



# A Three Year Investigation into the Triple Bottom Line Performance of Small and Micro Social and Environmental Enterprises in Developing Countries

## Part 2: Case studies on the progress of nine winners of the SEED Award

Prepared for the SEED Initiative by  
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May 2012



**SEED Initiative**

supporting entrepreneurs for sustainable development

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Report produced by Leslie Paas, Ben Akoh and Heather Creech, IISD (May 2012)  
With three case studies contributed by Green Park Consultants, Ltd.

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Published by the SEED Initiative and the International Institute for Sustainable Development

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## Acronyms

ATCs	Appropriate Technology Centers
BCP	Bio-cultural Protocols
BV	Blue Ventures
BVC	Blue Ventures Conservation
BVE	Blue Ventures Expeditions
CBO	Community Based Organisation
CEMINA	Comunicação, Educação, e Informação em Gênero
GPC	Green Park Consultants
IHSM	Institut Halieutique et des Sciences Marines
IISD	International Institute for Sustainable Development
FAO	United Nations Food and Agricultural Organisation
FPO	For-profit Organisation
KPMC	Kenya Promotion and Marketing Company (H) Ltd.
LMC	Local Management Committees
MIT	Massachusetts Institute of Technology
MPA	Marine Protected Area
NFP	Not-for-Profit Organisation
NGO	Non-Governmental Organisation
NJ	Natural Justice
REDEH	Rede de Desenvolvimento Humano
SMME	Small, Medium-sized and Micro Enterprises
UEBT	Union for Ethical BioTrade
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational Scientific and Cultural Organisation
VCAC	Village Cereal Aggregation Centres
WCMC	World Conservation Monitoring Centre
WCS	World Conservation Society
WFP	United Nations World Food Programme



2007 SEED Winner New Life

## 1. Introduction

The SEED Initiative is a partnership of UNEP, UNDP and IUCN, hosted by UNEP-WCMC. SEED identifies, profiles, and supports promising, locally-driven, start-up enterprises working in developing countries to improve livelihoods, tackle poverty and marginalisation, and manage natural resources sustainably.

A central and defining feature of SEED's programme is its commitment to a research and learning agenda. SEED's research seeks to increase technical knowledge and understanding about these small scale, locally-led activities, by gathering data on their social, environmental and business goals, the benefits they deliver to their communities and the surrounding ecosystems, and the internal and external factors that either support or impede their growth.

IISD has been SEED's research and learning partner since 2007. Based on the research, SEED and IISD prepare both tools to help the global community of social and environmental entrepreneurs, and analyses targeted at policy- and decision-makers on the necessary enabling conditions for these enterprises to contribute to a greener economy in their countries.

### 1.1 Purpose of the Three Year Study, and the Case Study component

In 2007 and 2008, IISD interviewed the first 15 SEED winners to gain insight into critical success factors and performance indicators for these types of enterprises. In 2009, SEED and IISD started a larger scale three year performance study of social and environmental enterprises, with a focus on two key questions:

- Is it possible to determine whether and how such enterprises are making a contribution to social, environmental and economic progress within their communities; and
- What are the enabling factors and barriers to making that contribution?

The study group of 1337 enterprises is in three Cohorts:

- Applicants for the SEED Award from 2005 to 2009,
- Applicants for the 2010 award
- Applicants for the 2011 award.

The results of the first two years of the study were insightful, providing a clear idea of the main barriers and opportunities of these enterprises, as well as casting light on their strengths and needs.

The original methodology included a resurvey of respondents each year to track the progress that they were making towards their social, environmental and business goals, and to identify whether there were significant changes in enabling factors and barriers to progress. However, the response rate to the first resurvey of Cohort 1 was too low for the purposes of a longitudinal study.

In order to gain insight in the challenges of growing and sustaining these enterprises, the decision was taken to adopt a case study approach, focusing on the progress of selected SEED winners in the 2005-2009 cohort, and the 2010 Cohort, from the time of their award to 2012. This qualitative data will complement the quantitative survey data, either validating the findings, or providing important insight into points of divergence from the broader survey group.

The Study has been published in two parts:

- Part 1 presents the findings from the survey of Cohort 3, noting any variations from Cohorts 1 and 2, and with particular attention to the African respondents within the Cohort. It also includes:
  - A gender analysis of the full Cohort, comparing responses from women-led enterprises to those led by men.
  - A focus on South African respondents, for SEED South Africa: the first national SEED programme.
  - An analysis of the 2011 SEED Winners data, compared to the full Cohort.
- Part 2 presents case studies on the progress of nine SEED Winners in Cohort 1 (2005-2009), and Cohort 2 (2010) from the time of their award to 2012.

The balance of this report, Part 2, covers the results of the case study component.

## 1.2 Scope, objectives and methodology of the Case Study component

This component looks at nine SEED Award-winning enterprises and their progress since they received their award. The nine studies have been selected in consultation with the SEED Secretariat and Green Parks Consulting Ltd, a firm contracted to conduct an independent evaluation of the SEED Initiative. Criteria for selection of the cases included:

- Length of operations and enterprise “health” (a decision was taken early on to focus on those winners who had clearly demonstrated stability and growth, to better understand the underlying factors contributing to enterprise health)
- Diversity in the group, with representation from a cross section of country and sectoral interests
- Existence of baseline data from various sources, including
  - from case studies prepared by the Global Public Policy Institute for the 2005 SEED Winners
  - from interviews conducted in 2007 and 2008 with winners at the time of receiving their awards
  - the survey of applicants (including winners) in 2005-2009 (Cohort 1)
  - the original application forms for 2010 winners
- Existence of progress reports (whether they had remained in contact with the SEED Secretariat and provided written or verbal progress reports since the year of their award)



Specific objectives include:

1. Describe the current status of each enterprise, in terms of its scale of operations, future prospects, and social, environmental and economic outcomes and benefits.
2. Identify the success factors that have contributed to the development of each enterprise.
3. Identify barriers the enterprise has met along the way, as well as gaining an understanding of how these barriers have been/are being dealt with.
4. Identify and map the stakeholders that the enterprise engages with as supporters and beneficiaries. Describe the role that each has played in the enterprise's development.
5. Compile the key lessons learned from each case and analyse these lessons as a cohort, in order to guide scale up and replication for other SMMEs.

Of these nine case studies, six (6) have been conducted by IISD and the remaining three (3) by Green Park Consultants Ltd. (GPC).

The research methodology was based upon both qualitative and quantitative data collection, based on desktop research and key informant interviews. It should be noted that GPC's data collection also included field visits and focus groups<sup>1</sup>, whereas IISD's research was limited to telephone interviews. The following table presents the data collection sources and compares what sources were drawn upon by respectively by IISD and GPC.

Table 1. Data collection sources

Data Collection Sources	IISD	GPC
Desktop research:		
• Winning project's website and partner websites	✓	✓
• Relevant publications (such as the enterprise's business plan, annual reports, publications in the media surround the enterprises, etc.)	✓	✓
Key informant interviews		
• The winners (The lead person representing each winning enterprise)	✓	✓
• One to two major partners of each winner	✓	✓
• The SEED secretariat (Responsible for capacity building and communications with the Winners)	✓	✓
• Adelphi (SEED partner for the provision of training and support to winners)	✓	✓
Field visits with each Winner		✓
Focus groups with Winners and their partners and beneficiaries		✓

IISD conducted key informant interviews via telephone, while GPC conducted interviews in person. Further, not all key informants listed were able to be reached in all cases.

<sup>1</sup> GPC was contracted by SEED to conduct 3 in-depth case studies as part of a separate programme evaluation of the SEED Initiative. The case studies presented here are shorter versions of those prepared for the evaluation.

## 2. The Case Studies

The case studies presented in this report are listed below according to the year of winning the SEED Award, country, title of project and the sectors in which each enterprise works.

Case studies compiled by IISD			
Year	Country	Title of project	Sector(s)
1. 2005	Madagascar	Madagascar's first community run marine protected area	Biodiversity/Natural resources
2. 2008	Brazil	Pintadas Solar (By REDEH)	Climate change adaptation/mitigation/Food security/Water and sanitation
3. 2009	Burkina Faso	Nafore and Afrisolar Energy Kiosks	Energy / Renewables/Information and communication
4. 2009	South Africa	Bio-cultural community protocols	Biodiversity/Natural resource management Information and communication
5. 2010	China	SolSource	Climate change; Energy / Renewables Sustainable consumption and production
6. 2010	Kenya	Village Cereal Aggregation Centres (VCAC)	Agriculture
Case studies compiled by GPC			
7. 2009	Colombia	Oro Verde	Biodiversity / Natural resource management/ Sustainable consumption and production
8. 2010	Uganda	Oribags	Education Sustainable consumption and production Waste management
9. 2010	Sri Lanka	The Rural Enterprise Network (REN)	Agriculture (incl. aquaculture) Biodiversity / Natural resource management Energy / Renewables Fisheries Forestry / Non-timber forest products Micro-enterprise development Sustainable consumption and production

Each case study covers the following elements: origins, growth; social/environmental/economic benefits and outcomes provided to their communities; key stakeholders, success factors and barriers, and lessons learned.



2005 SEED Winner Madagascar's first community-run marine protected area

## 2.1 Madagascar's first community-run marine protected area (2005)

### 2.1.1 Overview

"Madagascar's first community-run marine protected area" is a partnership between local people, research institutes, NGOs and a commercial fishing company and focuses on marine conservation and sustainable livelihoods along the southwest coast of Madagascar. The partnership, led by NGO Blue Ventures (BV), was the recipient of the first round of SEED Awards in 2005. The locally managed marine area (LMMA) was successfully implemented, covers 650 square kilometres and operates under the management of an association comprised of elected leaders from 25 villages, with continued guidance from BV. The model has since been replicated to numerous other areas in Madagascar. BV's work has since expanded and diversified considerably, and has been recognised by several other awards and much acclaimed by the media.

### 2.1.2 Origins

From 2001-03, Alasdair Harris, BV's founder and current Research Director, joined a research and conservation project in Madagascar with the country's national marine research institute, *Institut Halieutique et des Sciences Marines* (IHSM). Through his research, he realised that the unique marine area was under threat due to detrimental fishing techniques and population pressures, and recognised both a need and an opportunity to design a research and conservation project that would be managed by local communities. In 2003, Harris created Blue Ventures (BV), a social enterprise registered in the U.K., and began working toward his goal. BV has funded its growing marine conservation initiatives through its volunteer tourism and dive research programme, which has provided a stable business to expand efforts over the last decade.

In 2004, supported by research data, Harris began forging partnerships between BV and other NGOs and working more intensely in Madagascar. BV and its partners selected the coastal fishing village of Andavadoaka to begin awareness raising and environmental education on the importance of managing marine resources, with the intention of establishing Madagascar's first community-run marine protected area. In 2005, BV won the SEED Award for its pilot project design, which pioneered the use of temporary octopus fishery closures to generate community trust and interest in wider marine conservation initiatives.

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#### The key problem

With its high levels of endemism and species richness, Madagascar is consistently cited as a global conservation priority. The southwest coast of Madagascar is host to one of the West Indian Ocean's largest coral reef systems, stretching across 300 kilometers of coastline. However, the reefs are also critical to the livelihood of the local and largely poor community, the Vezo, whose economy is entirely based on fishing. Over-fishing is a threat to the reef system as well as to the livelihood of the local communities.

