Claire Reid Reel Gardening

Alleviating food shortage through sustainable subsistence gardening

2010 SEED Winner

SEED CASE STUDIES: INSIGHTS INTO ENTREPRENEURIAL SOLUTIONS FOR SUSTAINABLE DEVELOPMENT
SEED Case Studies Series
Demonstrating Sustainable Development on the Ground Through Locally-driven Eco-entrepreneurship

Social and environmental entrepreneurship, also known as green and inclusive entrepreneurship or eco-entrepreneurship, could play a critical role in achieving a global Green Economy. By embracing the added values of social improvement and wise resource management eco-enterprises that have won a SEED Award are living proof that entrepreneurial partnerships between various stakeholders can create innovative and novel solutions for delivering sustainable development at the grassroots and be economically sustainable.

Over the last ten years, SEED has awarded nearly 180 SEED Awards to eco-enterprises in 37 countries. While the value of eco-entrepreneurship in delivering sustainable development is increasingly recognised and harnessed in the development sphere, there is still very little data available on the triple bottom line impact of these enterprises and their contribution to sustainable development.

The SEED Case Studies are designed to help fill that gap by generating insights for policy and decision-makers on the role of green and inclusive enterprises in achieving sustainable development, and on enabling factors that can help them overcome barriers and reach scale and replicate.
1. Partnering for local solutions

1.1 Local challenges

Located at over 1,500 metres above sea level, on the Highveld plateau, Gauteng is the smallest province in South Africa. While it accounts for only 1.5% of the land area1, the province is one of the major economic engines of Africa, generating about 1/3 of the country’s Gross Domestic Product (GDP)2, 10% of the total GDP of sub-Saharan Africa and about 9% of Africa’s total GDP3. It is home to the country’s largest city, Johannesburg and the administrative capital, Pretoria.

Hidden poverty and inequality

The wealth and resources of the area mask some stark realities in the region; high inequalities in the distribution of income, high unemployment rates (25.1%), and rapid population growth (Gauteng houses 23.9% of the nation’s population) attributed largely to cross border and internal migration in search for employment. As a result, many suffer from poverty and lack of resources4. Despite ongoing efforts from the government to increase the general standard of living, which has achieved some significant improvements, the Gauteng Provincial Government reported in 2011 that about 16.5% of Gauteng households still did not earn an income. In fact, with a population of over 12 million, roughly two million people in Gauteng live below the food poverty line of ZAR305 per month5 whilst 3.4% earned an annual income of around ZAR18,8006. Statistics also show that in 2013 Gauteng still had the highest inequality rate7 of all South African provinces. Looking at the province. Taking into account that most households, even informal dwellings, often have a little outdoor/garden area the question is whether sustainable, non-income-dependent measures, such as the promotion of subsistence farming, could solve the problem8.

With South Africa being a semi-arid country, and the 30th driest country in the world9, water shortage creates an additional challenge in the production of food. The causes for water shortages are multiple: migration from rural areas to the cities increases the demand for water in urban areas; rains that would normally supply the country are infrequent, due to climate change (in 2014 South Africa experienced the worst drought since records began)10. Infrastructure for the storage and distribution of water is inadequate or inefficient; and water in cities is often stolen11. As a result, in 2013 5.8% of the population in Gauteng still did not have access to clean water.12

Women are the backbone of small-farmer agricultural production in South Africa13 and it is they who are most likely to grow food to meet their families’ food security needs. Yet at the same time they suffer more from a lack of access to employment, income and water, and hence from food insecurity.

2. Creating innovative local solutions

Claire Reid Reel Gardening (CRRG) contributes to addressing issues of food insecurity in households by producing handmade paper strips embedded with organic seeds that can produce 13 types of vegetables, such as beans, spinach or beetroot and 5 types of herbs. CRRG’s products range from single vegetable strips to pre-packaged assortments such as the Summer Vegetable Garden in a Box containing seed tapes of five different seasonal vegetables or the School & Community Garden in a Box which aims to make large-scale gardening easier.

