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# Miti

Ksh 250 Ush 7,000

THE TREE BUSINESS MAGAZINE FOR AFRICA

A Publication of Better Globe

Issue No.10 April-June 2011

## From banker to tree farmer

The story of an enthusiastic and eager tree grower

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Poorly constructed dams are a huge waste of money

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Paying for conservation may be the only way to stop watershed degradation





Rino Solberg and Jean-Paul Deprins (on the right) with the Committee members of Witu-Nyangoro Ranch, in Witu (Lamu district). (All photos BGF)

# Blazing a trail

Better Globe Forestry introduces an innovative business model for sustainable development

By Vaflahi Meite

When I met the Chairman and the Managing Director of **Better Globe Forestry Ltd (BGF)** in 2007 in my office,<sup>1</sup> I had some doubts about their project concept. Indeed, expecting European business people to invest in planting trees in Kenya, with an estimated payback period of 20 years, was very surprising to me.

Four years later, I have come to appreciate what has been achieved by BGF so far. The unique model grounded on the partnership with the landowners to develop commercial plantations on arid and semi arid lands (ASAL), where the trees are not competing with food production, is praiseworthy in the spirit of sustainable development.

Considering the global environmental challenges, the concept of sustainable development, and BGF's contribution towards the common goal at its micro level, I have the pleasure to explain below why it is my inward conviction that the company needs more support for its innovative operations. This is my personal view and it should not, under any circumstances,

be regarded as the official position of the institution for which I work.

## The global environmental context and BGF's contribution

Modern society is embedded within the environment, being dependent on it for the materials and energy needed to maintain civilisation. As shown in figure F1, all environmental problems fundamentally involve either *depletion* (consumption) of sources or *pollution* (waste) of sinks. We can hence measure the environmental impact of society by these two processes.

Depletion occurs when the accelerated cycling and flow remove matter and energy faster than natural processes are renewing them. Conversely, pollution occurs when the environmental equilibrium is no longer achieved.<sup>2</sup>

The earth has a certain number of resources - perpetual (direct solar energy, winds, tides), potentially renewable (fresh air, fresh water,

fertile soil, plants and animals) and non-renewable (fossil fuels, metallic and non-metallic minerals). These resources are subjected to the pressure of the activities and human behaviour. The management of potentially renewable and non-renewable resources requires a considerable change of human modes of production and consumption, where both *resource depletion* and/or *pollution* should be controlled.

Human population and consumption are two main forces accelerating the alteration of the natural environment: the environmental impact. The following equation is a simple way to summarise that explanation: **Impact = Population x Consumption.**

Both *worldwide population* and *consumption per person* have been increasing very rapidly. This has led to an extremely rapid increase in environmental impact. Consequently, the world faces many environmental threats. These include climatic change due to greenhouse effect, the hole in the ozone layer, acid rains, biodiversity erosion, desertification, ocean degradation, etc. For all these threats, preventive and corrective actions at all levels are essential. Thus, the need for **better family planning**<sup>3</sup> and **appropriate management of natural resources** (and environment protection) has been raised; even if it did not always receive the responses expected.

<sup>1</sup> I was then the manager of the regional office of the Centre for the Development of Enterprise (CDE) for Eastern Africa, based in Nairobi.

<sup>2</sup> McKinney M. L. and Schoch R. M., "Environmental science, systems and solutions", third Edition, Jones and Bartlett Publishers, ISBN 0-7637-0918-2, (2003)

<sup>3</sup> Although very important, family planning is not the subject of this article and will not be developed further.

Regarding **family planning**, it is not my intention to restart the debate pitting the *Malthusians* (for whom the uncontrolled growth of population hinders economic development and environmental protection) and their opponents. Nonetheless, with an estimated population density of 33.5 habitants/km<sup>2</sup> compared to the average figure of 45 habitants/km<sup>2</sup> for the entire world, Africa is not heavily populated. Africa's population is more than Oceania, as much as America, but less than Europe and much less than Asia. There is no problem from that angle.