#### The solution

Marine Protected Areas are designated areas in which the fishing of a particular species is prohibited for a certain period of time so that the species has a chance to regenerate to healthier levels. In turn, this can result in better returns for fishermen as bigger fish can return better prices.

## 2.1.3 Growth and future prospects

### From temporary closure to LMMA



The LMMA began with an experimental temporary octopus closure for octopus fishing grounds in 2005. Octopus is the most economically important species in the area with over 99% of the catch being sold for export. The notable increase in the size and number of octopus at the reserve opening half a year later convinced communities of the benefits of setting up a LMMA.

In 2006, 25 villages came together along the southwest coast to create Madagascar's first locally managed marine area, Velondriake ([www.velondriake.org](http://www.velondriake.org)), meaning "to live with the sea."

The pilot closure was very successful and the initiative was replicated in several neighbouring villages, which came together in 2006 to form the Velondriake Locally Managed Marine Area (LMMA) (see box at left), to manage the continued implementation of temporary octopus closures. Velondriake has since inspired the creation of a growing number of similar locally managed marine and coastal conservation initiatives elsewhere in Madagascar. Now, over 12 similar conservation initiatives are in development, many of which are based on Velondriake's management design and 5 of which are directly supported by Blue Ventures. Furthermore, the temporary octopus closure model has been repeated over 150 times in Madagascar, and even in neighbouring Mauritius. In 2012, BV hosted Madagascar's first national networking and exchange event for LMMAs around the country, creating a new national platform for exchange and learning in local coastal management.

The work of Blue Ventures has now expanded considerably beyond coral reef protected area development, to include the establishment of protected areas in mangrove and seagrass ecosystems, a scholarship programmes for youth in Velondriake, and livelihood diversification initiatives, in particular community-run aquaculture farms. BV has also increased its staff and partnerships significantly and has created a national marine NGO network to support conservation efforts. Further, BV implemented the first coastal population, health and environment (PHE) programme<sup>1</sup> in Madagascar, incorporating community health service provision into its conservation work. Today Blue Ventures community health workers provide year-round reproductive health, WASH (water, hygiene and sanitation), and maternal and child health services in 40 villages in the southern Madagascar. Blue Ventures strives to fund its projects through innovative business-based approaches, such as eco-certification of the octopus fishery, aquaculture projects, and blue carbon research aimed towards establishing Payments for Ecosystem Services (PES) for communities. The lessons learned in establishing Madagascar's first LMMA have influenced the introduction of new fisheries legislation by both the governments of Madagascar and neighbouring Mauritius, and BV is now working with the Malagasy Ministry of Fisheries to expand its approach to other communities.

In the interview given for this case study, Harris sums up the success and growth of BV in Madagascar by highlighting that the enterprise has expanded its focus from setting up one LMMA to supporting the development of LMMAs nationally. BV's approach to protected marine areas now places a greater emphasis on building and supporting new grass roots conservation initiatives that can help to scale up and replicate local conservation efforts. Blue Ventures has also begun working in other countries, such as Belize, to replicate the model. Future prospects include working with the Velondriake Association, Velondriake's community management body, to develop ecotourism in the region, and working toward creating a regional LMMA network across the broader western Indian Ocean.

## 2.1.4 Social, environmental and economic benefits and outcomes

The establishment of the LMMA and the ensuing work by BV and its partners have brought clear social, environmental and economic benefits; outcomes that are highly interdependent. Bans on destructive fishing practices have helped to increase local fish stocks, which have in turn contributed to local income and improved food security.

- a. **Social:** BV's activities are no longer focused solely on marine conservation and research. It has expanded into a broader PHE approach, which has had a multiplier effect – making social benefits difficult to enumerate. An estimate in 2012 is that BV directly benefits over 20,000 local people by working in 50 villages and boosts earnings by over 1,100 USD per village (Gradl, et al, 2012). Specific social benefits include:
  - i. Family planning and community health clinics reaching 40 villages;

<sup>1</sup> The Population, Health, and the Environment (PHE) approach integrates health or family planning with conservation efforts to seek synergistic successes for greater conservation and human welfare outcomes than single-sector approaches [from Wikipedia - [http://en.wikipedia.org/wiki/Population\\_Health\\_and\\_Environment\\_\(PHE\)](http://en.wikipedia.org/wiki/Population_Health_and_Environment_(PHE))].

- ii. Capacity building support to 5 LMMAs and their community management associations (supporting environmental governance):
    - a. Be Andriaky LMMA
    - b. Velondriake LMMA
    - c. Teariake LMMA
    - d. Manjaboake LMMA
    - e. Barren Isles LMMA (in development)
  - iii. Hundreds of educational scholarships; by 2011, 700 educational scholarships had been given to a private school at a total cost of \$30,000. Nearly 200 additional scholarships were given in 2012 alone, with increasing numbers through an online donation programme.
  - iv. Livelihood diversification through women's associations and aquaculture projects, including both seaweed and sea cucumber farming
  - v. Support to other NGOs that act as multipliers of social and environmental benefits.
- b. Environmental:** Initially, the project sought to protect 650 km<sup>2</sup>. Now it is running protected areas summing 3000 km<sup>2</sup>. The specific environmental benefits include:
- i. Establishment of 3,000 acres of seasonal octopus reserves resulting in significant increases in the size and quantity of octopus, specifically an increase catch per unit effort (CPUE) for at least 6 weeks following a reserve opening,
  - ii. Permanent and temporary reserves that benefit several small-scale fisheries
  - iii. Creation of nearly 1,000 acres of permanent marine reserves and 700 acres of protected mangrove forests
  - iv. Policy: aid in establishing environmental laws such as fisheries management planning prioritising sustainability of the octopus fishery (gleaned predominantly by women).
  - v. Generation of important environmental data and knowledge: Pioneering research on the condition of reefs along the coast of Southwest Madagascar, as well as baseline research in current turtle and shark populations to support future conservation.
  - vi. Environmental advocacy: BV has an environmental policy expert based in Antananarivo to advocate for marine conservation issues, and has published research on Madagascar's tuna fishery in relation to European Union policies
- c. Economic:** BV, as a social enterprise, currently now employs approximately 100 permanent staff, up from 1 in 2003. The growth and increased revenue of ecotourism offerings by the enterprise now provides approximately one third of the organisation's turnover. In terms of the economic benefits it provides to beneficiaries of its projects, besides improved livelihoods through greater fish stocks, the community-based aquaculture farms provide the families of 56 sea cucumber farmers with an alternative and profitable source of income; the village of Tampolove received a total net income of US\$7,290 from 2009 to mid-2012. Furthermore, 35 active seaweed farmers, plus an additional 65 in pre-production, operate in 6 villages, up from 3 at the start in 2010. By mid-2012, seaweed production brought in a total of US\$2771.

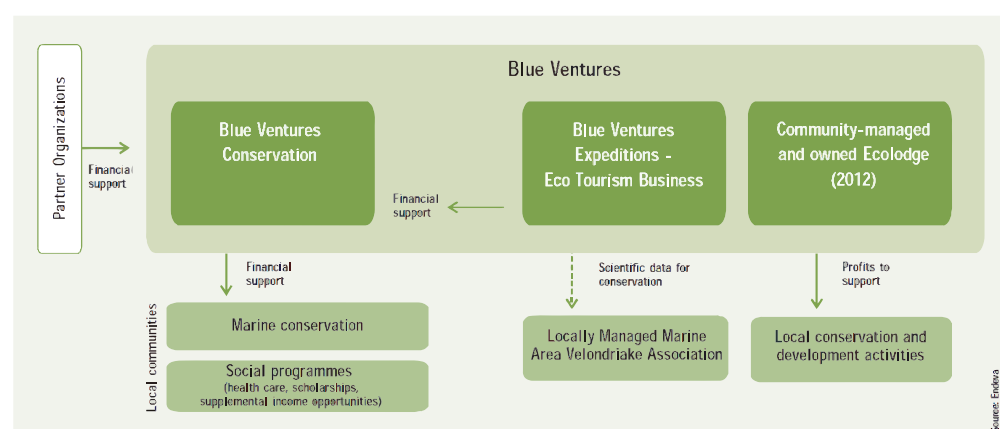
## 2.1.5 Blue Ventures' business model and key stakeholders

Blue Ventures' enterprise comprises a conservation component – Blue Ventures Conservation (BVC) - and a business component - Blue Ventures Expeditions (BVE). BVC works together with a number of largely informal partners and affiliates, including NGOs, government Ministries, and businesses in order to promote marine conservation and implement social

programmes, as shown in the diagram below. The revenues brought through the expeditions contribute to approximately one third of the overall organisation's turnover. Other sources of funding come from:

- Foundations and grant programmes (e.g. the John D. and Catherine T. MacArthur Foundation, Ruffords Small Grant Foundation)
- International aid agencies (e.g. and the U.S. Agency for International Development (USAID); the Norwegian Development Agency (NorgesVel))
- UN programmes (e.g. United Nations Population Fund (UNFPA); the United Nations Children's Fund (UNICEF))
- Development Banks, including the African Development Bank

Figure 1. Illustration of Blue Venture's business model (source: Gradl et al., 2012).



BV also has business partnerships for diving equipment (Aqualung) and receives in-kind support for legal advice (Hogan Lovells) and satellite imagery (Digital globe).

BV works with a range of stakeholders. These include beneficiaries (local communities as well and a fishing company); research and implementation partners; and networking partners. The relationship of these groups with BV is outlined as follows.

#### a. Beneficiaries

- **Local Communities:** The main beneficiaries of BV are the 25 communities that united to form the Velondriake LMMA. These communities have access to a range of reproductive health and environmental youth education programmes and benefit from increased fish stocks due to temporary and permanent reserves. The Velondriake Association, the LMMA's management body made up of elected community representatives from all 25 villages, also receives extensive training in conservation planning and management. As the key stakeholder, the local community is responsible for the enforcement of the *dina*, which are locally created laws banning destructive fishing practices and regulating the LMMA.
- **Businesses and NGOs:** Another important alliance for Madagascar's first LMMA was with Copefrito, a commercial fishing company. Copefrito participated by providing market incentives to communities for temporary reserve implementation, such as paying a higher price for bigger octopus on reserve opening days. (Heid & Streets, 2006; Dunn, 2009.)

**b. Research and implementation partners:** BV's conservation model is strongly rooted in scientific research of the region's marine resources. Implementation of research requires raising awareness within local communities and the presentation of scientific and socioeconomic research to communities surveyed - a priority for BV. Research and implementation partners include:

- **International Organisations:** An early partner involved in the creation of the pilot temporary closure was the Wildlife Conservation society (WCS), but now BV works closely with many local and international NGOs, including WWF and Conservation International. BV has worked with these and other conservation and development NGOs to create a national NGO networking platform in the country's capital, Antananarivo, to improve learning and coordination of conservation of Madagascar's vast 5,500 kilometres of coastline. A more recent key partner is Rare Conservation, which worked with local BV staff to establish a Social Marketing campaign called *Vezo Aho*, or "I am Vezo", which focused on emphasising the Vezo's cultural pride in their marine resources and encouraging compliance with the LMMA's dina by writing messages on the sails of pirogues and t-shirts (see box at right).
  - **University research centres:** BV works closely with Madagascar's marine research institute, **IHSM**, which has been involved in the LMMA project since the beginning, providing academic support and frequently sending students to the area to conduct research projects. Masters and Doctoral students from universities abroad and Madagascar's University of Antananarivo (ESSA Forets) also carry out marine research in the area. BV strives to integrate local research and university systems into its projects as much as possible in order to maintain local ownership of projects and retain national support.
  - **Government ministries and programmes:** BV works with the Malagasy Ministry of Fisheries to provide input into proposed fisheries legislation. It also collaborates with Madagascar National Parks (MNP) to develop conservation strategies that benefit both people and nature.
- c. **Networking partners:** These are organisations in which BV participates as a member and contributor of information related to conservation and research and in return has access to the contributions of the networks' members. Key networking members include Ashoka, IUCN, Arkive, Centre de Surveillance de Pêche, Kew: Millennium Seed Bank Project and Oceans 12.