The strength of each Reel Gardening product revolves around the unique seed sowing factors that maximise the germination rate. Chief amongst these are the sowing depth and the sowing intervals; both are incorporated into the product. By already placing the seeds at the correct distance apart from one another inside the strips and indicating with a coloured line the correct depth at which the strip should be buried, the enterprise maximises the success rate for the plants to grow. Furthermore, as detailed instructions are given in English, Afrikaans, Zulu, Sesotho, Sepedi, Setswana and Xhosa in addition to simple drawings, this approach to food gardening is accessible to all, regardless of their education and level of literacy.

An additional benefit is that the strips tackle the initial expense encountered in starting a standard vegetable garden such as fertiliser, compost and planting materials: here only water is needed. The strips are made up of biodegradable paper and a customised fertiliser which enables the seed to remain constantly moist, making germination more successful. Through this method households can save up to 80% of water consumption when compared to traditional methods. Also the paper protects the seed from birds and from water pushing them to the surface. Finally, the paper will decompose, thus producing compost in the ground which creates a warm and nurturing environment for the new plant.

Reel Gardening is once again an ideal solution for those living in urban areas, where space is limited. The strips, which are sold in reels for R10 ($1) a metre, fit into planters and pots for those who do not have access to land and can be grown in small gardens in informal settlements, townhouse and apartment developments.

All the proceeds of sales, such as the paper, organic seeds, and fertiliser are supplied by a set of partners and the storing, production of the strips and packaging is done internally. The enterprise has three main target groups: households, schools, and community gardens. The for-profit side of the business targets high and middle income households through commercial sales and the non-profit side of the business provides the seed strips to low-income households, the schools and the community gardens. For the commercial sales, the boxes are sold online or through retail partners. The enterprise uses many cross-selling opportunities in the organic food industry to increase the distribution of its products into the marketplace. Some large corporations such as Unilever have the packages custom-branded and can use the products as gifts, part of their marketing campaigns or hand them out to communities as part of corporate social initiatives.

The non-profit side of the business aims to address food security and nutrition for children and low-income households, by distributing the strips to schools and community gardens through various project partners as well as having a direct involvement in school projects in Limpopo. As part of their Corporate Social Responsibility (CSR), Unilever also contributes to the dissemination of the strips to schools.

Facts

Two million of the Gauteng population live below the food poverty line

20% of households in Gauteng go to bed hungry

In 2013, Gauteng still had the highest inequality rate in South Africa

In 2013, 5.8% of the population in Gauteng did not have access to clean water

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1 Gini >0.65

2 Source: World Bank

3 UNDP

4 City of Johannesburg

5 Source: Statistics South Africa

6 Source: Statistics South Africa

7 Source: World Bank

8 Source: Statistics South Africa

9 Source: World Bank

10 Source: World Bank

11 Source: City of Johannesburg

12 Source: Statistics South Africa

13 Source: World Bank
1.3 The Power of Partnerships

Reel Gardening has chosen a strategic set of national and international partners that has enabled it to develop the unique technology and disseminate it to multiple segments of society in South Africa, and also abroad. While most of the partnerships are based on letters of agreement rather than contracts or Memoranda of Understanding, without doubt, the partnerships that Reel Gardening has developed have been key to their success.

Engaging new partners to address new needs

Through regular communication and by providing mutual benefits to its partners, Reel Gardening has so far managed to maintain successful and thriving relationships with all its partners. They could benefit from additional partners that would assist with financial management, particularly in the extensive reporting for the USAID project, and with capacity building to provide support to new communities in the country.

1.3.1 National NGOs

**Lonely Road Foundation**

Lonely Road Foundation, which has worked with Reel Gardening since the end of 2011, has a network of community projects, and early childhood development and drop off centres in Limpopo. They also have the technical capacity to manage community-based projects and therefore provide Reel Gardening with facilities where the products can be sold and their use adequately demonstrated.

**International Businesses**

**Unilever**

Unilever, which started working with Reel Gardening in 2013 under a 3 year agreement, is one of the biggest partners and has two main functions. One, it is one of the main distributors for the commercial sales. Secondly, they contribute 50% of funding to the school projects, which is coordinated by SPACE (see below), and to the training of sales agents to schools, nurseries and community gardens, which is coordinated through Avocado Vision (see below). In turn this contributes to their revenue stream and the expansion of their product portfolio.