The serious concerns regard the average growth of Africa's population, estimated at 35 per cent per year. This is three times more than Europe, a cause of concern for a continent that faces many problems such as limited economic growth, chronic malnutrition, deforestation, soil erosion and pandemics. As such, my personal view is in line with the Malthusians' theory for Africa (especially in the countries with less economical potentials). Controlling the demography is necessary.

Coming back to **environmental protection**, let us note that since the early 1970s, thousands of summits, meetings and conferences on "sustainable development" and environment management are held around the world every year. At the global level, the main environmental summits held in Stockholm (1972), Rio de Janeiro (1992), Kyoto (1997), Johannesburg (2002) and Cancun (2010) have come up with some key resolutions and recommendations. Unfortunately, the essential problems are yet to be solved and concrete results on the ground are far from expectations. The reality is that all the environmental agencies and stakeholders around the world need to appreciate the necessity for **better control of all activities** that contribute to the above-mentioned phenomena of worldwide pollution and its detrimental effects.

Although it is true that environmental problems are numerous, everyone should be conscious of the fact that reacting only under pressure of serious accidents and natural disasters is no longer enough. Moreover, global environmental problems are the result of local actions of many individuals, and the problems can hence only be solved if those local issues are addressed. Therefore, **new approaches are essential** to reach environmentally sustainable development. This calls not only for technology and for scientific understanding, but laws, ethics, economics and other aspects of human behaviour will play a key role in solving current environmental problems.

The BGF project contributes to greening ASAL in East Africa and is an example of concrete actions that need to be replicated and

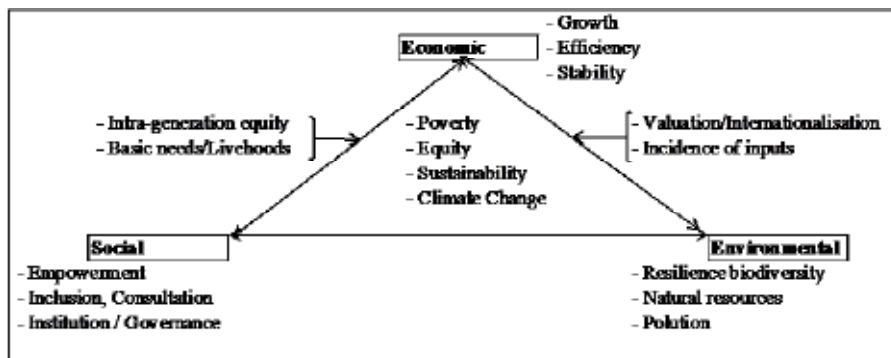
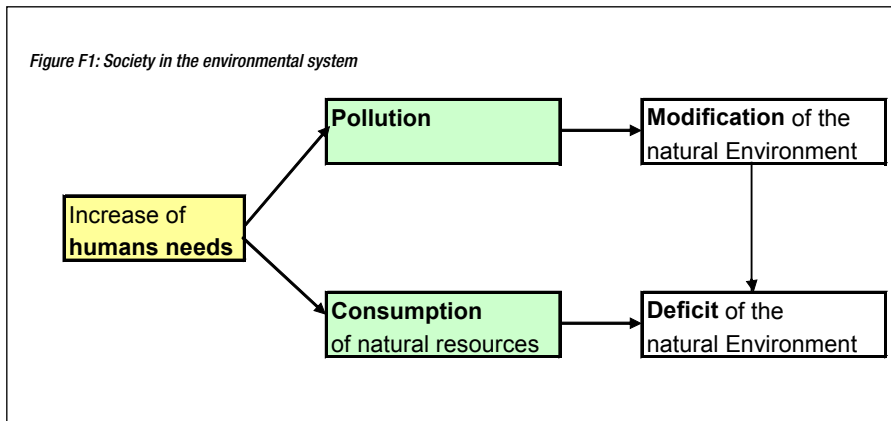


Figure F2: Concept and component of sustainable development

expanded as much as possible. By developing commercial plantations that do not compete with food production, BGF is providing an innovative and replicable model, which can be a creative answer to reducing deforestation while ensuring long-term income to rural people in ASAL. BGF's innovative business is a giant step towards **the sustainable development** of hosting communities.

