In 2012 Greenpop launched Trees for Zambia, a reforestation and eco-awareness project which began with a 3-week tree planting event and was followed by an ongoing campaign to inspire awareness about deforestation, climate change, tree planting, environmental sustainability and alternative energy sources. **Trees for Zambia 2013** will be the second action event hosted in Livingstone to boost the project and **plant over 5000 trees in schools, on subsistence farms and in reforestation sites**. Again we’ll host educational workshops for school children, subsistence farmers and volunteers. **Trees for Zambia is a holistic awareness campaign based on getting people active about making sustainable changes.**
Zambia: Background and challenges

Zambia has seen rampant deforestation in recent decades, mainly as a result of bad land management, slash and burn farming methods, unsustainable logging and tree cutting for charcoal. According to the UN-REDD programme, Zambia has approximately 50 million hectares of forest, with an estimated deforestation rate of 250,000 to 300,000 hectares per year. In an article published in *The Zambia Daily Mail* in July 2012 the Director of the Zambian Forestry Department, Mrs Anne Masinja, says,

“Management of the forest has been a challenge following massive deforestation due to charcoal burning, unsustainable agricultural and unsustainable land use practices. It is a pity that most of the people do not realise the harm they are causing to the environment due to careless cutting of trees. Loss of forests contributes as much as 30 percent of global greenhouse-gas emissions each year and this is very dangerous, we need to do something to stop this.”

Implications of Deforestation

The deforestation results in a change in the local ecosystem, a loss of biodiversity and increased incidence of both drought and flooding. It also means a decline in food security due to a reduction of agricultural yields and the loss of valuable forest resources. Additionally, women have to walk further to find wood, resulting in less productivity and children being left alone at home.

Drivers of Deforestation

**Energy needs and unreliable/unavailable energy sources:** Electriciity is expensive in Zambia and is not available to many people. Charcoal is therefore the primary power source for all domestic heating and cooking. In the Southern Province, of which Livingstone is the capital, 88% of households rely on wood and charcoal for cooking, the remainder relying on electricity (*ibid.*). Households relying primarily on wood will consume about 60-80kg of firewood per week and between one and two 25kg bags of charcoal a month. In the wet season this doubles or triples. Those households reliant on charcoal will consume in the region of three to five 25kg bags in a month, depending on the cold. Households with electricity still consume one or two bags of charcoal a month. On average, wood users will consume approximately 3.64 tons of wood a year and 450kg of charcoal. Charcoal users will go through about 1,2 tons a year and electricity users supplement their electricity with about 450kg of charcoal. According the the UN-REDD Programme, charcoal production is by far the most frequent driver of deforestation in Zambia. Generally, the increase in charcoal production is propelled by high energy demand in the country’s urban centres. Fuelwood production is estimated to contribute at least 3% of the country’s GDP, and accounts for approximately 80% of the economy’s total energy household balance (*Kalinda et al.*, 2008). Charcoal use therefore has socio-economic benefits for numerous actors along the chain, from producers in rural areas to consumers in urban areas (*Malimbiwi et al.*, 2010). Production, distribution and marketing employs up to 500,000 people (*Kalinda et al.*, 2008). Low domestic earnings are forcing most rural households to intensify this non-agricultural activity, as a risk avoidance strategy.
**Unsustainable farming techniques:**
Continuous ploughing, the practice of slash and burn, maize monocropping and excessive use of acidifying fertilisers have led to land degradation and the abandonment of thousands of hectares of farm land in Zambia. Exploitive farming systems such as these are unsustainable and lead to soil erosion, loss of soil structure and soil micro-organisms, acidification, oxidation of organic matter and compaction. This land degradation leads to desertification. In addition, since farmers are forced to abandon their land after their yields fail, they move into forest areas and cut down trees to start new farms.