## 2.1.6 Success factors

- **The Conservation Business Model** – BV has crafted a unique community-based approach that combines conservation and poverty alleviation, while providing revenues to the BV enterprise through its volunteer tourism and dive research programme. Because BV is not completely dependent upon grants to cover its operating costs, it has a definite advantage in terms of the long-term continuity of its conservation and social work, and marine research.
- **Visionary leadership with the ability to network** – Alasdair Harris and his team have managed to significantly scale up and replicate Blue Ventures' original objectives in a relatively short time. They have done this through successfully engaging community members and creating partnerships with key NGOs, as well as by training local staff and building strong in-country and international support networks. An openness to project expansion to fit the needs of communities was key in catalysing the continued development and expansion of BV's approach and reach.
- **Existence of strong, traditional community organisation and authority structures** – The Velondriake LMMA is managed through local leaders through the application of the dina, traditional rules and regulations created and enforced by communities (See box at right). Attempting to control and manage the LMMA would have likely failed if it were dependent on official national policing or enforcement by outside authorities.
- **Initiative backed by solid scientific research** – Certain aspects of the creation and management of the LMMA require technical expertise. In particular, zoning and monitoring must be based on sound scientific understanding for management to be effective. Examples include the scientific mapping of the LMMA's habitats, fulfilling the requirements for national legalisation and official recognition (Cripps & Harris, 2009). Armed with scientific data, BV is able to gain trust and raise awareness in the local community.

### The role of the Dina in the MPA



Along with the establishment of the LMMAs, a series of local management committees were created from north to south along the coast. These committees have an important tool they use to manage the LMMA called "dina". Dina are the local conventions between all the fishermen in the village to manage their fishing zones. They include rules about the permitted fishing methods and gear, fishing closure times.

Dina is proposed by each village within the LMMA, then the Velondriake Association standardises the proposed measures into an LMMA-wide dina. Afterwards, it is sent to the courthouse in Toliara to be approved. Once it is approved it becomes a by-law.

(Ramahery, 2012)

- **Social marketing** – Scientific data is necessary, but not sufficient, to create the enthusiasm and compliance required for a successful LMMA. The strategic and systematic application of social marketing campaigns, from reproductive health to cultural pride messaging, to achieve cultural acceptance and endorsement of the LMMA and its activities has been a crucial component in the success of this model.

## 2.1.7 Challenges and how they have been met

BV's development has met many challenges in supporting marine conservation and coastal poverty alleviation in Madagascar. These include:

- **Systemic problems in the area (erosion, poverty and nutrition issues):** From the outset it was recognised that, in order to have successful conservation in the region, poverty alleviation issues would have to be dealt with simultaneously alongside conservation. To do this, BV takes an integrated population, health and environment (PHE) approach and works on several fronts together with key international development agencies, attacking the problems of poverty from various angles, such as family planning education, health care provision, community organisation (including women's groups), and alternative livelihoods creation. It has also implemented mangrove protection reserves in order to combat erosion and protect these significant carbon storage sources.
- **Achieving buy-in of the local communities in setting up the LMMA:** With fishing being the main livelihood, convincing fishermen that temporary pauses in fishing can provide long-term benefits initially represented a big barrier. This was dealt with through extensive outreach and raising awareness about the potential benefits of creating temporary and permanent marine reserves. Further, the temporary octopus closure model was chosen because results are extremely tangible; closures do not represent a definitive loss of fishing resources and generally result in improved catch size and income and were therefore a feasible "sell" for the local leadership. "The success of the temporary no-take zones constituted a conservation action that brought a tangible benefit to the community and was what made them buy into further actions" (Cripps and Harris, 2009).
- **Remote location and a lack of basic infrastructure:** The Velondriake LMMA is extremely remote, requires several hours of driving on a bumpy dirt road from the nearest city. Further, there is no grid electricity, sporadic cellular reception and few to no health services available. Besides exacerbating existing social problems, this situation discourages greater tourism and investment in the area, though the village of Andavadoaka has seen a very large increase in development and tourism over the last decade with BV's presence. The Velondriake LMMA has also created tourism brochures in English, French and Malagasy that can be distributed to all the hotels in the capital and has developed the Velondriake website ([www.velondriake.org](http://www.velondriake.org)).
- **Dealing with 'free riders' and poachers in marine reserves:** After opening the initial pilot closure, fishermen from other communities came and fished everything out of the grounds (Heid & Streets, 2006). Free riders now include commercial trawlers that are moving into the area who do not respect or know about the marine reserves and temporary closures, but reap benefits from the increased fish stocks to the detriment of those who respected the LMMA and reserves. Poachers include fishermen who do not respect the local dina, whether they are locals or migrants from other coastal communities. The poaching problem has not been solved, but it has been improved through raising awareness among the communities about the importance of marine preservation and enforcement of the dina.
- **Challenges in setting up the dina and getting government approval and validation:** According to Ramahery (2012), "when people break the dina they often break both local rules and national fisheries rules. But, there are not enough personnel in the government to help enforce the dina. That's why we need a clearer framework for the local fishermen to be able to enforce the rules". To combat this problem, BV along with Madagascar's wider marine conservation network is now trying to clarify the legal power of the dina as well as secure institutional support from the Ministry of Fisheries to sponsor an official Resource Management Officer for the fishermen.



- **Government instability:** BV's efforts have also met with ongoing political instability, particularly during Madagascar's 2010 military coup. This resulted in tourism trickling to a near halt, affecting revenues and research flows, and interrupting work with ministries. This remains a potential source of future instability, albeit an external one that BV has no control over.

## 2.1.8 Current needs and types of support BV requires now

Harris: "As BV expands its programmes and scope of work to combat the enormous conservation and poverty challenges faced by Madagascar's coastal communities, BV requires more resources, research and personnel". As Harris commented, "The biggest challenge faced by Blue Ventures at the moment is handling the rapid growth of the enterprise". BV believes that this rapid expansion is a sign that its work is truly making an impact and that communities value its presence.

Some items highlighted include (a) networking, developing learning networks; (b) academic support; (c) legal support; (d) communications and marketing -web design, branding graphic design, communicating online, emarketing; (e) new controls and balances, financial services.

## 2.1.9 Lessons Learned from the Blue Ventures Case Study

This case illustrates that it is indeed possible for a social enterprise to establish marine protected areas run by and benefitting local communities and thousands of households, while turning a profit. There are numerous lessons learned throughout the history of BV's work in Madagascar, which have been documented by BV and are easily accessible in publications such as *Cripps, G. and Harris, A. (2009) Community creation and management of the Velondriake marine protected area. Blue Ventures Conservation Report.*

What is perhaps most striking in this case is the number of different social and environmental outcomes that BV has been able to catalyse in less than a decade. This seems to be due to the founder's early recognition that, in order to meet conservation objectives, systemic problems would have to be addressed in a holistic manner, including poverty alleviation, population pressures and destructive fishing practices; effectively turning a marine researcher into a specialist in local community management, networking, institution building, and policy influencing.

In terms of scaling up the enterprise, the case clearly shows that strategic partnerships, networking and responding to the needs of communities are key to the ability to work on so many fronts. Further, research and monitoring, both scientific and socioeconomic are fundamental for gaining credibility and the support of key stakeholders, as is tapping into strong traditional authority structures and applying strategic social marketing campaigns.

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- Velondriake – <http://www.velondriake.org>
- Copefrito - <http://www.copefrito.com>
- Rare conservation - <http://www.rareconservation.org/>
- WWF Madagascar - <http://www.wwf.mg/>
- The Reef Doctor <http://www.reefdoctor.org>
- World Conservation Service -Madagascar <http://www.wcs.org/where-we-work/africa/madagascar.aspx>
- Marine Conservation Agreements practitioner’s toolkit –country analysis of Madagascar [http://www.mcatoolkit.org/Country\\_Analyses/Madagascar.html](http://www.mcatoolkit.org/Country_Analyses/Madagascar.html)
- SEED Initiative pages relevant to this winner: <http://www.seedinit.org/en/awards/winners-database/2005%20Awards/madagascars-first-community-run-marine-protected-area.html>

## 2.1.12 Interviews

- Dr Alasdair Harris, Blue Ventures Research Director .
- Analisa Bianchesi, Rare Conservation



2009 SEED Winner Pintadas Solar

## 2.2 Brazil - Pintadas Solar (2008)

### 2.2.1 Overview

Pintadas Solar is the name of an initial series of pilot projects focused on testing irrigation technologies in the municipality of Pintadas, located in the semi-arid north-eastern region of Brazil called the “Sertão”, one of the poorest regions in the country (see box at right). The overarching aim of this initiative was to create a sustainable and replicable model geared towards improving livelihoods and climate resilience in areas where agriculture and pasture is the main economic activity. In 2008, Pintadas Solar was one of 5 projects selected to win the SEED Award. During 2008, the project in Pintadas was refined and began expansion to other municipalities in the Sertão, and partnership changed its name to Adapta Sertão.

### 2.2.2 Origins

Pintadas Solar first began in 2004, with an experiment using solar powered irrigation involving the Women’s Association of Pintadas, an NGO based in Rio de Janeiro called REDEH, technical companies and the state government. In 2006, the experiment captured the interest of the SouthSouthNorth (SSN) Collaborative and the Cariplo Foundation of Italy, which provided funding to expand the project to seven (7) pilots in the municipality in order to experiment with different irrigation technologies. The project’s aim was show that it was technically and economically feasible to improve agricultural yields in semi arid Brazil through access to irrigation technology and training and create a model replicable to other semi-arid regions in the world. From 2006-08, Pintadas Solar trained local farmers in the design and implementation of small-scale irrigations systems that allowed them to tap into existing water catchment systems. It also provided the farmers with a toolkit comprised of:

- Irrigation technologies (drip irrigation/organoponic),
- Water pumps (solar/diesel),
- Fertilisers,
- Technical assistance.

The initial results were promising, but showed that there was still a need to refine the technology, develop further capacity, provide technical assistance and create a solid platform to ensure replication and scale-up.

In 2008, the project won the SEED Award and continued to expand its strategic partnerships, strengthen its business model and better clarify its social, environmental and business goals.