**Reach Scale**

Reach Scale, an American business that has worked with Reel Gardening since 2013 and contributed significantly to the growth of the business. Their main purpose is to assist the enterprise with fundraising and with growing its networks, one result of which was the USAID project. As a return, Reach Scale earns a commission and can fulfil its vision of building a network of social enterprises.

**Avocado Vision**

Avocado Vision is contracted directly by Reel Gardening and paid for through the Securing Water for Food Programme (see 2.1). Their aim is to train sales agents under the USAID project, and so to expand the dissemination of the seed strips to schools and community gardens.
2. Building an inclusive eco-enterprise

The idea for Reel Gardening stems from the founder, Claire Reid, who at the age of 16 became increasingly frustrated with trying to make her own vegetable garden. She was faced with multiple difficulties such as unclear or overly complicated instructions, not knowing how deep or how far from each other seeds had to be planted, seeds flying around in the process of planting, birds eating the seeds, or seeds moving to the surface when watered, all-in-all resulting in large amounts of seeds and fertiliser being wasted and for very little result. It was then that the idea of an easier and more efficient way of cultivating vegetables burgeoned.

Fast forward thirteen years and many awards’ later and Reel Gardening is now a successful multi-award-winning brand and thriving social enterprise that is constantly growing. However this growth did not come without challenges. First they had to develop the right technology and find start-up funding. After a long search, Reel Gardening partnered with Labelpak and together they developed and tested the seed strips during 2010-2013. Angle Zimele provided the start-up funds in 2009 for the development of a commercially viable product as well as accountability and legal assistance. As a result, Reel Gardening was able to open its doors for business on the 12th February 2010, entered the retail sphere with a range of 27 products, and soon expanded to a team of six.

Five years later, Reel Gardening has a stable market for commercial sales through Unilever and online shopping which has expanded to the United Kingdom since 2014. At the same time they cater for lower income clients and schools through numerous community-based projects.

2.1 Financial development

The enterprise had start-up funding from Angle Zimele for the development of the product. In 2011, Reel Gardening received ZAR1,000,0003 for winning the inaugural SAB Foundation Social Innovation Awards, which they used to purchase company vehicles, machinery, raw materials and computers as well as to repay outstanding debt on loans. In 2014, Reel Gardening was one of the awardees of the ‘Securing Water for Food: A Grand Challenge for Development’ – a joint project between USAID, Sweden’s development agency (Sida), and the Ministry of Foreign Affairs of the Kingdom of The Netherlands (MFA-NL) for which they received grant funding of ZAR 5,000,0004 for the roll-out of the school and sales agent training projects. This grant matches the donation of any non-government sponsors; in this case Unilever provides the other 50% funding through Unilever Chairman’s Green Fund that the Board makes available for exceptional projects.

2.2 Employment situation

Starting 2015, the enterprise reports 9 direct, full-time employees including 2 managers/directors, one of whom is female. Overall, women occupy 8 out of the 9 positions in the company. In terms of wages and salaries, the enterprise reports an average salary amounting to USD12,920 per year, which is almost double the national average, according to the 2013 World Bank indicators5 and offers to contribute 50% towards health insurance for employees. It also offers general and individual training to its staff, ranging from driving lessons to computer literacy, depending on people’s roles in the production process.

2.3 Business Development

Reel Gardening is still experiencing difficulties in balancing supply and demand. At times the demand is higher than the production capacity, while at other times there is a surplus of stock. The enterprise is now looking to expand its marketing resources in order to generate a higher and more constant demand. Reel Gardening is also constantly aiming to expand its national and regional outreach. For 2015 the plan is to implement 300 school gardens and to start exporting products to the UAE. Lonely Road Foundation and Space help to achieve the target for schools while Reach Scale has already helped identify partners for export to the USA and will be working on developing those relationships in the coming year.

The next development is the recently initiated training of sales agents. This project has only just started and therefore the achievements are so far limited. In addition, the enterprise aims to increase its sales by developing a tablet application for which they have already developed the content. They are now in the process of designing the App with a developer.

Finally, under their ‘planting revolution project’, which has a workbook and a set of seed strips to teach children about sustainable gardening and nutrition, Reel Gardening want to explore initiating exchanges between schools in South Africa and in the United Kingdom.

