

‘Trees for Zambia’ – Meeting Climate Change Challenges through Voluntourism, Knowledge Sharing and Collaboration

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Abstract

‘Trees for Zambia’ is a voluntourism project happening in Livingstone, Zambia, for three weeks in July 2012. More than just a volunteer-abroad opportunity, this project will be a conference of action and learning. Days will be spent planting trees at the Victoria Falls World Heritage Site, in an area of the Dambwa Forest, in a subsistence farming village and at local schools as a method of practical education. In the evenings, speakers will present on issues such as climate change, deforestation and sustainability; workshops will be conducted on propagation, seed harvesting and various other areas within forest ecology; local authorities and farmers as well as volunteers will share experiences and environmental debate will be encouraged. ‘Trees for Zambia’ is the start of an ongoing project in Zambia to promote sustainability and a culture of planting trees.



Greenpop coordinated a Reforestation Festival in South Africa in 2011, which saw volunteers getting involved in tree planting. Photographer: Ruth De Freitas.

This is a pilot project for similar campaigns in Southern Africa in the future. Its style and roll out aims to create a platform through which various sectors of the tourism industry (and other industries) can be part of solutions to climate change. Addressing climate-change mitigation and the need for adaptation in vulnerable areas, ‘Trees for Zambia’ aims to bring diverse parties together to collaborate, share knowledge, act, inspire, spread awareness and work together for a healthier planet.

TOURISM AS PART OF THE SOLUTION TO CLIMATE CHANGE

Tourism's Footprint

The tourism industry faces challenges with regards to climate change and, by its nature, has a hefty carbon footprint. The industry's rapid growth provides both a challenge and an opportunity. The tourist community has taken up this challenge and has visibly stepped up its response to climate change. Rather than only seeing a problem, there is now a clear understanding that the industry can be part of the solution to climate change, by reducing its green house gas emissions as well as by helping the communities where tourism represents a major economic source to prepare for and adapt to the changing climate (Simpson et al., 2008).

Voluntourism

As one of the fastest-growing forms of travel in the world, voluntourism has the potential to help vulnerable communities prepare for and adapt to the changing climate. Voluntourists even have the potential to be the drivers of important projects that might otherwise not have been possible, through manpower and financial support.

Highlighting the Problem

With tourism being one of the world's largest industries, there is great potential for highlighting climate change and making people aware of the risks, consequences and ways in which they can be part of the solution. The media also has a role to play in highlighting climate change in tourism hotspots.

Involving Tourists and Tourist Institutions

Creating concrete ways for tourists and local tourism bodies to get involved in mitigation and adaptation to climate change has the potential to attract much support, action and collaboration.

'TREES FOR ZAMBIA' – A VOLUNTOURISM PROJECT BY GREENPOP

Introduction to 'Trees for Zambia'

Greenpop, a southern African tree-planting social enterprise, is coordinating a project called 'Trees for Zambia' in Livingstone, in July 2012. This exciting venture will see 5,000 or more indigenous and fruit trees planted in three weeks within the Victoria Falls World Heritage site, a forest concession area, the Mukuni subsistence farming village and surrounding farms and in schools around Livingstone. Volunteers from around the world will be invited to join the local community as well as key environmental speakers and teachers. Four days of each week will be spent planting and educating and one day will see



volunteers and community members attending forest-based teaching, outdoor lectures and educational workshops around climate issues and adaptation. During these workshops, prominent speakers will talk about pertinent environmental issues, volunteers will share their knowledge, community members will talk about their experiences with climate adaptation and environmental films will be screened. Essentially it will be a conference of action, sharing and learning.

Why Zambia? Background and Problem

Zambia has seen rampant deforestation in recent decades. According to the UNDP, the country has the second highest deforestation rate in Africa, and the fifth highest in the world. More than 4,000 km² of Zambia's forests were lost every year from 1990 to 2005 – with signs that the rate has recently increased (UNDP, 2008).

The Livingstone area is one of the worst affected areas. The Forestry Department puts the rate of deforestation in the Livingstone area at 5% annually and believes it has a bearing on local temperature and rainfall. According to a paper by the Zambian National Heritage Conservation Commission, this “is also likely to affect the Mosi-oa-Tunya World Heritage Site. The Falls are in an area experiencing notable impacts of climate change and variability. The 2005/2006 rainfall season recorded a notable flood disaster over the Kazungula district, a district upstream of the Zambezi, where thousands of families had to be evacuated to higher grounds.”