#### The Brazilian Sertão and the Appropriate Technology Centers (ATCs)

The Sertão is a hinterlands region in northeastern Brazil characterized by distinctively low annual rainfall in comparison to other areas in the country. This rainfall is often extremely erratic, ranging from drought to torrential rains. The local population survives on subsistence farming using rudimentary and inappropriate methods (e.g. the use of watering cans for irrigation; dependence upon single crops; deforestation for creating pasture land that is quickly degraded). Further, there is no access to technology or markets. This, and other factors, has led to the Sertão being one of the most socially, economically and environmentally and vulnerable areas in Brazil. Due to climate change, the rainfall variation is expected to become even more extreme, which could certainly exacerbate the already low quality of life of the Sertão’s communities.

Adapta Sertão is improving the resilience of farmers to climate change impacts by providing them with very specific technologies through the creation of Appropriate Technology Centers (ATCs). The ATCs help farmers to manage the resources of their property to minimize climate change impacts. This involves reforesting a portion of the land with climate-resilient forage varieties, using saline water during specific periods of the year, storing large quantities of hay for the dry season, and providing specific technologies that have proved of help in adapting to climate change impacts (efficient irrigation, storage tanks, etc). The sale of technology is linked directly to a micro credit system to allow farmers access innovative and climate-resilient technology.

### ATCs: tapping into existing infrastructure

Since 1960's, the Brazilian government and international institutions built a large number of artificial surface water reservoirs in the Sertão to improve water supply. Although many of these reservoirs could be used for small scale irrigation systems, only a negligible amount (3%) are currently being used for this purpose, because farmers do not have access to modern irrigation technologies. The Adapta Sertão partnership works with communities to implement Appropriate Technology Centres (ACTs) with the following aims:

- Act as local retailers for adequate technologies, including irrigation systems and drought –resistant seed varieties;
- Develop pilot and demonstration projects;
- Help farmers to access micro-finance programmes;
- Provide technical support;
- Will develop an “early warning” system for local communities.

Source Adapta Sertão factsheet/CDKN brief 15

## 2.2.3 Growth/current status/future prospects

During 2008, Pintadas Solar changed its name to Adapta Sertão, to better denote the partnership's regional scope to embrace the whole Sertão (semi arid region) and objectives.<sup>1</sup> It also began to work toward creating market linkages for the farmers and helping them to achieve microfinance; it more clearly defined the methodology to encompass not only efficient water usage, but also the reduction of deforestation, and planting of native species and the elimination of chemical fertilisers; and it sought to acquire more funding and expand the strategic partnerships of the Adapta Sertão network in order to increase the number of beneficiaries. Throughout this process, baseline research and monitoring was undertaken to help determine the most appropriate technologies, as well as to monitor the environment. It also created a community-based approach for undertaking these activities at the local level, called Appropriate Technology Centres (see box at right). Currently, Adapta Sertão has established 2 ATCs, which directly benefit approximately 100 farmers.

Recently, Adapta Sertão received the support of the Climate and Development Knowledge Network (CDKN) and funding from the Brazilian Ministry of Environment in order to extend the model to the whole county of Jacuípe formed by 14 municipalities of the Jacuípe river basin. This expansion phase (2010-2014) envisions the establishment of three additional ATCs serving the entire region. It is hoped that the success of these ATCs will fuel the creation of other centres by community members. The number of farmers served is expected to reach 400 by 2014. According to Adapta Sertão manager Thais Corral, (Corral, 2012), this current expansion phase will also include:

- Training 10 technicians in the management of the daily operation of the ATC (sale and technical assistance);
- Strengthening the cooperatives in the 14 municipalities of the Bacia do Jacuípe Municipality by training 60 technicians in the climate change resilient agricultural model and by strengthening current commercialization channels;
- Implementing 100 pilot projects and quantitative monitoring of all these pilots in order to generate key socio-economical, environmental and technical data;
- The installation of 4 automatic agro-meteorological stations to collect key data (humidity, temperature, etc.). Adapta Sertão is also currently negotiating the inclusion and management of these systems in the Brazilian Meteorological Organisation network (INMET). The idea is to develop an early warning system in partnership with EMBRAPA, a state-owned research agricultural research Company affiliated with the Ministry of Agriculture.

The expansion will also include the organisation of a seminar in each municipality on the outcome of the project.

## 2.2.4 Social, environmental and economic benefits and outcomes

The Adapta Sertão network addresses the problems of poverty and climate vulnerability by providing the following social, environmental and economic benefits to beneficiaries:

- a. **Social:** Adapta Sertão works to strengthen food security and improve the socio-economic prospects in the region through awareness raising on the issues in the Sertão and generating knowledge collaboratively on how to best deal with these problems. Specific actions have included:
  - i. Awareness raising and organisation of an action learning experience for 600 high school students (see box at right); creation of a manual for guiding teachers in how to foster learning that is geared toward embracing and creating opportunities in the Sertão.

<sup>1</sup> Furthermore, solar pumps, although the most environmentally friendly pumping technology, were abandoned as a tool in the toolkit during the pilot phase because the payback time made them unfeasible for small farmers.

- ii. Creation of 2 ACTs, which have provided technical assistance and training to 100 farmers in irrigation methodologies, food security, agricultural techniques.
  - iii. Technical partnership brokering: Adapta Sertão convenes technology partners in order to provide access to appropriate technologies (e.g. pumps, pipes, drought-resistant seeds).
  - iv. Generating knowledge together with farmers through monitoring, testing and exchange trips.
  - v. Policy alignment dialogues with government to work toward ensuring socio-economic policies are aligned with reality on the ground.
- b. Environmental:** In order to strengthen community resilience to climate change impacts, Adapta Sertão promotes the conservation and restoration of the local environment through sustainable agricultural practices. Specific elements of the Adapta Sertão model to this end include:
- i. Discouraging the traditional land use approach (deforestation to create pastures) by encouraging the use of semi-confined or confined pasture to decrease land degradation.
  - ii. Encouraging multi-cropping to avoid dependence on one crop and reduce plant-specific plagues, as well as endorsing the planting of native trees for productive use, (e.g. indigenous protein rich plants that may be used for cattle fodder that in turn increase milk yields) and indigenous fruits that can be used for to make products such as jellies and juice. The areas with increased vegetation cover will retain more water in the ground, which in turn will increase humidity, eventually creating a micro-climate more favourable to production.
  - iii. Reducing water wastage - Adapta Sertão's drip irrigation technologies use less water than traditional methods and avoid soil salination.
- c. Economic:** Adapta Sertão is making progress toward improving the livelihood of its beneficiaries through increasing income and diminishing staple food crop loss. Results include:
- i. More than twofold increase in income for approximately 30 of the farmers involved (from less than US\$250 per month to over US\$500 per month); for a further 40 farmers, 20-50% increase in income.
  - ii. Significant reduction in the loss of staple food crops (from 70% to 20%)
  - iii. Provision of jobs to Cooperative members - e.g. the Cooperative Ser do Sertão (Pintadas) began with 1 staff member in 2006 and now has 11.
  - iv. Creation of market links; establishment of rotating microcredit system.

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### Encouraging youth to stay in the Sertão

For most residents, life in the Sertão is difficult with little prospect for improvement. This leads many youth to leave the region to search for a better lifestyle in bigger cities (where they often end up in large, crime-ridden shanty towns). An important component of Adapta Sertão is working with teenagers through an action learning process, in order to help them value their heritage and perceive opportunities for improving income and wellbeing in Sertão. The youth conduct research over 3 months, visiting local markets to study types of produce and fields to see production practices. They experiment with production of high value products such as juice and jelly from native plants and bring their research results (and products) to a regional Knowledge fair.

Source: Nereide Segalo, director president of Ser do Sertão Cooperative and local manager of Adapta Sertão

## 2.2.5 Mapping BCP's Stakeholders

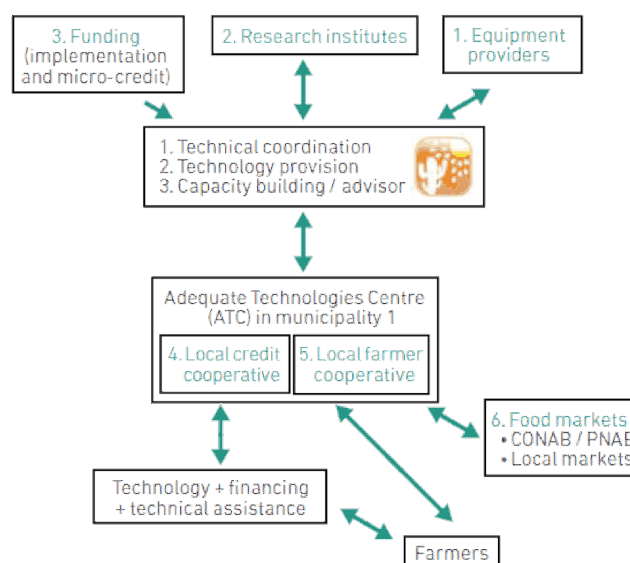
The Adapta Sertão coalition currently comprised of community based organisations, research centres, NGOs, public and private institutions. From its origins in 2004, The Pintadas Solar core project management team continues, but the project has changed its core funders, has been expanded to include more equipment providers, has accrued financing organisations, accrued two more community organisations and secured government support in agricultural markets.

## 2.2.6 Adapta Sertão management

Thais Corral - Thais Corral, Director of REDEH, [Network for human Development](#) and NGO based in Rio de Janeiro and [Daniel Cesano Adapta Sertão Technical Coordinator](#), were central to technology provision, capacity building and advising, as well as proposal writing to achieve core funding and strategic support.

Pintadas Solar project manager Nereide Segala has helped to establish the community based model and engage farmers, community organisation.

Stakeholder map: source (Ella, 2012)



Type of Stakeholders	Organisation's Name
1. Equipment providers	Netafim ,Naan Jan, Tigre, Amanco
2. Research Institutes	Centro Clima/UFRJ; Embrapa Semi Arido; INMET/National Geographic Center
3. Funding	UBA/German Environmental Agency; Fundo Clima/Brazilian Ministry of the Environment
4. Local credit cooperative	SICCOB
5. Local farmer cooperative	Coopsertão, Pintadas. Three additional ATC by 2014
6. Food markets	CPE Stock/Government CONAB/PNAE; Local Markets
7. Farmers	Small farmers in the region Bacia do Jacuiapé

## 2.2.7 Success factors

Adapta Sertão is a network as well as a methodology. Factors that have contributed to its success include:

- Unique, integrated development model:** Three key elements have been identified that make the Adapta Sertão's development model unique: 1. A small farmer production system combining climatic resilience with improvement of local livelihoods; 2. "Appropriate Technology Centres" that provide farmers with access to technology, microfinance and knowledge; 3. A multi-stakeholder approach that seeks to integrate existing policies into a comprehensive adaptation programme at the local level (Ella, 2012).
- Base data, testing, ongoing monitoring and evaluation:** Scientific/technical expertise has been applied in order to refine the Adapta Sertão suite of solutions. At the outset, a thorough assessment was undertaken to identify the key barriers for disseminating innovation and preventing development in the region. Besides this, the approach is hinged upon testing the methodology and technologies together with farmers, through trial and error. Further, throughout the development of Adapta Sertão, monitoring and evaluation has been ongoing, and will be applied to the implementation of an early warning system for the region.