### The sustainable development merits of BGF activities

Sustainable development (SD) goes beyond the static maintenance of the ecological status quo. The term was used by the **Brundtland Commission**,<sup>4</sup> which coined what has become the most often-quoted definition of sustainable development as, "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The field of sustainable development can be conceptually broken into three (or more if necessary) components parts, namely, environmental sustainability, economic sustainability and social sustainability (see figure F2 above).

<sup>4</sup> The Brundtland Commission, formally the World Commission on Environment and Development (WCED), known by the name of its Chair Gro Harlem Brundtland, was convened by the United Nations in 1983.

BGF operations consist mainly of "sustainable agricultural programmes through microfinance schemes, educational programmes and building schools." How many examples exist in the world of a private company promoting massive planting of trees in ASAL where the trees are not competing with food production? How many examples of such a **partnership with landowners** exist in the world whereby a company has turned its back to old and debatable practices of imposing solutions on indigenous people?

Before developing the plantations, BGF engages in comprehensive memoranda of understanding (MoUs) with the landowners. To the best of my understanding, BGF has "developed a whole range of interventions to cooperate with communities and individuals neighbouring its plantations"; with all the company's transactions being conducted with integrity and in accordance with business ethics and practices. There is here a strong case of three-dimension sustainable development – in the economic, environmental and social dimensions.

**Economically**, even if at present there is not yet such income mainly due to the nature of this business, both the indigenous community and BGF will increase their earnings in years to come. Indeed, the species selected and planted will produce economically strong products for high-quality timber, gum arabic and energy.

At the macro level, the country will get the

related benefits such as the foreign currency earnings that will be generated by exporting the products and job creation for local transformation. However, for me, the most important aspects are the socio-environmental sustainability dimensions.

The **environmental** merits of the BGF business model are enormous. From *Miti* issue No 001, we note that “the desert in Africa is moving south very fast and without massive forestation, in the next 20 - 30 years, most land suitable for farming will be gone.” Moreover, as in many sub-Saharan countries, the Kenyan forest cover is very low. It stands at less than two per cent in comparison to the internationally accepted 10 per cent. Thus, it is almost, if not already, a critical case.

Knowing the ecological advantages of tree cover such as water catchment, soil conservation, biodiversity, etc, the contribution of BGF to environmental sustainability in its operating countries is self-explanatory. Indeed, the **environmental sustainability** focuses on the overall viability and health of living systems, defined in terms of a comprehensive, multi-scale, dynamic, hierarchical measure of resilience, vigor and organization.<sup>5</sup>

Equity and poverty alleviation are the key social sustainability components of this operation. **Social sustainability** usually refers to improvements in both individual well-being and the overall social welfare. By empowering the local communities and landowners in decision making, strengthening social cohesion and networks of relationships and reducing the occurrence of possible conflicts, the BGF approach ensures the social sustainability of its activities.

In view of the above, I must re-emphasise that BGF needs additional support. At this stage of its life, the company operates with limited financial means, human resources and technical capability, while it must pursue imperatively the operations so as not to lose all the assets and investments made to date.

### International support

“Before proper planting can start, various studies need to be done. These include feasibility studies, an environmental impact assessment, a soil survey, a topographical survey, a baseline to establish existing vegetation, a baseline in buffer zone for defining community development action and an overall management plan.”<sup>6</sup>

5 Costanza, R. 2000. “Ecological sustainability, indicators and climate change” in M. Munasinghe and R. Swart (eds) *Climate Change and its Linkages with Development, Equity and Sustainability*, IPCC, Geneva, Switzerland.

