the Rotary Club of Same, for whom a donation of £60 from a previous grant had been reserved.

The SGG team was offered both great help and hospitality by the two Rotary Clubs mentioned, and we would like to openly acknowledge this invaluable assistance. We hope it leads to stronger partnership links, and more tree-planting work, in the future.

TREE-COUNTING FIELDWORK



This is the farm [or 'shamba'] of Pascali Malamisha. It shows a common type of agroforestry where trees are planted as a 'tall, open hedge' along or close to the boundary of the plot. To the left of the photo is the main Moshi to Rombo Mkuu road near the villages of Mamsera and Mengwe, and along this edge of the shamba, Pascali has planted about 40 *Grevillea robusta*. This species is quick growing, produces good timber, but also provides good mulch for soil improvement. Its main benefit for farmers is that it has deep but not spreading roots, so that it does not interfere with crops which can be planted close by. Within this locality it is now the most popular species for planting, although many farms around Kilimanjaro continue to plant eucalyptus species.



On Monday 22nd February SGG visited Mrao Keryo School [see top left]. At this school we counted 263 young trees, with Grevillea, Ficus & mjohoro being the most common. The teacher responsible for the school environment would particularly like to increase the planting of the local species of mahogany.

A major difficulty for tree-planting at this site is the shortage of water. What most of the schools in lower Rombo want is improved guttering and increased water storage facilities, such as this tank [see middle left]. This would allow schools such as Mrao Keryo to establish a tree nursery, which they cannot do at present.



Each school made its own decisions about what trees to grow, so there were significant variations from one school to another. At Kilamacho school [see bottom left] we counted 30 bananas and five fruits i.e. mango or avocado. There was some inconsistency in our counting here because in some places bananas were not counted [e.g. Mrao Keryo], but at other locations they were [e.g. at Kiamacho].

Kwalakam School had 481 trees and gained third place in the school competition. The photo [see bottom right] shows the tree-planting partnership ie. Carole & Martha from SGG, Aloyce Kimario of R.C. Rombo Mkuu, Kwalakam staff responsible for tree-planting, and some of the students who do the actual planting. A real international, multi-person, Rotarian-based partnership!





A little bit of history! I first visited Mamsera Secondary School in 2008 when classrooms were still under construction and much of the school grounds was open land [see top left]. In order to provide shelter, which means cooler & better study conditions, as well as a possible source of future income, the school planted various seedlings around the grounds. Here is a young *Acrocarpus fraxinifolius*/Indian ash planted at that time [see top right]. This is a popular species in this locality as it grows rapidly and is fairly drought resistant.



These two photos of the same field were taken on 23rd February 2016 i.e. 8 years later. Notice [see left photo] the field now contains mangos & bananas as well as *Acrocarpus*. Notice also the size of the *Acrocarpus* next to the school [see right photo]. The shaded area on the left of the photo is part of the school buildings. Underneath the *Acrocarpus* are two people who indicate the size of the trees. By our estimate these trees were at least 20 metres high - excellent growth over an eight year period.



The 2008 Acrocarpus at Mamsera School were exceptional. Elsewhere in the school grounds we noticed this maize plot [see above left] with more typical agroforestry planting. Here you can again see mango & banana with Acrocarpus, but most of the ground occupied by maize. In another part of the school grounds we found rows of Rauvolfia caffra [see above right]. We were unfamiliar with this species, and when we asked what it was it was described as 'quinine' and 'chakula cha mbuzi' [goat food]. This is not the traditional quinine tree called Cinchona officinalis from South America, but Rauvolfia has several medicinal uses. Mamsera School was awarded second place in the school competition.



While I was monitoring Mamsera School, Carole and Martha were counting trees planted by Ndaswa & Upendo tree-planting farmers. On this day I visited only 2 farmers [see Justin Kavishe's shamba on left], but the rest of the SGG team managed to visit a further 10 farmers and 2 community woodlots. During this one day of fieldwork we counted a total of 3,843 trees planted in the previous 3 years. As SGG visited only 12 of the 20 farmer members of Ndaswa & Upendo, we feel justified in estimating that these farmers have planted at least 5,000 trees in recent years. These farmers would like to greatly increase their planting of trees, especially on the lower, drier farms in Mamsera chini.