**Population demands:**
Population growth (currently just over 3% for Zambia) is perceived to be a key driver by the communities of the Livingstone area. There are more people moving closer to the towns and cities and thus more people clearing the nearby forest for agriculture as well as building and infrastructure. At the same time the demand of charcoal increases with the rise in urban populations and urban centres due to persistent urban poverty and the widespread assumption that charcoal is the cheapest available energy source.

**Fires:**
According the the UN-REDD Programme’s *Preliminary study on the drivers of deforestation and potential for REDD+ in Zambia*, the starting of fires for all sorts of reasons is common practice among many Zambians. Driving factors include vegetation control, clearing of fields for cultivation, provision of potash (the Chitemene system), visibility improvement during hunting and pasture management. Experimental evidence has shown that, if not well managed, fire has the potential to contribute directly to forest cover loss (Bond, 2009; Lawton, 1978; Trapnell, 1959). Wild fires, especially late dry-season fires, have been observed to reduce the productivity of miombo woodland across the

Zambia has one of the highest deforestation rates in the world
Drivers and impacts of energy resource reduction

**Human Impacts**
- Desertification
  - Carrying heavy loads long distances
  - Time poverty: longer distances
  - Loss in soil fertility - must buy fertilizer
  - Precipitation change
- Food insecurity and other basic needs
  - Increasing costs of charcoal
  - Regulations (expensive licences) and conflict
  - Switching from wood to charcoal
  - Between charcoal burners, private land owners and government over burning and wood collection

**Potential Solutions**

- **Mopane, teak, rosewood**
- **Reforestation**
- **Planting trees for specific needs**
- **Improved regulation from forest department (including the input from charcoal burners)**
- **A source of energy building materials, food & income**
- **Broad based**
  - Enable alternative livelihoods
- **Education**
  - Changing farming techniques to accommodate trees
  - Limit chitemene & general clearance
  - Plant munga, sunhem & sesbania sesban
  - Provide reliable electricity and/or alternative energy sources
- **Long term**
  - Value & importance of trees
  - A source of food, income & energy
The best time to plant a tree was 20 years ago, the next best time is now!

Trees for Zambia: Part of the Solution

In July 2012, Greenpop successfully launched Trees for Zambia (click here for a summary of the launch event: http://www.greenpop.org/wp-content/uploads/2013/01/Trees-for-Zambia-2012-INFOGRAPHIC.pdf). In three weeks, and in partnership with local authorities and NGOs, we planted 4135 trees with 200 volunteers from both Zambia and around the world. It was an inspiring start to an ongoing awareness campaign to highlight the drastic deforestation and create a greener Livingstone. We are constantly monitoring the trees that were planted, and in July 2013, we are hosting another action event to give the project a major push.

Trees for Zambia - Aims

1. Create awareness around the deforestation issue and highlight grassroots solutions that can start being implemented
2. Develop a culture of planting trees within communities through conservation education, and by teaching people how to plant and look after trees
3. Highlight the global value of conserving the world’s natural forests
4. Promote and provide alternative energy sources (particularly solar cooking), so that people can move away from the dependence on charcoal
5. Start reforestation in protected forest sites to replace the pioneer trees, allowing for new growth and regeneration of soil content
6. Educate children on their natural environment, and help feed them by planting fruit trees at under-privileged schools
7. Promote conservation farming methods to replace slash and burn techniques that will stop erosion and soil degradation, create more cost-efficient farms and help avoid fires
8. Start a micro tree nursery enterprise at a selected number of subsistence farms, so that we can provide farmers with an additional income by buying trees from them
9. Create an exciting and stimulating programme of practical work, lectures and workshops for local and international volunteers, through which they can educate themselves and be actively involved in environmental issues

“Greenpop has my full support. The Kalahari Desert is actually touching us already, and Greenpop is repopulating the forests. I think they are going to help us change the mindset of our people.”

(His Royal Highness Chief Mukuni, Mukuni Village, Livingstone during Trees for Zambia 2012)
Trees for Zambia - Planned Activities

**Planting Trees**
We will plant over 5,000 trees in and around Livingstone during the 3-week action event to give another boost to the campaign. The trees will be planted by community members, school children and local and international volunteers in association with and taking advice from the Forestry Department in Livingstone.