6 Cf M. Rino Solberg, Chairman of Better Globe Group in MITI 001



Farmers around Mboti Primary School (Nguni, Eastern Mwingi) during a meeting to discuss an out-growers project for mukau trees. Profitable growing of trees is one of the few options for sustainable farming in ASAL.



Rino Solberg of Better Globe Forestry and Elias Musyoka, chairman of Sosoma Ranching Society and a respected local elder, share a relaxed moment at Mboti Primary School in Nguni

(All photos BGF)

This statement shows the necessity of additional support in terms of technical assistance. Nonetheless, there are many multilateral and bilateral development organisations and agencies, non-governmental organisations (NGO) dealing with the thematic “... multifunctional sustainable forest management and its enabling legal and financial environment, the conservation and sustainable development of forest resources, the development of the institutional framework of the public and private forestry as well as the forestry cooperation with countries in transition forestry administration, the increasing of public awareness of forest issues, involvement of the public in forestry matters and recognition of the cross-sectoral nature of most forestry issues.”<sup>7</sup> Moreover, the European Union funds many

7 Forestry cooperation in countries in Transition, Status report 2002, prepared in accordance with MCPFE Resolution H3, “Cooperation with Countries with Economies in Transition”, by Dr. Peter Csoka for UNECE/FAO, Geneva, UNITED NATIONS

**technical assistance instruments and programmes** for private sector development, agricultural and rural development, capacity building and strengthening of national expertise in this wide field of agriculture and forestry, environmental engineering etc. To provide more information on these facilities is not among the objective of this article. However, the BGF management is invited to investigate this further and to identify the most relevant partner to enlarge its pathway towards its noble objectives. The BGF model is replicable in many other ACP countries as a creative answer to reducing deforestation while ensuring long-term income to rural people in ASAL. Let me conclude by just saying “asante sana” to BGF and “kila la kheri”.

The writer is the Manager of the Operations Department, Centre for the Development of Enterprise (CDE).

*Workers in the Kiambere plantation all ready for manual watering of seedlings. It is full dry season.*

*(All photos BGF)*



# Better Globe Forestry

**A tree-planting company with a difference**

*By Rino Solberg*

**M**ost forestry companies in Africa plant trees mainly to make money for their owners in the shortest possible time. As such, they plant fast-growing eucalypts in farmland where there is plenty of rain. Better Globe Forestry has adopted another approach to make money. We primarily have the following interests in mind:

- Eradication of poverty in Africa by building communities and creating work for poor people in arid and semi arid lands (ASAL) and by planting billions of trees in places where regular forestry companies do not go.
- Helping communities with microfinance, farming education and water.
- Building schools for the children of the host communities.

Better Globe Forestry believes in social entrepreneurship and making sustainable plantations and communities in Africa and has

a long-term approach to our plantations profit structure. Another thing that separates us from other forestry companies is that we take onboard people and companies that want to buy trees as a commodity, with an estimated good profit and at the same time doing much good in the process, by helping us eradicate poverty in Africa.

At Better Globe Forestry, we have a different approach to using land in Africa. We work very closely with landowners like ranching societies, cooperatives and other communities in ASAL, and incorporate them in agreements. This way, they see clearly the benefit we give them.

## From Dryland to Greenland

One of the biggest problems in ASAL is unemployment. In their search for work, the young people growing up in ASAL normally end up in the slums of the big cities and towns and often turn to crime to survive.

However, with Better Globe Forestry starting massive tree planting in dry areas, and creating big development projects there, we hope to bring work to all people living in such areas and thereby reducing migration to towns. Our biggest challenge is to get water in these areas and we need help here because of the high cost of building water sources in dry places.

## Tissue culture

Good seeds are critical to successful tree planting. If the seeds are poor, the results will be poor. That is why we at Better Globe Forestry do not leave anything to chance but have developed a protocol for mukau in cooperation with the University College of Ghent, in Belgium. The first 3,000 mukau seedlings are expected in Kenya between April and July this year and we are very excited to see what the results will be. We expect this cooperation with the University College of Ghent to yield the best seedlings and hopefully, the best trees.

