



FOOD SECURITY (SOYA) PROJECT

PROJECT SUMMARY

Many small-scale farmers in rural Zambia face a constant struggle to grow enough maize to feed their families. With erratic rainfall, poor sandy soils and rapidly declining soil fertility they have increasingly turned to using chemical fertilisers to maintain yields. However, with limited funds available and ever increasing fertiliser prices the harvests do not now justify the cost of the fertiliser. Many farmers have now given up using any fertiliser and yields have plummeted which has severely impacted household food supply. With few livestock there is little manure available to help maintain soil fertility and farmers now desperately need to find an alternative crop to maize which might both earn them a reasonable income (so they can buy in food) and also improve soil fertility, so that they can continue to grow other crops in a healthy rotation. Soya-bean cultivation offers such an opportunity. With increasing world demand and greater local use for stock-feed there is a strong commercial market in the area and the income from soya-beans would be significantly higher than that earned from maize. Soya-beans are also leguminous plants and fix atmospheric nitrogen in the soil thus improving fertility. At present a few local farmers in the Luansobe area do grow soya-beans but community discussions have found that most people will not cultivate the crop because they neither have the technical knowledge nor the confidence that it would do well in their own farming system.

Kaloko Trust is initiating a two-phase extension programme which commences in the first year with a practical hands-on training programme targeting 22 leader-farmers selected from 11 villages. This course of nine one-day sessions covering the full cropping cycle from land preparation to harvest will be conducted at a demonstration plot on land provided by Kaloko.. The local Department of Agriculture Extension Assistant will provide the training. Those farmers successfully attending the initial course and willing to further demonstrate how to grow soya-beans to their neighbours on their own farms, will be provided with a basic package of seed and fertiliser and extension support in Phase 2.

In the second year it is planned that of the original farmers trained at least 15 will establish demonstration plots on their farms, using the seeds and fertilisers provided, and invite a minimum of 10 of their relatives and neighbours to attend another series of practical training sessions. These will demonstrate on-farm the advantages of soya-bean production to a further 150 farming families in the second year. With at least 172 farmers trained in soya-bean production and many of them planting the crop in their fields there should then be sufficient numbers of examples spread locally to allow other farmers to gain exposure to the crop and to be able to make the choice as to its appropriateness to their farming system.

During the initial two years the Dept of Agriculture Extension Assistant living in the area will be provided with a bicycle and an allowance to enable him to support the various farmers in their demonstration plots. The seed/fertiliser packs provided (10kg seed, 100kg D-Compound fertiliser and 60 hessian sacks) will be enough for each farmer to produce 2 limas (0.5 hectares) of soya-beans. With an expected yield of 2.5 tonnes per hectare resulting in an income of £268 (from 0.5 hectares) this will allow farmers to buy in the 12 bags of maize needed to feed an average family for a year and still have over £100 left for other expenses after buying seed and fertiliser for the next year.

Budget

Phase 1:

Inputs/Transport	£ 250
Facilitation, Training and Community Mobilization	£ 1,040
Project Support, Monitoring and Reporting	£ 500

Phase2:

Inputs/Transport	£ 2,000
Facilitaton/Training/Support	£ 2,800
Project Support, Monitoring, Reporting and Evaluation	£ 1,000

TOTAL COSTS **£ 7,590**
Kaloko has already raised the initial £1,790 required to fund the first phase November 2008 –May 2009 and is now seeking £ 5,800 of funds to continue the project into Phase 2.

Background

The major challenge to Food Security in countries such as Zambia is its underdeveloped agricultural sector that is characterized by over-reliance on primary agriculture, low fertility soils, minimal use of external farm inputs, environmental degradation, significant food crop loss both pre- and post-harvest, minimal value addition and product differentiation, and inadequate food storage and preservation that result in significant commodity price fluctuation.

Rain-fed food production is vulnerable to adverse weather conditions. There is an overall decline in farm input investment including fertilizers, seeds, and technology adoption. Access to fertilizer use is constrained by increases in fertilizer prices relative to commodity prices, limited access to markets and infrastructure, limited development of output, input and credit markets, poverty and cash constraints that limit farmer's ability to purchase fertilizer and other inputs.