Implications of Deforestation

The deforestation and climate change result 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 forest resources, such as wild fruits. Additionally, women have to walk further to find wood, resulting in less productivity, while children are also being left alone at home.

The Cause of Deforestation

There are two main causes of deforestation – tree cutting for timber and charcoal and poor soil management through traditional farming methods.

Tree cutting: Since electricity is expensive in Zambia, it is not available to many people. Charcoal is therefore the primary power source for all domestic heating and cooking. Wood and charcoal make up approximately 70% of Zambia's national energy demand, and the country is losing approximately 8,000 hectares of forest a year. The current and estimated shortages in electricity production forecasted for the next 10 years could cause a further increase in forest degradation (Ministry of Finance and National Planning, Lusaka, Zambia, 2008).

Poor soil management: Unsustainable farming methods, particularly maize-mono-cropping, employed in Zambia for many years have led to extensive land degradation – soil erosion, loss of soil structure and soil micro-organisms, acidification, oxidation of organic matter and compaction (GART, Brief 2).

The Food and Agriculture Organization (FAO) notes that the 65% increase in maize production between 1981 and 1991 came from the expansion of cultivated land rather than increased yields (Conservation Farming Unit, Brief 2), and with this expansion comes deforestation.

According to the brief on reversing environmental degradation through conservation farming and conservation agriculture (GART, Brief 2), when land degradation occurs, families:

- abandon farmlands and migrate, encroaching on forests (trees are cut down to make way for farming and families temporarily restore their crop yields by mining out the nutrient reserve accumulated by nature);
- encroach into areas of ecological significance, including designated forest reserves and wildlife sanctuaries to farm; and
- engage in poaching, off-season fishing or charcoal-burning to supplement incomes.

Effects on Tourism

Zambia, and the area of Livingstone in particular, is a tourist hotspot. People flock to this little town to see the mighty Victoria Falls, get involved in various adventure activities and experience the beauty of the Zambezi River and surrounds. While there are varied, indirect and far-reaching ways in which the issues outlined above can affect tourism, the most glaring is perhaps the fact that Zambia's draw card, the natural beauty, biodiversity and wildlife are under threat.

With the aim to improve the situation through planting, knowledge sharing and collaboration through 'Trees for Zambia,' Greenpop will start a substantial and tangible drive to encourage education for improved adaptation to climate change. Furthermore, the project aims to contribute towards climate-change mitigation through the planting of indigenous trees.

PLANTING TREES

Planting Indigenous Trees in Forest Concession Areas

In Zambia, protected forest areas are under threat. People are cutting down trees for charcoal making, wood fires and agriculture. Permits to fell trees are available, but are expensive and often not an option for people battling to make ends meet. Charcoal makers also have to travel a lot further to find suitable trees for burning as these are running out.

The 'Trees for Zambia' project will see 1,000 trees planted in Dambwa forest near a lion release location and 1,000 trees planted in the Peace Park at the Victoria Falls. The aim is to highlight the importance of replanting in forest areas to replace the pioneer trees and allow for new growth, regeneration of soil content and biodiversity. The natural forests of Zambia are part of the country's heritage, and education surrounding replacing trees in these protected areas is vital for conserving the environment, protecting Zambia's forest assets as well as sustaining tourism in these beautiful areas.

Planting in Subsistence Farming Villages

The 'Trees for Zambia' project will see 1,000 or more *Faidherbia Albida* trees planted within the crops of subsistence farmers around Livingstone.

The practice of planting these particular trees in fields forms part of an important sustainable-farming technique that is being adopted by the Department of Agriculture in Zambia and among small-scale farmers to try and reverse the situation.

Through leaf and pod fall, these trees fix nitrates and micro-organisms into the soil and improve fertility, eventually resulting in better, more sustainable yields.

Promotion of Conservation Farming Methods

The 'Trees for Zambia' project will promote the use of this and other conservation farming methods, in an effort to encourage subsistence farmers to move away from traditional methods that cause soil degradation and deforestation. We will host three half-day workshops for small-scale farmers in the Livingstone area. Through these workshops, we will teach farmers about the following farming methods:

- residue retention
- reduced tillage
- dry-season land preparation and early planting
- rainwater harvesting
- precise application of seeds and nutrients
- crop diversification and rotation
- use of *Faidherbia Albida*, a deep-rooting indigenous tree, as a natural fertilizer (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.