At Better Globe Forestry, we believe in making money by being unique and developing a sustainable business model. We do this by helping the communities with whom we work to build their livelihoods in a sustainable way too.

*The writer is the Chairman, Better Globe Forestry.*



*Left to right: Rino Solberg, Jean-Paul Deprins (respectively Chairman and Managing Director of Better Globe Forestry Ltd) Jeremiah Mavuti and Gideon Muthenzi (Sosoma Ranching Cooperative Society), against a backdrop of the large plain of Sosoma in the eastern part of Mwingi district. The land is flat, relatively featureless and dry. BGF has a lease here for 60,000ha.*

# Prosperity with purpose

Better Globe Forestry is setting up an afforestation company from scratch, and all this in ASAL

By Jan Vandenabeele and Jean-Paul Deprins

In line with the vision of its founder, Rino Solberg from Norway, which is “Poverty alleviation in the African countryside”, Better Globe Forestry (BGF) has been created to plant trees on a massive scale in truly poor areas – arid and semiarid lands (ASAL). As it happens, ASAL are still largely empty lands, and large, empty spaces are what you need for large-scale, industrial style afforestation. Although ASAL are sparsely populated (5-30 inhabitants/km<sup>2</sup>), the people still need ways of earning a livelihood. BGF provides this. Apart from getting jobs in the plantations, the people are organised in out-grower schemes, where they will grow the trees, with BGF providing the market.

## TECHNIQUES AND TREE SPECIES

The range of tree species that can provide a return on investment in ASAL, in less than 20 years, is quite limited. BGF has identified the following:

- *Melia volkensii* (*mukau*), a fast-growing species limited to Kenya, the south of Somalia and north Tanzania. It belongs to the mahogany family and produces mahogany timber. Mukau is a hardy species that can withstand low rainfall, is not susceptible to termites and grows fast. Its drawbacks are mostly a lack of good seed sources, propagation in the nursery is problematic and it has to be pruned frequently. BGF is working with the Kenya Forestry Research Institute (KEFRI) to set up a breeding programme and more silvicultural research to push this species onto a higher level. Nevertheless, its potential is huge and not yet fully grasped.
- *Acacia senegal* and *A. seyal*, both producers of gum arabic, an ingredient with many industrial applications. Plantation forestry of mostly *A. senegal* is well developed in



Jan Vandenabeele (Executive Director of BGF) standing beside a mukau plus-tree somewhere in the bush around Mutha (SE Kitui).

Sahelian countries like Senegal (yes) and the Sudan, while for Kenya more research is needed on yield and again, breeding. Both species can start producing at four years, providing returns on a yearly basis.

- Depending on site conditions, other species - for example, indigenous acacias for energy - can be grown.
- BGF planted 55ha of *Jatropha curcas* (JC) in Kiambere (Mwingi district). However, poor yields and costly management (phytosanitary protection) made it clear that this species was not destined for ASAL, and BGF opted out of the project. These JC compartments have now been cleared and replanted with mukau, except for some trials started up with other institutions.

All good plantations start with quality seedlings. And quality seedlings come from quality seeds. That is a bit of a problem with mukau, as the best trees may have already gone.

BGF collects mukau fruits from selected trees in Mwingi, and has a programme in place to clone these plus-trees for establishing a seed orchard. This will serve as a basis for more advanced breeding work. The Kenya Forestry Research Institute is an important partner here.

For fast propagation, as quality seeds are in short supply and cannot sustain a monthly planting programme of, say, 500ha, BGF counts on clonal, or in-vitro mass multiplication. Over the past three years, the University College of Ghent, in Belgium, has developed a protocol. Development of a tap root system was the main hurdle, and this has been cleared, though minor improvements are still needed.

Taproots are essential in drylands, to reach moist soil layers deep down, complementary to a well-developed superficial root system that intercepts moisture from rains. A tap root system will also anchor the tree firmly in the ground, as sudden gusts of wind can uproot a seemingly



A two-and-a-half-year-old mukau plantation in Kiambere.