- **Working hand in hand with leaders in a town with strong community leadership:** Pintadas is a community with a long history of pursuing and achieving benefits (see box at right). For example, in 2004, the community had already acquired cisterns for nearly all of its 1,600 rural residents. This fact, together with the strong community organisation, attracted the interest of external partners in order to begin the Pintadas Solar project (REDEH, 2008). Harnessing community leadership is a central success factor for scaling up this project in other municipalities of the Sertão - and part of the project design involves showcasing successful examples of the Adapta Sertão methodology through ACTs as a means to encourage other communities. By giving prominence to community leaders or champions who are already respected in the community, a small number of projects could be sufficient to raise interest in a community.
- **Building upon existing policy:** Adapta Sertão has capitalized on the existence of national government policies such as the PNAE law - which stipulates that 30% of the food provisions given by the local schools must be produced in the communities.
- **Research and partnership with universities:** One key factor in the success of the project has been the partnership with two universities: Centro Clima/Federal University of Rio de Janeiro and Institute for International Relations and Pacific Studies at the University of California San Diego. This has helped to refine the model, identify the technologies that proved to be climate resilient, and develop a means for identifying the key factors and areas that lead to enhanced resilience to climate change.

## 2.2.8 Challenges and how they have been met

- **Rural area – high cost of technology:** It is not cost-effective for technology retailers to have a presence in small, rural communities. Adapta Sertão is addressing this challenge through working with private technology providers and engaging them to expand distribution networks by building local capacity through local cooperatives. This has resulted in the creation of local retailers in rural areas who can give instruction, guidance, technical support and long-term maintenance.
- **Financing for farmers:** Achieving financing to help farmers pay for the technological inputs is fundamental, however it has not yet been consolidated. Good headway has been made by establishing a partnership with a federal government financing programme (ProNAF), however some of the incentives under ProNAF need to be changed (see below).
- **Aligning government programmes with ecological objectives:** The ProNAF programme to help agricultural families is not aligned with the overall objectives of the project and at a larger scale goes against the principals of climate change adaptation and carbon offsetting. For example, it promotes the purchasing of cows and inputs needed for pasture land. According to Thais Corral, REDEH, “We have started discussions with the government in order to bring changes to this programme and ensure that it is aligned with the principles of the Adapta Sertão project. We are also trying to identify other government programmes that need to have their policies realigned to this end”.
- **Disorganised and inconsistent policy frameworks:** There is little degree of integration between different policies, availability of financial and human resources and a unifying framework at different levels of government (Adapta Sertão 2011a). Adapta Sertão is currently in dialogue with policy makers in order to improve this situation.

## 2.2.9 Current needs/types of support the enterprise requires now

According to Thais Corral, “Adapta Sertão needs to be put in contact with projects employing similar methods, we also need help with communication and scaling up. We need someone to join the organisation who is an expert in communications with a lot of experience, who can document the elements of our growth process and effectively transmit the project results.” (Corral, 2012). This need for documenting the process is mirrored by Nereide Segala,

### Harnessing community leadership

Pintadas contains a strong network of 11 community organizations, including women’s associations, young peoples’ groups, bee-keepers, and credit and agriculture cooperatives. The Catholic Church was a key force in the birth of the local community organisation process three decades ago. Other interesting influences making this town stand out in the region is the early election of a woman mayor. These influences have led a number of social projects to be carried out in the area. Practically all of the more than 1,600 rural households in the district, for example, now have rainwater storage tanks. The solidarity built in the process, in which “the beneficiaries and designers of the projects are one and the same,” is the engine of local development, according to Nereide Segala, a 49-year-old former nun - turned social activist and small farmer; manager of the Pintadas project since its inception, and founding president of the city’s agricultural cooperative.

Source: Osava, 2007

director-president of the initiative's first co-op: "This project holds a wealth of history. We need to bring this to memory. It will help us to analyse the bigger question: are we on the right track?" (Segala, 2012).

## 2.2.10 Lessons Learned from the Pintadas Solar Case Study

The Adapta Sertão approach has successfully implemented drip irrigation technologies in combination with access to reservoirs and cisterns in order to reduce crop dependence on rainfall. The success of this project to date has shown that resilience to climate change and food security can be strengthened in semi-arid areas through appropriate irrigation technologies and small-scale, environmentally beneficial farming methods. Important in this scale up and replication of this project has been the support of local NGOs to: help low-income beneficiaries gain capacity and access to the technologies, provide access to micro-credit, and create market linkages.

Key to the continued scale up of this project in the Sertão will be ensuring that farmers embrace the Adapta Sertão methodology, technology and approach. Harnessing the influencing power of local leaders is a current strategy applied to this end, as is working toward further strengthening community-based organisations and enabling them to access existing government programmes as a means of attaining self-sustainability.

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- Climate and Development Knowledge Network – <http://www.cdkn.org>



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- CODES Territorio Bacia do Jacuípe - <http://territoriobaciadojacuipe.blogspot.com.br/p/o-territorio.html>
- Videos: Adapta Sertão: V Feira do Conhecimento 2009 - Pintadas/BA <http://www.youtube.com/watch?v=U8KHs4OQVOQ>

### 2.2.13 Interviews

- Thais Corral, NGO Human Development Network (REDEH)
- Nereide Segala, Rede Pintadas, Director-president of the Cooperative “Ser do Sertão”
- Matheus Martins, Secretaria Executive Secretary of CODES, regional council on territorial planning.



2009 SEED Winner Nafore and Afrisolar Energy Kiosks

## 2.3 Burkina Faso - Nafore and Afrisolar Energy Kiosks (2009)

### 2.3.1 Overview

MicroSow is a community based electro-technical commercial enterprise created in 1998 and located in Ouagadougou, Burkina Faso that specialises in Information Technology maintenance and rural electrification through Solar Energy.<sup>1</sup> It is a sole-proprietor business founded by Mr. Souleymane Sow in a society where access to the national power grid is significantly unavailable to a majority of the population. About 87% of the total population and 98% of the rural population do not have access to electricity (Table 2). The period of 2006-2010 evidenced significant growth in the proliferation of mobile phones: from 7 mobile phones per 100 persons to 35 per 100. Both rural as well as urban dwellers have acquired mobile devices for their communication needs, and the trend shows that they will increasingly continue to do so.

With 2025 as the scheduled target date for a national electrification plan, any form of energy generation to power devices such as mobile phones will significantly contribute to growth that impacts on economic and social aspects of its beneficiaries. However, until then, alternative sources of energy will have to be explored to meet the needs of both rural and urban communities.

The Nafore and AfriSolar Energy Kiosks (see image above) were created to address rural electrification challenges. These kiosks are charging stations for mobile telephones that are powered on solar photovoltaic modules and distributed through a franchising scheme to the rural communities. Solar panel installations are also distributed to schools and health centres in these communities.

Table 2: Mobile cellular subscription per 100 persons and percentage of population with access to electricity (source: World Bank<sup>2</sup>)

Indicator Name	2006	2007	2008	2009	2010
Mobile cellular subscriptions (per 100 people)	6.95	12.33	19.49	23.92	34.65
Access to electricity (% of population)				14.6	

<sup>1</sup> Seed (2009). Nafore and AfriSolar Energy Kiosks: Burkina Faso. Retrieved from: [http://www.seedinit.org/index.php?option=com\\_mtree&task=att\\_download&link\\_id=65&cf\\_id=42](http://www.seedinit.org/index.php?option=com_mtree&task=att_download&link_id=65&cf_id=42)

<sup>2</sup> Nafore and Afrisolar business plan

## 2.3.2 Origins

MicroSow started in 1998 as a small community-based, sole proprietor technology business that offered electronic equipment, computer and phone repair services to community members and local NGOs in Ouagadougou. Subsequently, solar panels that had installation or service related problems were referred to Mr. Souleymane Sow who worked out of his single room home to meet those repair requirements, and from which his business grew. On return from Germany in 1998, after his Electrical Engineering degree, Mr. Sow formed a commercial enterprise, which continued to manufacture the energy kiosks and then rented them out to suitable entrepreneurs. Thus was the beginning of MicroSow's focus of providing alternative sources of energy to rural communities. Since its inception, MicroSow has grown to an enterprise that currently employs 16 staff. It rents the kiosks it manufactures to franchisees and install solar panels in several schools, health care centers, and local communities. Franchisees are local entrepreneurs that deploy the kiosks in their rural communities and pay a premium to the enterprise.

## 2.3.3 How it has grown/current status/future prospects

MicroSow has experienced annual growth since its inception from a business run by an individual to a commercial enterprise with 14 employees. The business is currently worth between 200 to 300 million FCFA (about \$400,000 to \$600,000 USD), over 1000 per cent increase from its initial capital investment of 3 million FCFA (about \$6,000). Over 100 schools and 30 health centres benefit from the power generated by Nafore and AfriSolar Kiosks. With each school having between 400 to 600 students, MicroSow's solar rural electrification programme directly benefits more than 40,000 students. It is difficult to quantify the number of patients that visit the health centres and if they could be classified as direct beneficiaries. However, these centres cater to pregnant women thus extending its services to women and infants. Collateral beneficiaries, those who do not have these kiosks installed in their schools or villages often walk to schools and communities where they have been adapted to provide light in order to study. Likewise, parents of children tend to schedule community meetings and discussions around the evenings so that they could benefit from the electricity. Further, adult literacy classes are now held when they are most convenient and no longer limited to daylight.

MicroSow intends to provide electricity specifically to rural communities where it has the greatest impact. MicroSow has remained committed to creating access to renewable sources for a majority of the poor rural lower class peoples at a rate that is affordable. This community approach of sharing resources among a larger number of individuals makes this possible and the venture more worthwhile.

## 2.3.4 Social, environmental and economic benefits and outcomes

- a. Social:** Kiosks are installed in communities characterized by significant changes in communication needs in recent times. The increasing rate of rural to urban migration is one challenge that threatens the social fabric of the rural communities, which can be mitigated through access to cell phones. But cell phones must be recharged, and this becomes problematic in off-grid villages. The project has provided an efficient way for family members to keep their cell phones charged through the kiosks and to stay in touch, check on each other's welfare, and receive and share news and information. It has contributed in addressing some of the health related challenges when phones charged using the kiosks have been used to call the hospital or ambulance for medical attention.
- b. Environmental:** Nafore and AfriSolar Kiosks generate power without making use of fossil fuel or other non-renewable sources of energy. The enterprise has remained committed to providing only solar energy.
- c. Economic:** For every kiosk deployed, at least one person and 5 other (spouse and at least 4 children) immediate family members directly benefit from the installation. The revenue generated supports their upkeep such as grocery and schools fees. An installation typically generates well above the poverty line of at least \$2 a day defined by the

World Bank. The kiosks provide employment to its owners. Further, rural farmers have been able to determine market prices of goods and as a result appropriately pricing their produce for sale in the urban markets when they communicate with their urban counterparts and family members.

### 2.3.5 Mapping MicroSow's stakeholders

MicroSow defines its stakeholders either as franchisees, those who rent the kiosks; organisations and communities that benefit from solar panel installations, or business partners, those who provide technical and financial assistance to it.

Franchisees are further categorized into establishments, such as schools and health centres where the kiosks are installed, and entrepreneurs that rent the kiosks, set up local businesses, use them to recharge community phones for a small fee, and pay MicroSow a premium. MicroSow's business plan is based on this franchising model.