*Planting locations:*
- approximately 20 local schools that have applied to be part of the programme
- a forest concession area within Dambwa Forest in partnership with ALERT (African Lion and Environmental Research Trust)
- a subsistence farming cooperative called Sons of Thunder
- other sites are being identified by our manager in Livingstone according to needs and watering/care capabilities

**Buying trees:**
In 2012, we planted a variety of indigenous trees and some fruit trees. We bought the majority of the trees from Zambezi Nkuku (a large nursery in Livingstone) and received donations of trees from two local companies. We also met a small scale tree grower and ex-charcoal burner (see video link on page 5) and bought lemon trees from him. In 2012 we set up a micro tree nursery for *Faidherbia albida* trees at Sons of Thunder farming community and encouraged other interested parties to start growing trees. We plan to buy these trees back from the small scale growers for the 2013 project if the trees are tall enough and ready to be planted, stimulating local business. Greenpop has already been approached by a few small scale individual growers requesting that we buy trees from them. We plan to assess these trees and purchase as many as possible from local individuals.

**Tree types:**
- *Faidherbia albida* trees will be planted in agricultural fields with subsistence farmers. *Faidherbia albida* is a very deep rooting indigenous leguminous tree that has the unusual habit of shedding its leaves during the rains in summer. It does not shade or compete with crops and, when mature, supplies the equivalent of 300kg of complete fertiliser and 250kg of lime per hectare to the soil each season in an organic form. This tree forms part of an important conservation farming technique that we promote. Read more about it here: [http://www.bbc.co.uk/news/science-environment-15305271](http://www.bbc.co.uk/news/science-environment-15305271)
- *Moringa Oleifera* trees will be planted with a specific group of farmers who we are training in best practice growing methods. Dubbed the 'magic tree for Africa', our goal is that it will be harvested and produced, providing exceptional nutritional benefits for farmers' families, the clinic nearby, the community at large and, in the longer term, sold as an income stream for these farmers. We aim to provide a route to market in the future.
- Various other indigenous trees will be planted in protected reforestation sites to reintroduce pioneer trees and in schools to fix nitrates for fruit trees, beautify school premises and teach children the value of growing and caring for trees.
- Various non-invasive fruit trees will be planted in schools to provide food for children and in some subsistence farming sites to help feed communities or act as an income stream.

**Workshop on Setting up Micro-Nursery Enterprises**
With the help of the Conservation Farming Unit (CFU), the United Nations Development Programme (UNDP), the Department of Forestry and the Ministry of Agriculture in Livingstone, we plan to facilitate a workshop on how to set up micro nurseries for interested farmers and community members. A lot of interest was shown in 2012 and in 2013, we will host these training days again with additional material and more attendees. As mentioned above, the aim is to buy trees back from these nurseries and plant them as part of our ongoing reforestation and conservation education efforts in the area, boosting income for community members as there are very few input costs and demonstrating the 'value' of tree growing.
**Conservation Education at Schools**

When planting trees at schools, we also teach children about their natural environment and the importance of trees. The children play an active role in planting the trees, and through a creative educational programme, we teach them how to identify different trees, how to look after trees, and why trees are essential to a healthy living environment. In collaboration with the Department of Education in Livingstone, African Impact and Lion Encounter, we have been distributing environmentally focussed worksheets to schools since January 2012 and will continue this as well as extending the material to reach more schools and to cover more topics. In 2013, we are introducing our One Child, One Tree programme, which will see each child taking responsibility for a tree, naming it, receiving a ‘How to care for me’ booklet, certificate and possibly a tree badge to instill more responsibility and pride in the caring and rearing process. March 2013 will see the educational modules starting again at our existing schools (from the 2012 project) and the selected schools for 2013 will be visited, introductory assemblies will be held and preparation programmes implemented. Educational wall murals will be facilitated at schools using an interactive method which ensures the message and design is elicited from the pupils and speaks to their knowledge and understanding.