The soils continue to degrade leading to a reduction in the productivity of the farms. Some of the causes of soil fertility depletion include the limited adoption of fertilizer replenishment strategies and soil and water conservation measures; the decline in the use and length of fallow periods; expansion of agricultural production into marginal and fragile areas; and the removal of vegetation through overgrazing, logging, development, and domestic use. Other causes include rapid population growth, limited access to agriculture-related technical assistance, and lack of knowledge about profitable soil fertility management practices leading rapid yield decline, shortened land use cycles, increased bush clearance and expansion into less-favourable lands.

A significant amount of the food is lost through pre- and post-harvest losses. The tropical climate makes foods produced in these regions prone to pests and diseases. Poor handling and storage further increase the post-harvest losses and up to 40% of maize harvested is lost prior to consumption by local farming families.

Access to markets is another hurdle that smallholders have to overcome. The problem is many-fold: poor infrastructure and barriers in penetrating the market caused by their limited resource base, lack of information, lack of or inadequate support institutions and poor policies in place among other factors. Poor infrastructure literally limits the markets to which farmers can profitably take their produce by increasing the cost of transportation, and hence also acts as a barrier to market penetration. Other barriers include market standards, limited information, requirements for large initial capital investments, limited product differentiation, and handicapping policies. While almost any of the farm produce sells at the village level market, consumers are quick to discriminate against produce that is comparatively inferior, hence farmers have, over time, adapted to selling only that which will sell. The soya-bean market has been growing in recent years and there is now strong demand for the crop from local traders.

Overall Goal:

To improve household income and food security for 1,500 farming families (approx 12,000 people) living in the Luansobe area.

Specific Outputs:

- Form a Food Security Steering Committee to consist of two Government Extension Assistants, the Director of Kaloko Trust Zambia, the Nurse-in-charge of the Rural Health Clinic and two Community Representatives.
- The Steering Committee shall meet once every fortnight to receive reports from the extension staff and discuss the problems identified during field visits.
- Set up one soya-bean demonstration field of 0.25 hectares on land offered by Kaloko Trust
- Train 22 people in locally appropriate soya-bean production techniques
- Run nine practical training sessions covering the main aspects of the soya-bean cropping cycle
- Supply 15 farmers with seed and fertiliser for 0.5 hectares of soya-beans each
- Give regular extension support to 15 farmers who have set up demonstration areas on their own farms

- Provide support to the practical training of a further 150 farmers on soya-bean production

Beneficiaries:

- The direct beneficiaries will be the 172 farmers to be trained in soya-bean production during Phases 1 and 2
- Other beneficiaries will be the nearly 1,400: family members of the farmers trained who will benefit from increased household income and improved food security
- Indirect beneficiaries will be 1,500 farming families (approx 12,000 people) living in the Luansobe area who will be exposed to local examples of soya-bean production and thus be able to make informed decisions as whether to adopt the new crop.

Project Implementation and Reporting

Kaloko Trust Zambia (KTZ) staff together with the Department of Agriculture Extension Assistant will be responsible for organising the implementation of the project. They will organise the training of the groups and the procurement of the necessary inputs. Funds expended on inputs will be carefully recorded by the group and reported to the members. Project progress will be regularly reported in the Kaloko Newsletter, which is produced three times per annum and sent out to all donors, with fuller details included in the Trustees Annual Report. Major donors will receive a full final project report including project achievements and a financial breakdown.

Kaloko Trust

Since 1989 Kaloko Trust has been working to relieve poverty, in the Luansobe area of the Copperbelt Region in rural Zambia. Kaloko Trust UK was established in 1995 and works with the local partner organisation Kaloko Trust Zambia to develop local agriculture and income generation, through self-help projects, and by promoting the environmentally sustainable use of natural resources. From this basis the Trust works to advance education and to promote the healthcare of rural communities through training and the support of schools and health clinics. The different programmes run fall into the following categories:

- ***Agricultural Training & Development***
Improving the livelihoods of smallholder farmers by helping to develop agricultural production and increasing access to markets and services
- ***Natural Resource Management***
Helping rural communities to improve access to water and to make more sustainable use of local forest resources.
- ***Community Social Development***
Working in partnership with rural communities and the Zambian government to provide education, promote healthcare and address the issue of HIV/AIDS.
- ***Enterprise Development***
Helping to develop local enterprises that add value to local produce, generate income, raise skill levels, provide employment and support local economic activity.