Planting Fruit Trees in Schools

Education on climate-change issues is of vital importance for successful future adaptation and mitigation. Practical education, through the act of planting trees, is tangible and memorable. During the 'Trees for Zambia' project, indigenous and fruit trees will be planted at schools.



The Greenpop team visited subsistence farming communities in June 2011 to discuss their experiences with mono-culture farming techniques, the challenges they now face with soil fertility and the potential of planting *Faidherbia Albida* trees in their fields to act as a natural fertiliser. Community members were very aware of the technique but requested help with seed harvesting, planting and education. Photographer: James Cumming, Resource Economist at OneWorld Sustainable Investments.

Planting indigenous trees with learners:

- Teaches valuable environmental lessons about the importance of trees.
- Reconnects learners with nature.
- Beautifies schools and communities instilling pride of place.
- Sequesters carbon and provides an activity through which to teach this complex concept.

Planting fruit trees at schools:

- Provides fruit and nutrition for school children.
- Aids concentration, uplifts learning experiences and improves school attendance.
- Provides children with the valuable experience of planting, growing and caring for something as well as seeing the positive results.
- Provides practical environmental education on the benefits of trees, growing produce and caring for our environment.

Knowledge Sharing

In the run up to the three-week campaign (starting four to six months before the planting), educational material will be provided to the Livingstone Department of Education who will be facilitating the delivery of these worksheets to schools to help youth to understand what is currently happening in their direct environment and how this has come about. An experienced nursery manager in Livingstone is providing the information on indigenous trees and their uses to be added to this material. The Department of Education has advised that material will be adapted by teachers to suit their class levels and curriculum.

During the three-week campaign, while planting and in the evenings, workshops will be facilitated for the volunteers in order to share global knowledge about climate issues as well local concerns about what is happening in this space. A representative from the UNDP, local NGOs and experts on environmental issues will be speaking.

Topics include:

- What climate change is, adaptation insights and ways to mitigate pending risk.
- What the effects of climate change are on communities, especially family farming communities.
- How deforestation and climate change affect wildlife.
- How to adapt to these effects, minimise risk and enhance resilience.
- How to start solving the climate-change crisis through carbon sequestration projects and the importance of community tree planting to replace trees that have been cut down for future generations.
- Seed collection, propagation and rearing of saplings.
- The uses of trees (increase fertility in agriculture, carbon sequestering, medicinal, animal fodder, etc.).



Students learn through the practice of planting trees. Photographer: Carmen Visser.

Following the three-week campaign, the Ministry of Agriculture, the Forestry Department and the Zambia Environmental Management Agency will be assisting us with sustaining long-term relationships with parties involved. During the three weeks, eco-heroes within communities will be singled out and will become the point of contact between the ministries and the communities. They will also head up forum discussions and monitor the success, problems and questions surrounding the trees. The Ministry of Agriculture will work with these contacts to evaluate the farming techniques.

Media will also play a role in knowledge sharing during and after the event. The Zambian Broadcasting Commission showed an interest in 'Trees for Zambia' when the Greenpop team was in Livingstone for a reconnaissance visit in June 2011. They produced a story for the evening news, which was instrumental in making local schoolteachers and learners aware of and excited about the campaign. Local media companies will be contacted in the run up to July 2012 to be part of 'Trees for Zambia' and share the events with as many people as possible. South African-based, socially minding production company, Makhulu Productions, will also be documenting 'Trees for Zambia' to create a full-length documentary as well as shorter pieces for distribution globally. We hope to highlight the situation in Zambia as well as promote meaningful tourism options that address climate issues.

Collaboration

'Trees for Zambia' will be a collaborative solution – involving tourism bodies, government, business and individuals. Through bringing interested parties together to do something positive for climate-change mitigation, we aim to facilitate knowledge sharing that will reach a wide local and international audience.

By creating a project that offers value to all stakeholders and is implemented in a strategically beneficial and economically streamlined way, we hope to capture a process which can be effectively transposed to fit many similar applications. July 2012 will be a pilot and we will replicate this annually and increase the number of trees and awareness sharing possibilities exponentially.

TOURISM BODIES

Voluntourism Agencies

The project will be advertised all over the world through voluntourism agencies. As well as providing a climate-change project for them to put to the market, Greenpop is proposing that these companies also offer voluntourists traveling to other projects the opportunity to offset their carbon emissions – by giving trees to a project like 'Trees for Zambia'.