Table 3: Stakeholder Mapping

Type of Stakeholders	Organisation Name/Quantity
<b>Clients</b>	
Schools	Between 100 and 120
Health Centers	30
Franchisees	28 (2009 figures). Current figures unavailable.
Organisations	10 NGOs that are clients to MicroSow's solar panel installations. Embassies (un-quantified) that benefit from solar panel installations.
<b>NGO partners</b>	
AfriSolar	A pan-African international NGO that aims to contribute to poverty reduction by fostering the use of renewable sources of energy on the African continent. It also allows MicroSow to participate in international conferences on renewables where it networks with others and builds its capacities on new solar and renewable technologies.
SEWA e.V.	An international NGO working closely with local communities and authorities in Burkina Faso to provide renewable energy to rural schools and medical centres.
<b>Technical and commercial Partners</b>	
Names not provided	Several providers of parts and solar products based in the UK, Germany, the US and Canada
ERM Foundation	Provided financial investments to AfriSolar and MicroSow to create the kiosks and to distribute them.

MicroSow's business partners are from the UK, Germany, The Netherlands and Canada, from which it receives technical assistance; for example, SEWA e.V. which helps it in maintaining high quality and long term contacts with local agents; or its Canadian companies from where it procures components such as battery parts and its German and partners where it procures solar panels. Partners such as ERM Foundation provide it with loans in order for MicroSow to produce more kiosks that could help it achieve some of the objectives defined in its four-year business plan. MicroSow currently does not partner with the government because initial attempts to establish relationships did not yield any positive outcomes.

### 2.3.6 Success factors

- a. **MicroSow's technical qualifications:** The Electrical Engineering academic qualification of MicroSow's proprietor is the single most important factor that has substantially contributed to the enterprise's success. In comparison to other technical service providers who provide similar services, MicroSow has been able to use this qualification both as an advertisement for its ability to provide quality service, and its technical knowledge in the service it provides. This gives it an edge over others as a "provider of good quality service" in a country where "everyone wants to do everything but in reality, nothing

gets done” (interview with Mr. Sow). For the enterprise’s competitors, knowledge is a barrier, especially when depth is required. Over the years, MicroSow has also perfected its profession and continues to improve it.

**b. Advertisement by word of mouth:** MicroSow’s popularity has been propagated mostly by word of mouth using the aforementioned qualification and service history as its key message.

**c. Winning the SEED Award:** In 2009 MicroSow received SEED support for the creation of a four-year business plan targeted at the scaling up of its activities and to addressing its immediate needs (See table 4, to follow). In addition, the SEED Award provided:

- training in management
- establishment of connections to potential partners such as the ERM Low Carbon Foundation.
- advertisement and promotion through the SEED Website
- finding new partners through participation in industrial fairs

Table 4: Scaling up activities and immediate needs addressed by the SEED Award

**Scaling up activities**

- Answer the growing demand for the Nafore (charging stations)
- Provide 72,000 rural dwellers and small businesses with access to the services through a network of 200 franchisees
- Extend the franchise model to a more complex model of energy kiosks
- Cover wide range of sustainable energy services tailored to existing and upcoming demand in local and regional markets
- Define services to be offered by the Energy Kiosks by involving local communities.

**Immediate needs**

- External support to develop and disseminate new products
- Assistance in acquiring technical know-how and the means to implement it
- Training about maintenance and management of the kiosks
- Assistance in networking to manufacturers of solar components
- Financial support to allow next phase of scale-up.

Source: [www.seedinit.org/index.php?option=com\\_mtree&task=att\\_download&link\\_id=65&cf\\_id=42](http://www.seedinit.org/index.php?option=com_mtree&task=att_download&link_id=65&cf_id=42)

The revenue model described in the business plan is based on a system of franchising through renting the kiosks to entrepreneurs in the local communities. Over four years, 192 stations would be rented out to 583 franchises that would have generated about \$234,720,000 (table 5). MicroSow has been unable to access the funds from local financial institutions as indicated in this plan; making it impossible for it to achieve the goals defined therein. However, the plan does provide clearly defined and achievable growth objectives which are achievable when access to financial resources become available.

Table 5: Revenue Model for MicroSow’s Kiosk

	Dec-11	% Annual Growth	Dec-12	% Annual Growth	Dec-13	% Annual Growth	Dec-14	% Annual Growth
<b>Units rented</b>	247	0	295	19%	391	33%	583	49%
<b>Total</b>	\$112,920,000	28%	\$130,320,000	15%	\$165,120,000	27%	\$234,720,000	42%
<b>Annual Total</b>	\$112,920,000		\$130,320,000		\$165,120,000		\$234,720,000	

## 2.3.7 Challenges and how they have been met

- a. **Access to financial resources to expand the business:** The major barriers for MicroSow are access to loans and investments. For instance, since 2006 and prior to winning the award in 2009 access to funds from local banks and financial institutions was impossible to acquire. Attempts have been made to seek loans using the business plan but the enterprise does not have the necessary sureties or securities that it can use to guarantee these loans.
- b. **Inability to stock parts and ready-to-deploy kiosks:** As a result of its inability to secure funding, it has been unable to maintain a local stock of parts and materials that it can use as needed to repair or assemble kiosks. Thus, the enterprise remains stagnant, assembling only to meet demand. For example, one recent client who had lost the battery cells for his personal solar panel installations was unable to quickly replace them. It took MicroSow six weeks to airfreight the 3-cell battery from a Canadian manufacturer through a US-based supplier at a cost of \$846 and an additional cost of \$840 for airfreight. With sufficient capital, MicroSow would have been able to stock these batteries and other supplies which would have been delivered via less expensive shipment thus cutting down its cost by close to \$600, and contribute in providing services to this client in a more timely and efficiently manner. In trying to overcome this challenge, MicroSow has explored options on how to best address the issue of maintaining local stock with its partners who are suppliers. However, none of this has yielded any positive response because the suppliers are mostly interested in the revenue they can generate from the sales of these parts.
- c. **Challenges in achieving organisational objective:** Due to financial and other constraints MicroSow's biggest challenge is in providing and distributing the kiosks and making power available at a cost that is affordable to the local communities that MicroSow intends to serve.

## 2.3.8 Current needs/types of support the enterprise requires now

- a. **Funding to develop the business, research and innovate:** MicroSow has indicated that its most pressing needs is access to financial support that it requires to install kiosks, stock them and maintain a supply of parts that are needed for on-demand service or repairs. Access to a loan facility will enable it accomplish the goals as defined in its business plan.

MicroSow also intends to innovate, and its inability to access funds for research and development makes this impossible.

- b. **Capacity building:** MicroSow also needs training to support current employees and franchisees in its enterprise and to meet the training demands of future employees and franchisees. This support may come in the form of a centralized training facility where a trainer from one of its partner institutions can build the capacity of staff locally on modern solar technologies; or internationally allowing them sufficient time such as one month to a year in order to grasp the new technologies that are used in their partner's countries.

## 2.3.9 Lessons Learned from the MicroSow Case Study

- a. Support for research and development is required to advance the use of alternative energy systems for local communities, including both off-grid villages and those with limited and unreliable power from the grid. With sufficient support for research and development, MicroSow would have been able to adapt solar technologies to meet very specific community and individual needs. As Mr. Sow suggested, "there should be the possibility to support smaller applications of solar energy to meet the commensurate demands of those who need them".

- b.** The role of government subsidies: Not all the members of the community can afford solar technology or afford the kiosks. The business plan did not consider carefully enough the limited ability of its target market to acquire the kiosks out-right or through the franchising scheme. Subsidies may be required to enable MicroSow's market to acquire the kiosks.
- c.** Alternative ways to secure loans and investments to expand operations are needed: Even with proven market potential and competent business plans, micro and small social and environmental enterprises need capital to grow. MicroSow's local financial institutions required a surety or a guarantee before loaning the funds for the enterprise to expand the number of installations and to build up a parts and service department. However, like many micro enterprises, MicroSow does not have any assets or resources to provide such loan guarantees.

### 2.3.10 References

Nafore and Afrisolar Business Plan (internal document)

### 2.3.11 Websites Consulted

- MicroSow home page: <http://www.microsow.com/>

### 2.3.12 Interviews

- Souleymane Sow – founder of MicroSow







2011 SEED Winner Kenya Organic

## 2.4 South Africa – Natural Justice and the Bio-cultural Community Protocols (2009)

### 2.4.1 Overview

Indigenous and local communities' consent is often not taken when their local resources and traditional knowledge are developed for research and market purposes, nor do they receive a share of the benefits that arise from such development. Bio-cultural protocols (BCPs) are tools that facilitate culturally-rooted participatory decision-making processes within communities with the aim of asserting their rights to their communally managed lands and knowledge (see box at right). The concept of BCPs was advanced by Natural Justice an international not-for-profit social enterprise with offices in South Africa, Malaysia, India and the United States. Natural Justice received the SEED Award in 2009 in order to further develop and disseminate the BCP approach.

### 2.4.2 Origins

Natural Justice: Lawyers for Communities and the Environment (NJ) is a non-profit organisation, registered in South Africa in 2007. It was founded by two environmental lawyers Kabir Bavikatte and Harry Jones united by a belief that biodiversity loss can only be stemmed by protecting the rights of community stewards of local ecosystems to govern and manage their territories and resources. At the outset, NJ had no financial resources, but was fuelled by two core aims:

- **to work at the local level to empower communities** to be able to ensure that the implementation of environmental law is undertaken in accordance with their values and customary laws and guarantees their rights to the customary use of natural resources; and
- **to work at the international and national levels to develop laws** that put communities at the heart of their implementation, securing communities' rights to sustainably manage their bio-cultural heritage (Bavikatte & Jonas, 2010).

Within its first two years of operation, NJ already began to experience a strong demand for its services, due in part to the impending deadline for the Convention on Biodiversity (CBD) to finalize negotiations on an international framework for Access and Benefits Sharing (see box on the following page). The experience that NJ was able to accumulate by working with communities on laws relating to the CBD and at the national and international levels led the enterprise to focus their work on developing 'Bio-cultural Community Protocols'. In 2009 the

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#### What are Bio-cultural Community Protocols?

'Bio-cultural Community Protocols' (BCPs) provide a legal framework for communities to advocate for their environmental, social, economic, cultural, and other rights.

BCPs set out clear terms and conditions to the private and research sectors, as well as to governments for accessing community resources and engaging communities. They facilitate conservation and sustainable use of biodiversity by ensuring that decisions regarding communally managed resources rest firmly with the communities who have served as stewards over many generations.

enterprise made a successful bid to be recognised by the SEED Award. Besides a financial contribution, SEED helped to raise the profile of NJ and provided it with some key contacts, as well as guidance for developing a strategic plan through to 2014.

### 2.4.3 How it has grown/current status/future prospects

#### The Nagoya Protocol on ABS



The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Utilization (ABS) is a supplementary agreement to the Convention on Biological Diversity (CBD) aiming to contribute to the conservation and sustainable use of biodiversity. It was adopted on 29 October 2010 during the 10th Meeting of the Conference of the Parties (COP) to the CBD in Nagoya, Japan.

The Nagoya Protocol refers to community protocols, and this served to raise the profile of BCPs in international law.

Photo above: COP 10 delegates finalizing the adoption of the Nagoya Protocol (Source: ENB, 2010).

NJ co-founder Kabir Bavikatte reports that BCPs have now 'gone viral'... "Many people (NGOs, Community organisations, etc.) have taken it up and are running with it themselves". Over the past few years, BCPs covering a wide range of issues have been established by diverse organisations in several countries around the globe.