Further details can be accessed on the website : www.kalokotrust.org. A full version of the 2007 Annual Report and Accounts is available on the Charity Commission website www.charity-commission.gov.uk by entering the number 1047622 in the box in the Search the Register of Charities.

Zambia: Country Information¹

- Capital: Lusaka
- Government: democracy
- Population: 11.9 million
- GNI per capita: US \$630
- Life expectancy: 40.6 years
- Area: 752,614 sq km (290,586 sq miles)
- Major languages: English (official), Bemba, Lozi, Nyanja, Tonga
- Major religions: Christianity, indigenous beliefs, Hinduism, Islam
- People: Over 70 ethnic groups largely black Bantu
- Monetary unit: Kwacha (approx 7,000 = £1)
- Main exports: copper, minerals, tobacco
- Children: 45.7% of population under 15
- Poverty: 68% living below the national poverty line
- HIV statistics: more than 17% (pop aged 5 – 49)



¹ Statistics from the UN 2007 Human Development Report, World Bank Country Report 2007 and UNAIDS Global Report 2006

- Orphans: Zambia has the second highest proportion of AIDS orphans in the world (> 700,000)
- 95% of people in rural areas are subsistence farmers

According to the United Nations, Zambia is ranked 165 out of 177 countries on the Human Development Index². 64% of the population live on less than \$1 a day and 87% live on less than \$2 a day. For some time United Nations indicators for eradicating hunger, achieving universal primary education and reducing child mortality have been in decline. A past legacy of economic mismanagement, debt and disease are said to have contributed to the country's poor economic status today. Politically, Zambia gained independence in 1964, switching from a colonial government into an era of one-party rule lasting 27 years. A multi-party system emerged in the early 1990s and more recently the economic situation has begun to improve.

At independence, Zambia had one of the highest per capita incomes in sub-Saharan Africa. It had large deposits of minerals, a good climate, plenty of agricultural land, and wonderful game reserves. Zambia was encouraged to concentrate on the production and export of copper and it became one of Africa's most industrialised and urbanised countries. Initially the newfound wealth from copper paid for extensive education and health programmes. But following the oil crisis in the 1970s, the price of copper fell dramatically and the price of oil rose. Zambia was forced to turn to the IMF³ and the World Bank for assistance. So began some thirty years of Bank and Fund intervention in the Zambian economy with a period of increasing foreign debt, economic collapse and social crisis. During this time Zambia's debts rose from US\$800 million to almost US\$6 billion. Current monies owed by the Zambian government total US\$3.3 billion. Since 1991, to qualify for debt relief, Zambia has been forced to implement economic reforms such as privatisation, trade liberalisation, subsidy cuts and public sector wage freezes. And yet, in the same period and despite these actions, Zambia has had the worst economic performance of any African country

that has not suffered from conflict. Its economy declined by 1.7% a year in the 1990s, and by 2003 Zambia had received only 5% of the debt service reduction committed to it. Between 1993 and 1996, Zambia spent four times more on debt servicing than it did on education. The government raised school fees as a result and primary school enrolments fell with almost 600,000 children not attending school, the majority girls. More recently the Zambian government reversed its stand on school fees and access to primary school is now free. However, many schools lack adequate classroom space, qualified staff and appropriate teaching materials and still rely on contributions from parents and other charitable sources. For poor people in rural areas the consequence of these economic difficulties has been a steady decline in access to such basic rights as sufficient food, clean water, health services and education: 46% of the population are undernourished; 10% of children do not live to see their 5th birthday; only 60% of children go to school; and life expectancy has fallen to 40 years. Against this backdrop of extreme poverty, Zambia now faces yet another crisis: HIV/AIDS. Approximately one in six people are HIV positive and AIDS is now considered the biggest threat to Zambia's struggle for development. It is killing an entire generation, and Zambia now has the second highest number of orphans in the world.

Zambia's climate can be split into three periods. From December to March it is hot and wet, with regular and heavy downpours. The average rainfall at the project site is about 1,000mm a year. From April to August it is dry and cool and then from about September it starts to get progressively hotter until the rains start again. About 70% of Zambia consists of what is termed Miombo woodland. This is a mixture of grassland dotted with trees and shrubs. However, less than 10% of the country is used for agricultural production.

² The HDI provides a composite measure of three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and enrolment at the primary, secondary and tertiary level) and having a decent standard of living (measured by purchasing power parity and income).

³ International Monetary Fund