The shamba on the left shows features typical of a traditional Chagga farm with intensive cultivation through 4 layers of growth ie. 1.the tree canopy providing timber, woodfuel energy & shelter; 2.beneath that bananas, which are a staple food of the Chagga; 3.coffee bushes, which have been the main cash crop for local farmers; and 4.vegetable production, especially yams, at ground level.



On 24th February Paul and Carole visited Maki School. The school site presents some basic difficulties for tree-planting, such as seasonal drought, rocky terrain, and large patches of eroded soil. However, the school is overcoming its problems, and we counted 1,367 trees excluding bananas. This school was easily the best at tree-planting of the schools visited, so it was awarded first place in the school competition.

The top left photo shows one of the school classrooms in the background as well as the rocky terrain. This is repeated in the top right photo, which also shows the peak of Mawenzi, the lower of the two summits on Kilimanjaro. On the lower, eroded slopes of the school grounds, students have planted a variety of species, including this avocado [see middle left photo]. In the staff garden, fruits especially bananas are found see above]. More fruits, including pawpaw, are found amongst the millet [see bottom left].



The 24th was the last day set aside for judging the school tree-planting competition, so we tried to continue counting until 4pm when schools close. At Kilacha School it is very dry, but we counted 373 trees. These included *Acrocarpus* [see top photo] as well as rows of mjohoro and the occasional mango [see middle left photo]. An interesting technique used by the staff here is marcotting for propagation of fig trees. Kilacha is a good example of a school which SGG thought deserved a prize - but they were not in the top three schools. There are several schools in Rombo District which would greatly benefit from further tree-planting support, so SGG would like to see the establishment of a further tree-planting competition. The enthusiasm of so many willing, interested students and staff is infectious!

Booni School [see bottom left] is an example of a school with lots of trees, but where many of them were too mature to be counted for the competition. The Staff here told us that there were about 2,000 trees on the school grounds, but only 325 had been planted since the beginning of the competition 3 years ago.

By the end of 24th the SGG team has visited 10 competing schools as well as a further 3 which are mentioned in the October 2015 fieldwork report. Also Rotarian Aloyce Kimario counted trees at another 3 schools in January. From these 16 schools we have counted 5933 surviving trees within the school grounds. This means that the average school has some 371 trees planted. As there are 25 schools in the competition, SGG suggests that there are at least 8,000 trees planted by these schools since 2013. On this basis we believe that The Sustainability Trust has received good value for its initial £500 investment.

Late on the 24th February our brief stay in Rombo came to an end. During the previous four days the SGG team had counted more than 10,000 trees. This enjoyable task would have been impossible without the considerable assistance of the Rotary Club of Rombo Mkuu, and also much help from Marcia Mamseri and Bw. Anselm Fokasi of Upendo/Ndaswa tree-planters. We also wish to note that the enthusiasm and willing work of literally hundreds of young Tanzanian students has made this enterprise possible. They are an inspiration to us all, and we should thank them for the success of this project. It is also an excellent example of Rotary in action - both reaching across the world, and undertaking valuable projects in the local community.

Thursday 25th February was not an important day for tree-planting. Martha Cronin had already left to make an introductory survey of the Green Foundation Trust, a Tanzanian NGO with environmental interests, located near Arusha. The main event of relevance to this report was a visit by Paul and Carole to the regular weekly meeting of the Rotary Club of Moshi. This is the "mother club" of several Rotary Clubs in Kilimanjaro, so it is not surprising that they would like to be included in any future project to plant trees in Kilimanjaro region.

A visit to the Rotary Club of Same was scheduled for Friday 26th February. This was a visit where I feared the worst. Same District is a dry area, badly denuded of tree cover, with some excellent examples of desertification where trees had been cleared and large patches of land left exposed to the baking sun. Water shortage there is a permanent problem. Moreover, Rotarian Faye Cran was not quite sure how many trees she had given them 3 years earlier. It was quite possible that there were only 50 trees surviving, so four hours on local buses seemed a heavy price to pay for such a small reward - especially after the thousands of trees counted in Rombo District. However, RC Same wanted us to visit them, and so we did. Now we are so glad we went, because it gave us the opportunity to report two quite inspiring small tree schemes.

Carole and I spent 5 hours at Same, which gave us sufficient time to visit two institutions.