The rapid up take of BCPs has brought about significant changes for NJ. The enterprise has expanded its staff and geographic scope considerably, from 2 staff members based in Cape Town working mostly in Africa, to 13 staff and a number of associates and fellows working collaboratively across a much wider extended network encompassing Africa, Asia, Latin America and Europe. In 2010 NJ set up a regional office in Asia. In order to better accommodate for growth while still being loyal to its vision and mission, in 2011 the founders decided to step down from their role as co-directors and restructured the enterprise as a "collective" (NJ 2010-11 annual report).

NJ's work has also shifted its focus of activities. According to Bavikatte, at the time of winning the SEED Award NJ was more involved in the development of BCPs – now it focuses mostly on providing services so that the BCP can be entirely community run.. "Now, for most part, we don't directly get involved in BCP development itself besides running capacity development workshops/meetings and providing BCP related legal support... we try to focus on providing information to the organisations that will provide support to the communities. We support local NGOs and local offices". In 2010, NJ set as its top social target, to facilitate the development of best practice examples of BCPs in Africa and other parts of the world. According to Bavikatte, this target has been met, and NJ is now focussed on sustaining and improving on these best practices and disseminating the lessons from them. "The number of direct beneficiaries has grown so much that now we support eight or nine different communities just in Southern Africa – it is now hard to track".

NJ and BCPs have also figured prominently at the national and international levels. The enterprise's top environmental targets in 2010 were to: (1) ensure the recognition of BCPs in the International Regime on ABS (achieved in the adoption of the Nagoya Protocol in October 2010); and (2) achieve the recognition of BCPs in the national laws and/or policies. NJ has made much progress on the endorsement of BCPs in the national laws and policies of countries like India, South Africa, Namibia, Bhutan, and Malaysia.

NJ's top business target was to achieve core funding and thereby avoid working "from hand to mouth". NJ has achieved this goal through a combination of donor funding and consultancies, and at the end of last year it had enough money to continue for close to a year (Bavikatte, 2012).

**Current and planned growth:** NJ has secured funding and resource support from the ABS Capacity Development Initiative for Africa from 2011-2012 to establish the African Initiative on BCPs with partner organisations. It has also begun to deepen an exploration of biocultural *rights* and it is currently writing two books on the topic, tentatively titled: "Stewarding the Earth: Rethinking Property and Biocultural Rights", and "Exploring Biocultural Rights in Asia: Political Ecology, Jurisprudence, Resistance and Engagement". Further, NJ has begun to extend outreach of the BCP approach to the private sector through an informal partnership with Union for Ethical Biotrading, which has stressed a need for Bio-cultural *Dialogues*. The enterprise looks forward to intense engagement at the international level between now and 2014 within the CBD and the United Nations Framework Convention on Climate Change (UNFCCC) as well as the forthcoming World Conservation Congress (September 2012) and World Parks Congress in 2014.

## 2.4.4 Social, environmental and economic benefits and outcomes

BCPs establish a framework and baseline to begin assessing and negotiating the use of resources and traditional knowledge. The social, environmental and economic benefits provided by BCPs are initially intangible and therefore difficult to enumerate or measure. However, an overall snapshot of the benefits can be summarized as:

- a. **Social:** provision of a space and time where local communities can assess their biocultural resources, bio-cultural heritage and how they wish to portray this and engage with external interests, which can result in improving community empowerment.
- b. **Environmental:** Once communities have considered their biocultural resources, whether traditional knowledge or the natural environment, this can result in improving and ensuring responsible stewardship of natural resources, by both the community and external agents wanting to utilise those resources.
- c. **Economic:** Once the rights to their natural resources and traditional knowledge have been secured by the community, the community can engage in bio-trade or other benefit sharing agreements, that, in turn, can contribute income to the community. Such agreements can also help to avoid livelihood loss if the natural environment is preserved.

The development of BCPs constitutes a process of bio-cultural and legal empowerment within a community and provides space and time for collective thinking about new issues or emerging legal frameworks. The protocol itself puts other stakeholders on notice that the community knows its rights, has already self-determined the future management of its natural resources and traditional knowledge and is willing, or not, to engage with those stakeholders on certain conditions.

Once instated, bio-cultural protocols can lead to livelihood improvement by securing communities' rights to their natural resources and traditional knowledge. This provides them the basis upon which to use their natural resources for their own purposes, engage in bio-trade or enter into benefit sharing agreements.

BCPs are starting to show results, for example, the community of Deraniyagala, Sri Lanka, together with local NGO, has successfully protected their watershed through the sustainable use of forest products.

## 2.4.5 NJ's Business model and primary stakeholders

As a non-profit social enterprise, NJ finances its work through a balanced mix of fundraising and consulting services. During the 2010-11 financial year, consultancies provided the bulk of the enterprise's income (49%) supplemented by a substantial portion coming in from a combination of donations and grants (39%). NJ's consultancy work comprises technical advice, reporting on international meetings, and organizing and hosting workshops for community based organisations and governments nationally and internationally. The support received from funders ranges from core funding to funding for specific projects and activities. After the ratification of the Nagoya Protocol on ABS, NJ foresees governments and potential users of community resources to finance bio-cultural protocols, in compliance to the new regime (NJ 2010-11 annual report).

Stakeholder mapping of NJ is complex because most of the collaborative work it carries out is through informal agreements. Co-founder Kabir Bavikatte describes its partners and beneficiaries as "a massive networks of organisations". He also explains that NJ's key partners have varied: "It's like a web of different nodes that light up at certain times".

### Why BCPs in ABS?



The CBD provides a framework for national governments to implement ABS mechanisms to regulate and protect knowledge and genetic resources in order to facilitate access and ensure the fair and equitable sharing of benefits. However, there is a disconnect between National policy frameworks and the community. BCPs serve as an interface between the community and national policy framework basing themselves on local governance arrangements. (Source: Interview with Babara Lassen, ABS Initiative)

Photo above: Kabir Bavikatte, co-founder of Natural Justice, presents a case on biopiracy during the COP 10 of the CBD (Source: ENB, 2010)

Table 6. Attempt at mapping NJs (and its product, BCPs) stakeholders:

Type of stakeholder	Organisation name/quantity
Funders	7 organisations, including: CD Trust; The Christensen Fund Deutsche Gesellschaft für Internationale Zusammenarbeit; Open Society Initiative for Southern Africa; Shuttleworth Foundation; United Nations Environment Programme (UNEP); United Nations University Institute of Advanced Studies
Implementation partners	Key partners include the ABS Capacity Development Initiative for Africa at the level of implementation. Another major partner is Indigenous and Community Conserved Areas (ICCA) Consortium (Natural Justice is a Consortium member).
Network of organisations working with BCPs	More than 25 organisations, including international organisations such as UNESCO, IIED, IUCN, UEBT
Beneficiaries (Called “main partners” by NJ)	19 community based organisations and local conservation NGOs throughout the regions of Africa, Asia, Latin America and Europe
Users	These are companies that are engaging in access and benefits sharing with local communities. NJ does not currently work with companies, but is exploring, together with UEBT, the types of services and facilitation that it could provide users (e.g. helping to establish value chains through Biocultural “dialogues”).

## 2.4.6 Success factors

The BCP approach has become widely known and applied in a relatively short amount of time. There are three key ingredients that have made the recipe for success.

- a. **BCPs fill a need:** The success of BCPs is rooted in their ability to respond to the opportunities created by emerging international and national environmental law, and the recognition by local communities that they need to be able to articulate their rights (Bavikatte & Harris, 2010). BCPs serve as needed device for bridging the gaps between customary, national and international law (Salter and Von Braun, 2011).
- b. **International endorsement:** The profile of BCPs was raised by the 2010 adoption of the Nagoya Protocol on Access and Benefit Sharing, which made reference to “community protocols”. Article 12 of the Nagoya Protocol requires parties to take the customary laws, protocols and procedures of indigenous people and local communities into consideration and to work with indigenous people and local communities in order to ensure equitable sharing of the benefits from traditional knowledge. “As a result of the value of community protocols being acknowledged in international law, it is likely furthering the use of BCPs to resolve future conflicts over biocultural rights” (Salter and Von Braun, 2011).
- c. **NJ’s organisational strategy and style:** The enterprise places a high value on its staff and the organisation’s goals. According to Bavikatte, “It all comes down to people. We have never tried to hire the best for the job, we just try to create a great working environment and facilitate people to be the best they can be. Money is a threshold motivator. But cross that and create motivational opportunities. Get strong personalities and people that are driven. The work is fun”. Bavikatte also cites the ability to network and loose-style organisation. “We are small and able to respond faster to opportunities”.
- d. **The importance of research and development:** NJ emphasizes an adaptive learning and continuous improvement cycle for BCPs: developing the theoretical construct, testing it in practice, diffusing it through networks, and incorporating lessons from implementation.

## 2.4.7 Challenges and how they have been met

- a. **Acquiring financial support:** Initially, the work NJ did to support the development and dissemination of the BCPs was dependent on individual consulting contracts and small grants. Currently, this is no longer an issue because NJ has managed to receive enough core operating funds to cover their yearly expenses with a buffering period of nearly a year. This has been accomplished through networking. However, the issue remains regarding the costs of establishing BCPs at the community level. As a way of meeting this challenge, NJ has helped some communities to find funding for their establishing

### Research and development of BCPs in theory and practice

NJ invests considerable time and resources toward researching, documenting and improving both the theory and practice of BCPs. It does this through an internship research programme in the enterprise and dissemination of material on the Community Protocols Website and NJ website, as well as through networks, conferences and workshops. Materials include a range of publications, case stories and a facilitator’s toolkit training multipliers.

BCPs. Further, during international consultations of the CBD working group, parties were urged to request the allocation of funds to support the mechanisms for to indigenous communities to organize themselves, including community protocols (ENB, 2011).