(All photos BGF)

stable tree. The first batch of in-vitro plantlets will arrive in Kenya in April, to be tried out at BGF's pilot plantation in Kiambere.

### Site preparation

Site preparation and plantation establishment is the next step. Moisture stress and lack of rain in general require a total cleaning of the planting plots. As planting distances are wide (4x4m to 5x5m) not all soil is left bare, a needlessly costly operation, but spots or strips along the planting line are completely cleared of grass and weeds.

Planting is year-round, with irrigation as required. This is expensive, but avoids serious strains on labour, seedling production and logistics to plant the whole year's target in a few weeks in November, the only month during which rains can really be counted upon.

All measures that limit water losses are applied. These include repeated mulching and making small basins ("half-moons") around individual seedlings, and establishing check dams or other erosion-combating structures. To give the freshly planted seedlings a boost, they receive fertiliser rich in phosphorus, to stimulate fast development of their root system. Soil conditioners based on water-absorbing polymers have not yet been tried, but trials are on the cards.

### Maintenance

Maintenance consists mostly of weeding (keeping the competition out), pruning, thinning and firebreak management. The weeding as practised now is a combination of strip ploughing



Two *Melia volkensii* seedlings produced "in vitro" showing good root development.

between the tree lines, and spraying of a chemical weed-killer (glyphosate) in the lines. The strip ploughing is very important to capture and stop any run-off as no protective soil cover is in place. In the future, more attention will be paid to soil structures to conserve moisture, and their layout to stimulate tree growth.

### SITES AND SOCIAL ASPECTS

These two go together, as we shall see. The big planting blocks are mostly lands leased from ranching societies that acquired them from the government in the 1970s and 80s, but for various reasons (drought being a prominent one) never managed to turn their land into productive use.

BGF now works in:

- (i) Kiambere, on land assigned to Tana and Athi Rivers Development Authority (TARDA), with

300ha to be planted by the end of the year. The site is on the banks of Lake Kiambere, on river Tana, at an altitude between 750-850masl. Soils were previously under agricultural use, and have been severely eroded and depleted of fertile topsoil.

- (ii) Sosoma, a compact block of 60,000ha in Mwingi East, bordering Tana River district, where preparatory works are in progress. Rainfall is low, with an annual average of 300-500mm, and highly irregular. Altitude is equally low (400-550masl) and temperatures high (mean annual temperature 24-30°C). This area is arid to the east, and is becoming worse in this era of climate change.

- (iii) Nyangoro, on 21,000ha of a ranch in Witu (Lamu district), where 160ha has to be established by the end of 2011. The southern boundary of the area borders the Malindi-Lamu road, but the northern boundary goes towards Ijara district, quickly becoming semi-arid.

BGF has an MoU with a commercial farm in Kibwezi (Mukuyu Farm) for demonstration and training purposes regarding horticultural and agroforestry practices in drylands.

Communities neighbouring the sites are given priority in employment. BGF pays special attention to gender parity. As a rule, 30 per cent of the employees must be women. Currently, BGF employs 130 people in Kiambere and 60 in Nyangoro.

A significant evolution is taking place in Mboti, a primary school in Nguni division, bordering Sosoma. The area is semi-arid, and

local farmers survive through subsistence farming and keeping some livestock, mostly goats. Interestingly, they know the mukau tree and are willing to grow it for cash. In fact, they are already doing this in a small way, by leaving mukau trees in the midst of their fields while clearing the bush. Despite the dry climate, and thanks to the growing in an agroforestry outlay, they sell the logs by the age of eight years (25cm DBH) for a good price.

An out-growers movement is being set up, embedded in an umbrella development committee with concern for water supply and micro-credit facilities for the local community. BGF has proposed assistance to smallholders to plant mukau in an elaborate scheme where BGF partly pays for the establishment costs in kind, and the beneficiary does the same as well as paying an amount in cash. In case the smallholder cannot comply, a micro-credit institution assists, guaranteed by BGF. A special provision is made for adapted crops like green grams as a short-term agroforestry cash crop. Mukau seedlings are raised locally, for which water is required.