This is Sister Febronia Nietiwe [*see above*], Head of the Mother Kelvina Hope Centre, which is managed by the Little Sisters of St Francis of Assisi. The Centre specialises in help for disabled children. There are 23 children who are residential, but there are another 400 children who visit on a regular basis for 2 weeks of therapy. Usually there are 10-15 additional children who stay at the Centre during these 2 week therapy sessions. To continue this work as economically as possible it is necessary to practice intensive cultivation of vegetables & fruit within the small plot assigned to the Centre. Thus, she has requested training on 'multistorey gardening'. Here she is standing close to the pawpaw trees, with all three pawpaws showing a good crop of fruits. We estimated that there were 156 trees which had been planted in the last 3 years.

Some of the children need wheelchairs, some need operations, some need orthopaedic procedures. She told Carole that the Centre needs at least 10 wheelchairs. Perhaps this is a place where a Rotary Club needs to be involved.



Our second visit was to Same Primary School, where we were very pleased to count 344 surviving trees which have been planted around the school in the last three years. [See left & right top photos].

This is a large government primary school with some 800 pupils. An unusual aspect of Same Primary is that it provides education for 31 blind children, 11 of whom are albinos. Like many schools in this locality, shortage of water is a permanent problem. Thus, much of our visit here was spent discussing 3 water projects. There is a water tank outside the blind students dormitory [see middle photo], but this never fills because there is insufficient guttering around that dormitory. There is also a second tank in the main school, but this again lacks sufficient guttering to fully harvest rainwater from classroom roofs. A third water scheme is to connect the school to a supply pipe running close to the school. We have requested that RC. Same provide us with an itemised budget for each of these 3 water schemes.

I am sometimes asked whether Tanzanian Rotary Clubs have sufficient resources to implement a 'significant' project. My answer is complicated by the fact that I know many Tanzanians who would love to join Rotary are often discouraged by the annual subscriptions [which we think are fine for USA & Europe, but quite inappropriate for the newly emerging African middle-class]. However, [see bottom left] here is the pumping station for a borehole project supplying water to Same town - and implemented by Rotary. Tanzanian clubs may be small, but they can be very active in providing service to their local communities.

CONCLUDING COMMENTS

This report, together with a similar one written after monitoring fieldwork in October 2015, has been written primarily for the three major donors who have financially supported this tree-planting in North East Tanzania. Those donors are: The Sustainability Trust, the Rod Huggins Environment Award, the Rotary Club of Harrogate as well as Sustainable Global Gardens. These donors have a particular interest in environmental matters, so the focus here is on tree-planting.

However, we wish to point out that the prime aims of SGG are poverty and hunger alleviation. Thus, our tree-planting schemes must be seen within the context of our broader humanitarian aims, and our particular perspective is that tree-planting is one of the best ways to reduce poverty in rural East Africa. In fact, we believe that many of our tree-planting activities achieve more 'humanitarian benefit' than many welfare projects implemented by other development groups. Our field experience over the last 10 years suggests that many trees increase in commercial value by about £1 per year. This would imply that one of SGG's projects where we have managed the planting of more than 30,000 trees since 2014 is now adding potential value to the local economy of £30,000 pa. Many charity projects consume money: our aim is to generate income for the local communities where we work.

Is there any evidence to illustrate this 'humanitarian' aspect of tree-planting within the previous pages of this report? We believe there is. The average enrolment of the schools visited in Rombo was just over 300. As there are 25 schools in the competition, there is the potential involvement of 7,500 young Tanzanian beneficiaries. For many of those children the immediate benefits from tree-planting may appear to be small, but they are significant. You should try studying under a sun-baked tin roof where there is no shelter from trees if you doubt this. Then, of course, in addition to the students in Rombo District, there are the 400 disabled children who can gain from the 48 pawpaw fruits planted at the Hope Centre, and the 800 pupils at Same Primary. This then is a child-centred project, in which each individual receives a small but significant immediate benefit while the major benefits of the tree-planting will come to fruition in the children's future - either as additional income, improved nutrition, or as better protection against an increasingly unstable climate.

Although this can be described as an environmental project, Sustainable Global Gardens would like Rotarians and other possible donors to see these tree-planting activities as humanitarian projects, giving new possibilities to large numbers of people in poverty and need.

Paul Keeley

Sustainable Global Gardens

24th April 2016