**Promotion of Conservation Farming Methods and Fire Prevention**

Conservation farming methods encourage subsistence farmers to move away from traditional farming methods (Chitemene) that cause soil degradation and deforestation. With the help of the Conservation Farming Unit and Ministry of Agriculture, we will host workshops for small-scale farmers in the Livingstone area. The workshops will be hosted at demonstration plots that we will set up beforehand. Through these workshops, farmers will learn about residue retention, reduced tillage, dry season land preparation and early planting, rainwater harvesting, precise application of seeds and nutrients, crop diversification and rotation, fire prevention and alternatives and use of Faidherbia albida trees - a deep rooting indigenous tree, as a natural fertiliser. Farmers will be shown how to collect seeds for the *Faidherbia albida*, and how to plant and grow the trees. The use of these methods will help to reverse land degradation, bring soil back to life, enhance household food security, increase the resilience of crops to droughts, enable sedentary farming, and eliminate the need for families to migrate and cut down forests.

**Promotion of Alternative Energy Sources**

As one of the major drivers for deforestation in Zambia is the extensive use of wood and charcoal for cooking and heating, Greenpop will launch a project to spread the use of solar cookers throughout Livingstone’s communities as an alternative to the traditional way of cooking. The solar project, which will also be included in the Trees for Zambia 2013 activities, will be launched in March 2013. Through research and education of community members to become solar cooker teachers, as well as a solar cooker design competition, Greenpop can further help to decrease the speed of deforestation in Livingstone. Similar to the event in 2012, we will also make simple solar cookers with every school and farming group visited. These are made with 99% found materials (cardboard boxes, old crisp packets, masking tape and wood glue). ‘How To’ educational worksheets will be distributed after the demonstrations to promote the production of further cookers. We are looking into a method of distributing/selling parabolic solar cookers in Livingstone too as interest in this was shown by some school teachers as well as by members of Chief Mukuni’s delegation.

**Radio Awareness Campaign**

Greenpop has developed a partnership with Zambezi FM and in May 2012, we started a weekly show called Tree Tuesdays. The DJs from Zambezi FM hosted a different stakeholder of the project each week and spoke about the importance of trees, the project, how to get involved, sustainable living, saving water, saving electricity etc. This show will be relaunched in February 2013 and will cover similar sustainability topics. The show was well received in 2013 and Greenpop made extensive community connections through it, met individuals growing trees and community members keen to volunteer at the event, connected with active school children etc.
Video Awareness Campaign

Greenpop believes that video media can have extensive reach and impact. In 2012 our media arm, Makhulu Moving Images, started filming for what is to become a feature length documentary on deforestation in Zambia. When complete it will be called *Falling Forests - Zambia.* Thus far, we have created a short video summarising our Trees for Zambia 2012 project (see video here: [http://www.youtube.com/watch?v=kGdN8F_igVo&feature=plcp](http://www.youtube.com/watch?v=kGdN8F_igVo&feature=plcp)) but are in the process of filming further footage for the documentary. The film work and the finished product are very much part of Trees for Zambia. The documentary will be distributed as extensively as possible both in Zambia, Africa and the rest of the world to highlight the issues experienced in this beautiful country and the stories of local individuals who are working hard to make a difference and who are feeling the effects of the problems.