BGF has pledged to establish water infrastructure, starting with a borehole, from which the whole community will benefit. A great deal of capacity building is planned, not only in tree growing and producing mukau logs of acceptable quality, but also in running the borehole in a sustainable and profitable way. No easy task, as all the ASAL of Kenya are littered with water infrastructure works that have been run down and no longer function.

The school itself has been refurbished through a grant from ChildAfrica, a non-governmental organisation (NGO) founded in Uganda by Rino and Julie Solberg. ChildAfrica builds schools and offers a decent education to disadvantaged children.

**This model integrates tree growing with water supply, micro-credit provision and educational assistance.** The rationale is that BGF provides a stable log market through a nearby sawmill, serving both its plantations and the out-growers. The plan is to extend this pilot project into the buffer zone of all BGF plantations, creating a friendly environment. It is a model for development designed for poor dryland areas with few alternatives for income generation.

Information that is more detailed is available at [www.betterglobeforestry.com](http://www.betterglobeforestry.com)

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*Mystica (Ruby Villanueva Cassidy), Managing Director of Better Globe Marketing Philippines, with Mboti Primary School children.*



*Jean-Paul Deprins (right), with Pieter Quaegebeur, Demonstrator-Instructor, Construction & Mining at Bergerat Monnoyeur CAT (Belgium) in front of BGF's latest purchase - a D6M LPG.*



*Jean-Paul Deprins with Prof Stefaan Werbrouck in the "in vitro" propagation laboratory at the University College of Ghent (Belgium). The laboratory is full of bits and pieces of mukau, all growing in little pots.*





*BGF's mukau (*Melia volkensii*) nursery in Kiambere - the biggest mukau nursery in the world! Hardening off of mukau seedlings.*



↑ *Mboti Primary School in Nguni (Eastern Mwingi district). The roof catchments and water tanks were donated by Better Globe.*

*BGF's nursery in Kiambere. A view of the propagator and tunnel section, → where fragile mukau seedlings germinate and grow in a protected environment before hardening off in the open.*

*(All photos BGF)*





# Better Globe Forestry Ltd

*Prosperity With Purpose*

Better Globe Forestry (BGF) is part of The Better Globe Group from Norway, which focuses on the need to fight poverty through promoting massive tree planting and sustainable agricultural programmes.

BGF's vision is to create secure commercial projects with vital humanitarian and environmental activities and as a result become the biggest tree planting company in the world within 20 years.

The mission of BGF is to make Africa a greener, healthier place in which to live and eradicate poverty by focusing on the development of profitable, commercial tree plantations that will deliver environmental as well as humanitarian benefits.

*Miti* magazine is a publication of Better Globe.

It is the policy of BGF to, among other things:

- Create attractive financial opportunities for present and future investors, Continuously identify and address the needs of employees, suppliers, customers, shareholders, the community at large and any other stakeholders,
- Focus on the need to help fight poverty, through promoting massive tree planting
- Create and sustain motivation throughout the organisation for meeting its business objectives,
- Continuously maintain and review an effective and efficient Quality System which as a minimum satisfies the requirements of the appropriate Quality System standard(s),
- Continuously improve the performance of all aspects of the organisation.

Making Africa greener



*Land in Kiambere before planting. Note the omnipresent soil erosion*



*A two-year-old plantation of Melia volkensii in Kiambere*



*A Melia volkensii plus-tree part of our genetic improved programme*



*Workers clearing a thicket in Nyangoro in preparation for tree planting*



*Workers in BGF's plantation in Kiambere, after receiving a food donation*



*Our nursery at Kiambere*



*Preparing for planting in Kiambere*



*The committee of Witu Nyangoro ranch with Rino Solberg and Jean-Paul Deprins*