Fast Employment Facts

<table>
<thead>
<tr>
<th>Workers</th>
<th>Female Workforce</th>
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<td>9</td>
<td>89%</td>
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3 Awards received include the Stockholm Junior water prize in 2003, the South African Breweries Social Innovation Award and SEED Awards in 2011, the Eco-Logic Awards in 2012 and the Hult Prize to solve the global food crisis in 2013.

4 According to the average annual exchange rate USD138,000.
3. Reaching impact

3.1 Beneficiaries

As an inclusive eco-enterprise, Reel Gardening not only aims to be financially sustainable, but equally strives to generate environmental, economic and social benefits for local communities. South African women and children from low income households are the main beneficiaries of the enterprise. Women benefit along the entire value chain from the production of the strips to implementing the gardens, as they have new income opportunities, new skills and access to fresh and organic food in semi-arid areas where food and water shortages are prevalent. Children benefit from better nutrition and early age skills development. Middle and high income households also benefit from the products as they are able to produce their own organic vegetables and save money as it would be more expensive to buy those from retailers.

3.2 Social impacts

Social impacts are generated both from the for-profit and from the non-for-profit sides of the business, although those on the non-for-profit side are the more significant. The benefits for the low-income households which are reached through the non-for-profit side of the business are multiple.

Increased access to fresh food and nutrition

Through the various partners the seed strips are distributed to community gardens, schools, orphaned and vulnerable children drop-off centres and childhood development centres in areas where there are water shortages, where, according to SPACE, up to 90% of the households are food insecure and where 98% of the households do not grow their own food. With training from the partners on how to use the strips properly in order to gain the maximum result, so far 30,000 children in 150 schools have been provided with the recommended daily allowance of fresh vegetables.

Improved water infrastructure

Beneficiaries also stress that the projects have improved the overall water infrastructure, for instance by setting up water tanks, fencing, and rainwater collection, all of which have indirect benefits. The availability of water means for example that care-givers now spend less time fetching water as it is now accessible on site.

1,501 children have been taught about photosynthesis and how to start their own vegetable gardens. They are developing skills at a very early age in composting, trellising, weeding and organic pest control.

“The strength of the product is that it is also accessible to use for people that are illiterate. By planting and cultivating their own vegetables, it gives them a sense of pride”

Beneficiary

By involving the communities and schools throughout the whole process, the partners report that there is a real feeling of ownership amongst the community which ensures that the gardens are maintained even after the partners are not involved anymore. The effects trickle down through the community and some beneficiaries report starting their own vegetable gardens at home.

Commercial customers, mostly high and middle income households, benefit from cheaper access to a wide variety of organic vegetables and herbs which they can cultivate in their garden or homes.

3.3 Economic impacts

The economic aspect of the Triple Bottom Line includes the internal economic performance (Section 2) as well as economic advancement for the community.

Firstly, the disposable income of households increases as the money that would have been used to buy fresh organic vegetables and the money generated from the surplus by individual households can be saved for other items.

Secondly, through training the enterprise promotes micro-entrepreneurship and indirectly provides low-income beneficiaries with skills that will give them access to employment.

Finally, by improving nutrition of children and people in general, those will be healthier which indirectly reduces health costs and increases productivity.

3.4 Environmental impacts

By its very nature, Reel Gardening is an organic enterprise which applies high environmental standards. It uses no electricity in the manufacturing process and recycles as much as possible.

The environmental impacts are derived mainly from the organic practices, raising awareness and the reduced use of water for gardening.

Due to the semi-arid character of the area, it was very difficult for people to grow anything. By introducing only organic practices, the beneficiaries report that the better use of the soil has resulted in noticeably less soil erosion.

Another environmental benefit is derived from the fact that the strips need 80% less water than any other gardening practices. The community gardens, schools and children centres use sprinklers that have timers, drip irrigation and use collected rain water.

Waste is also very much taken into account throughout the whole process. The seed strips are bio-degradable, and food waste, which used to be thrown away, is now turned into compost that can be used for the gardens. At the moment the only waste that is not recycled is the backing paper (a by-product of the manufacturing process), which is sent to landfill. Attempts were made to recycle it as packing support material or to return it to the manufacturers for recycling, but they were unsuccessful. For this reason a technical partner that can help find an environmentally friendly way of using this by-product is being sought.