Hotels and Lodges in Zambia

The trees for the project will be sold in various ways. One method will be through local hotels and lodges in and around Livingstone. They have been invited to purchase trees themselves to compensate for their carbon footprints. On top of that, a large number of

lodges and hotels are offering their clients the chance to give a tree by adding it to their bill. The involvement of the local tourist industry is vital in spreading awareness of the project in the local community, as well as internationally. Their involvement will also create positive PR. Again, this will act as a catalyst for spreading awareness about climate change, highlighting the problem to the industry and getting more parties involved in the solution.

Local Government

It is of utmost importance that Zambian authorities are involved in the project. Greenpop has already met with the Ministry of Agriculture, the Forestry Department, the National Heritage Conservation Commission, the Zambia Environmental Management Agency and a Regional Tourism Development and Research Officer in Livingstone, all of whom have expressed support of the project. These partnerships are valuable for the sustainability of the project and successful knowledge sharing between authorities and communities.

Business

We are offering local and international companies the chance to become a sponsor of 'Trees for Zambia' by buying trees. In return for their support, we offer companies positive exposure through various marketing tools. Sponsorship of the project is particularly relevant and beneficial for timber companies and companies operating internationally looking to invest in a carbon-offsetting or corporate social-responsibility project.

Individuals

We expect this project to attract individuals from different backgrounds and nationalities with an interest in climate change. This will complement the knowledge sharing and bring varying perspectives together. Voluntourism, nowadays, is not limited to students and graduates but also attracts professionals looking to do something meaningful while travelling. Local community members will be very much involved in the planting and education as well, and a platform for cross-cultural learning will be created.



Greenpop is using creative ways to sell the trees to tourists visiting Livingstone so that they can be involved in improving the area and be part of the 'Trees for Zambia.'



Greenpop's Reforestation Festival in June 2010 attracted a wide range of voluntourists. Photographer: Ruth De Freitas.

MAKING IT HAPPEN: PARTIES INVOLVED IN PRODUCING THE EVENT

Greenpop

Greenpop is a tree-planting social enterprise that celebrates greening and environmental education. The Greenpop team is passionate about ground level environmental awareness, community upliftment, social integration, urban rejuvenation and contributing positively towards adapting to climate change. Part of the mandate at Greenpop is to hone in on areas within the SADC region, which are facing environmental catastrophe through deforestation. One of Greenpop's missions is to inspire a greener and more conscious movement through creating platforms, projects and activities that people want to be involved in – focussing on solutions rather than problems. Spreading the message through experiences that are enjoyable, memorable and inclusive is the organisation's aim. Greenpop will be coordinating the 'Trees for Zambia' project and plans to roll out similar projects in sub-Saharan Africa.

Zambezi Nkuku

Zambezi Nkuku is a chicken farm and tree nursery in Livingstone, and Greenpop's logistical partner on the ground for 'Trees for Zambia.' The trees are already being reared in their nursery and the beneficiaries have chosen tree varieties. In addition, Zambezi Nkuku has assisted in partnering 'Trees for Zambia' with various other key players, like Zambian ministries, which will ensure the smooth running of this project.

Derek Pollard

Derek Pollard is an environmental programme manager. His core task is to develop relations between Greenpop and parties on the ground in Livingstone and to establish sustainable planting techniques specific to the context. Derek will be creating much of the educational material aimed at subsistence farmers.

Zambian Authorities

It is of utmost importance to us that we partner with Zambian authorities. Please see the section on "Local Government" for more information.

DISCUSSION

The Second International Conference on Climate Change and Tourism (Davos, Switzerland, October 2007) outlined the need for the tourism sector to rapidly respond to climate change if it is to develop in a sustainable manner, which will require actions to mitigate greenhouse gas emissions from the tourism sector; adapt tourism businesses and destinations to changing climate conditions; apply existing and new technologies to improve energy efficiency; and secure financial resources to assist regions and countries in need (UNWTO, 2008).

'Trees for Zambia' will be an annual voluntourism project involved with mitigation of carbon emissions through tree planting and conservation farming; and spreading awareness and knowledge about adaptation to climate change through face-to-face cross-

cultural sharing. This project will be made possible through voluntourism as well as other support from the tourism industry and is an example of a platform through which the industry can move towards the goals set out at in Davos in 2007.

Greenpop and the coordinators of 'Trees for Zambia' invite partnerships, support and collaboration on this project and others like it in the future.

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