**Partners on the Ground:**

Greenpop is committed collaborating and to working in association with partners to make the project higher impact and beneficial for as many people as possible. In 2012, we collaborated with the following local authorities and organisations and we aim to further solidify these partnerships in 2013:

- Zambian Ministry of Forestry
- Zambian Ministry of Agriculture
- Zambian Ministry of Education
- National Heritage Conservation Commission
- United Nations Development Programme (UNDP)
- Conservation Farming Unit (CFU)
- ALERT and Lion Encounter (African Lion and Environmental Research Trust)
- Livingstone Green Initiative (LGI)

**Sustainability of the Project**

In order to make this project sustainable, it is essential to have the local community involved in and benefiting from all the efforts. The main way of ensuring this is through **education.** We are working with education experts and the Ministry of Education in Livingstone to develop the most suitable and enjoyable educational material for both school children, subsistence farmers and community volunteers. Through our workshops and planting activities, the local community will learn how trees can benefit them, whether it's by using them for food security, knowing how to identify trees with best shade, or using them as natural fertilisers on their land. In addition, we ensure local community members profit from the trees through a micro-nursery enterprise. Small scale growers can see considerable additional income through this venture. The education programme also offers an alternative to charcoal burning for cooking and heating and focusses on solar cooking methods. In 2013, through our new solar project, we will strive to develop a solar cooking solution that is developed by local designers who know exactly what is needed and can thus be is widely adopted. We also hope to inspire a micro-enterprise through this venture in the future. The education programme also offers an alternative to charcoal burning for cooking and heating and focusses on solar cooking methods. In 2013, through our new solar project, we will strive to develop a solar cooking solution that is developed by local designers who know exactly what is needed and can thus be is widely adopted. We also hope to inspire a micro-enterprise through this venture in the future.

Greenpop has registered an NGO in Zambia and one of our directors, Benjamin Mibenga, is based in Livingstone and has been working continuously to monitor our trees since July 2012. In March 2013, another Greenpop member will be based in Livingstone to roll out more education, help identify new sites for planting in 2013 and launch the more intensive solar project which will now form part of Trees for Zambia on an ongoing basis.

Gradually we are setting up a base, a team and a group of ambassadors in Livingstone so that the Trees for Zambia project can grow continuously.

**Conference of Action (7th to 28th July)**

Trees for Zambia is an ongoing project, but to boost the impact and awareness, Greenpop holds an Action Event each year. About 100 Zambian volunteers and 100 international volunteers will be assisting us with all aspects of the 2013 Action Event. Besides providing these volunteers with practical experience, we are also offering them the chance to learn about conservation issues through workshops on issues such as deforestation, climate change, and conservation; and become ambassadors for sustainable living going forward. Trees for Zambia is a Conference of Action - active and community learning happens each day and conference-style learning happens during workshops and in the evenings.
About Greenpop

Greenpop is a social enterprise that believes greening and sustainable living can be fun, POPular and accessible for all. We believe in inspiring a greener, more conscious, inclusive movement and do this through tree planting projects, green action events, education, social media, voluntourism and activating people to start DOING!

Greenpop started in September 2010 and has since planted over 17,000 trees in over 200 beneficiary schools, crèches, old-age homes, community centres as well as deforested areas in Southern Africa. Creative tree-care programmes have been implemented and children, community members and volunteers are getting their hands dirty, learning a lot and loving it. Greenpop is inspired by the exciting projects we have coming up and the bright green future we see for Africa.

Awards

- The International Labour Organisation (ILO) and Western Cape Government competition for Best Business Plan for Social Enterprises in South Africa - winner
- LeadSA competition run by Cape Talk - winner
- Enviropaedia Eco-Logic Awards 2011 - Finalist in 2 categories: Biodiversity & Water Conservation
- Mail & Guardian Green Award 2012 - Finalist
- Enterprise Elevator 2012 - winner

For more information, to partner with Greenpop, join the Action Event, support the project, offer an educational workshop/lecture or buy/raise funds for trees for Zambia, please contact zambia@greenpop.org or call +27 (0)21 461 9265 / +27 (0)83 412 8006

Website: [www.greenpop.org](http://www.greenpop.org)
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Twitter: [https://twitter.com/greenpopSA](https://twitter.com/greenpopSA)

GreenpopTreevolution Youtube channel (watch all our videos): [http://www.youtube.com/user/GreenpopTreevolution](http://www.youtube.com/user/GreenpopTreevolution)