Finally the training in organic practices raises awareness in the community. The 1,500 children and 300 teachers that have been trained can pass the knowledge on to their parents and children which creates a ripple effect throughout the community.

To minimise any pollution generated in transporting the seed strips, Reel Gardening clusters the community gardens, schools and children centres.
4. Charting green and inclusive growth

**IMPACT**

Generating food security through organic gardens

In a semi-arid area where water is scarce, farming is labour-intensive and food insecurity is still prevalent, Reel Gardening has developed a simple product that can be used by all, regardless of language, literacy level or skills, to produce a wide range of organic vegetables and herbs - the Reel Gardening seed strips. The innovative and so far unique product ensures maximum germination using 80% less water than normal gardening practices. As a result, low income households and over 30,000 children now have access to fresh food and a more nutritious diet. The enterprise creates employment and widespread indirect income opportunities, and through training, over 1,000 people have been able to develop new transferable skills.

**CHALLENGES**

Marketing

The enterprise seems to struggle the most with marketing, due to a lack of time and resources. As a result, they have not been able to expand their market and the number of sales as much as they wanted. Nevertheless, with a new training programme to train sales agents, with the help of a fundraising partner, and with the introduction of a dedicated App, the enterprise is expected to be able to streamline their marketing and reach out to new markets.

**SUCCESS FACTORS**

Partnerships and community engagement

Partnerships have been vital for Reel Gardening through each development phase of the business model: the technical partner Labelpak for development of the technology for the product, Unilever for the commercial sales of the products, and Lonely Road Foundation and Space for accessing low income communities to set up the community and schools gardens. In addition, the US-based fundraising partners Reach Scale played an essential role in acquiring grant funding from USAID and in extending the market into the USA.

**FUTURE NEEDS**

Scaling up nationally and internationally

Reel Gardening aims to increase their number of commercial sales and their goal is to enter the USA market, for which they have identified partners. Nationally, they aim to identify additional partners in order to replicate the community and school gardens in the rest of the country.
Acknowledgements

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About SEED

SEED strengthens the capacity of small grassroots enterprises in developing countries to enhance their social, environmental, and economic benefits, builds bridges between entrepreneurs and policy makers and stimulates exchange and partnership building.

SEED was founded by the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP) and IUCN (International Union for Conservation of Nature) at the 2002 World Summit on Sustainable Development in Johannesburg and is hosted by Adelphi Research gGmbH, based in Berlin, Germany.

Adelphi Research (AR) is a leading think-and-do tank for policy analysis and strategy consulting. The institution offers creative solutions and specific experience in socio-economic research and grassroots livelihood development, coastal resources management, and eco-entrepreneurship in developing countries and emerging economies.

Magdalena Kloibhofer

Magdalena Kloibhofer is a Project Manager at Adelphi Research and has worked for SEED since 2011. Her focus lies on fostering sustainability entrepreneurship and inclusive green business models in developing countries and emerging economies, with specific experience in socio-economic research and capacity building to help enterprises develop socially and ecologically sustainable business models.

Amélie Heuër

Amélie Heuër has worked at SEED since 2009 and is the SEED Programme Manager. With ten years’ experience working in the field of sustainable development, she has specific expertise on multi-stakeholder partnerships, socio-economic development and advice received from the Koninklijk Instituut voor de Tropen (KIT) and from our colleagues at SEED: Rest Kanju and Marianne Henkel.

Helen Marquard

Helen Marquard has been Executive Director of SEED since 2007. Prior to that she was a senior official in the UK government, responsible for various aspects of environment and sustainable development policy at the EU and Helen holds a PhD from international level. Manchester University.

About the lead authors

This case study is mainly based on interviews and site visits to the enterprise in late 2014 / early 2015, as well as internal documents such as the enterprise’s business plan. Additional resources are listed below.

IX http://www.who.int/bulletin/volumes/89/12-089243/en/.
XI http://www.who.int/bulletin/volumes/89/11-089243/en/

Notes
For more information, please write to info@seed.uno or visit www.seed.uno