- b. Managing scale up of the enterprise and sustaining the scale up of BCPs:** For NJ, according to Bavikatte (2012), the past year “was a steep learning curve” in terms of organisational management, specifically, in gaining an understanding of how to sustain growth without losing the sensitivity that comes from small organisations. This has been addressed through restructuring as a collective –an extended team. It is an ongoing challenge of trial and error, “but we are getting there”. According to NJ’s 2010-11 annual report, “It became clear in 2009 that adopting an ad hoc approach to assisting communities to develop community protocols had its limitations. At the same time, we realized that the methodologies that we had applied in the first few BCPs could be improved upon. To resolve this it was decided that: 1) we should develop regional programmes that provide focused and long-term support and lesson-sharing among specific communities; and 2) to ensure their success, we would require considered fundraising strategies for the programmes”.
- c. Diminishing potential weaknesses and dangers of BCPs:** Several potential weaknesses and dangers of BCPs have been highlighted through working with participants on the ground (e.g. the process of developing a protocol could be abused by certain parties either from outside or from within the community; such processes may further entrench or perpetuate existing power asymmetries at the local level such as the exclusion of women and youth in decision-making mechanisms.) NJ has dealt with this by discussing the potential pitfalls of BCPs with its partners/beneficiaries. Some of the Asian partners have proposed to develop a programme of work that deepens the understanding of community protocols and broadens their effectiveness across communities in Asia. (NJ Annual Report, 2010-11; and Community Protocols website). NJ has also listed and discussed these concerns on a page titled, “Core Concerns” on its Community Protocols website.
- d. Ensuring the quality of BCPs:** This is a challenge related to that listed immediately above and relates to how to make the BCP process a toolkit that can be useful broadly without becoming too diluted. All interviewees cited this challenge. The question is whether a “standardized BCP” would be warranted. The tension is between ensuring quality and key elements of the BCP is are maintained, while at the same time making sure that it is not prescriptive and that it captures the diversity and participation of the community. These issues are being dealt with through discussion with regional partners.
- e. Engaging with the private sector:** Finding the right approach for entering into dialogue with the private sector, and in particular with companies that are interested in fair trade. They need the guidelines and the tools. According to Maria Julia Oliva, UEFT, “BCPs have a defensive and aspirational aspect. Communities can defend themselves against breach of their rights but they can also inspire companies to act.... It’s critical to work with the commercial sector and that’s where there are opportunities, but there are also challenges. This needs to be thought through very carefully before simply offering it to companies”. NJ and UEFT have begun to tackle this barrier by testing the field in 3 pilot projects – working with companies to guide them in collaborating with communities in order to discuss their biocultural wealth.
- f. BCPs – lengthy process:** According to Barbara Lassen of the ABS Initiative, BCPs themselves are not just about the document in the end – it’s about the process – and a good process stakes time. Most companies have the challenge of not having the time to go through the community process. In order to address this challenge, NJ and its network partners are testing a biocultural “dialogue” approach. “This dialogues approach attempts to find something feasible without losing the spirit of the BCP”. One of the conclusions is that wherever possible, companies and communities should try to complete the full BCP process. At a minimum, companies should see if there is already a BCP in place – or a similar community experience that they could base it on or any similar document they have drawn up (Lassen, 2012).

## 2.4.8 Current needs/types of support the enterprise requires now

With growth and success, the organisation is becoming increasingly complex. Guidance on institutional governance is needed.

## 2.4.9 Lessons Learned from NJ's experience with BCPs

BCPs have proven that by developing appropriate protocols, communities can leverage the law to assert control over their resources and knowledge. This case also provides valuable insight into SMMEs that focus specifically on influencing international and national policy. The integration of academic research with community-based practical action, coupled with the mechanisms employed to disseminate learning and spread the BCP approach are key to the scale up and replication that this initiative has enjoyed. Networking at local, national-international levels and participation in important events has also been a key success strategy.

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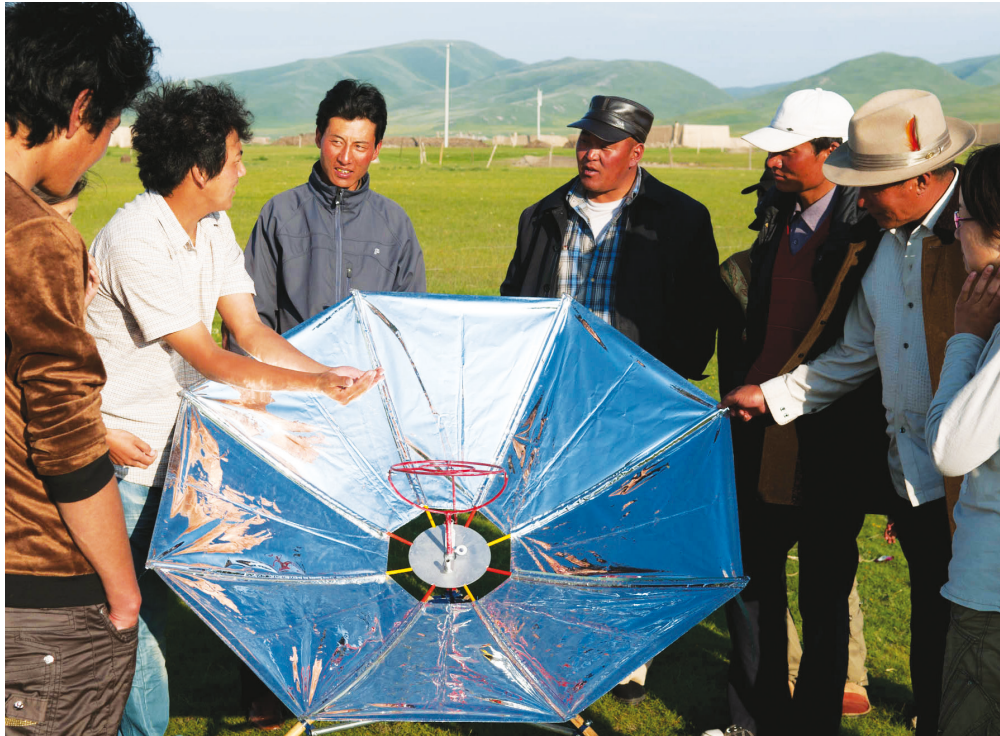
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- Natural Justice Blog: <http://natural-justice.blogspot.com.br>
- Access and Benefits Sharing Capacity Development Initiative <http://www.abs-initiative.info>
- Union for Ethical Biotrader - <http://www.ethicalbiotrader.org/>
- Nagoya Protocol. Convention on Biological Diversity (CBD) <http://www.cbd.int/abs/>
- Community Protocols <http://www.community-protocols.org>
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- SEED winner page <http://www.seedinit.org/en/awards/winners-database/2009%20Awards/bio-cultural-community-protocols-.html>

## 2.4.12 Interviews

- Kabir Bavikatte – Co-founder, Natural Justice
- Maria Julia Oliva – Senior Adviser on access and benefit sharing, Union for Ethical Bio Trade (UEBT)
- Barbara Lassen – Programme Officer, Access and Benefits Sharing Capacity Development Initiative for Africa







2010 SEED Winner SolSource

## 2.5 China - SolSource (2010)

### 2.5.1 Overview

SolSource is a line of solar concentrators that address three of the four major barriers to solar cooking and are 20% more energy efficient than competitors. The approach used to develop the SolSource involved end-users in designing, field-testing, monitoring, building, selling, and providing after-sale services. SolSource concentrators integrate with other technologies (also developed by One Earth Designs) to harness solar energy for electricity generation, household heating, and water purification.

Every year, indoor air pollution from household stoves kills more than 500,000 Chinese, and another 1 million people in other regions of the world. Globally, more than 2.5 billion people risk this fate through their reliance on polluting solid fuels like dung, wood, and coal to meet their basic needs. For these people, SolSource could be a life saving technology.

One Earth Designs was a recipient of the SEED Award in 2010. It has also been widely recognised for its innovation by several other grants and awards.

### 2.5.2 Origins

By the time they were 20 years old, Scot Frank and Catlin Powers, the eventual founders of One Earth Designs, were already designing environmental technologies in collaboration with rural villagers in China, supported by small research grants and environmental prizes. They incorporated a for-profit company in Hong Kong in 2010 to begin manufacturing and selling these technologies so that the products could provide their health, economic, and environmental benefits to more people.

One Earth Designs captured the attention of prestigious environmental awards, including the U.S. EPA's People, Prosperity & the Planet award (\$100,000); the \$100,000 St. Andrews Prize for the Environment (2009); 500,000 Euros Dutch Post Code Green Challenge (2010).

In late 2010, One Earth Designs won the SEED Award. The SEED Award aimed to help bring SolSource products to market by supporting the enterprise in building its business plan, clarifying its triple bottom line objectives and stimulating an in-depth examination of its programme and structure.

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#### The problem

In the Himalayas, women spend many hours a day collecting dung and wood fuels for cooking and heating. This process leads to deforestation, and many tribes are rapidly running out of their traditional fuel sources. Families also breathe toxic indoor air pollution from the fire. Indoor air pollution is one of the world's biggest killers of children under five, claiming 1.6 million lives per year.

#### The solution

The SolSource 3-in-1 is a solar cooker, heater, and electricity generator. It is lightweight and affordable and has been designed together with Himalayan communities.

Text source: One Earth Designs website

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## ONE EARTH DESIGNS's beginnings

"Initially this started on a shoe-string. I was in China on a summer abroad trip that didn't all pan out. With the remaining two months I set off by foot, bus, and bike along the Silk Road where I befriended many people from the region. Through their eyes I was able to see & understand the most-needed basics for life: health, clean water, clean air, and community - all aspects ONE EARTH DESIGNS works with today.

Working together we brainstormed ideas and pursued seed funding to test out some of the concepts. We applied to the MIT Global Challenge and received a \$3,000 award to support us for the summer. Afterwards, we realized we were on to something but that it would take a sincere commitment to implement the solution. Since then, it's been a multi-year journey building the team, pursuing our vision, and testing our designs."

Scot Frank, ONE EARTH DESIGNS co-founder and CEO

Source, Fahys, 2011

## 2.5.3 How it has grown/current status/future prospects

Less than 1.5 years after winning the SEED Award, One Earth Designs has made much progress toward consolidating and establishing its hybrid social enterprise business model. In the process, it has achieved key milestones, such as:

- Setting up the manufacturing line to produce the SolSource
- Building experienced teams in Hong Kong and mainland China to carry out R&D and marketing
- Accelerating sales efforts with buyers within China and internationally

It has also been able to raise a part of the targeted capital for its Hong Kong entity, and has begun capacity building.

The growth of One Earth Designs can be evidenced in numbers: when the enterprise was first registered it consisted of 6 unsalaried workers consisting of a mix of students and volunteers, together with community organisations. Over the past year (March 2011-March 2012) One Earth Designs has been able to bring on more qualified people to take on aspects of marketing, design, and engineering. Today, the enterprise counts on 8 full time staff, 4 part-time staff, and 11 volunteers.

In terms of product development, One Earth Designs finalized the SolSource after developing and field-testing 11 prototypes, and began accepting orders for the SolSource in September 2012. Within one month, it had sold 500 SolSources which will be delivered to nomadic communities in Qinghai Province this winter. There are currently another 1,300 SolSource sales in progress. The primary buyers are governments in Asia and distributors in Asia and Latin America.

## 2.5.4 Social and environmental goals and benefits

The SolSource has the potential to save lives, reduce carbon emissions, save time for women, and save money for families. One Earth Designs is working with 10 members of our user communities to monitor these metrics among customers under guidance from Harvard and Tsinghua Universities.

- Social benefits:** Use of the SolSource could save lives by reducing indoor pollution from stoves which currently kills more than half a million people in China annually. In addition, it could reduce fire and fuel collection-related injuries, thus improving quality of life in general.
- Environmental outcome:** Widespread adoption of the SolSource would help to reduce harmful greenhouse gas emissions and deforestation rates.
- Economic outcome:** Women and children who do not need to collect fuel due to owning a SolSource and may therefore devote newfound time to schooling and income-generating opportunities. The SolSource also presents a significant cost savings to family's who currently purchase fuel, especially coal which can cost families as much as \$600 per year.

One Earth Designs' metrics include measurements of income, the time that women and children spend collecting fuel, exposure to toxic smoke, the amount of CO<sub>2</sub> and particulates emitted by stoves, etc. (CGIU, 2012).

## 2.5.5 Mapping One Earth Design's business model and stakeholders

### a. Business model

One Earth Designs has a two-track business model for sales of the SolSource:

1. **Base of the Pyramid (BOP):** One Earth Designs aims to reach the 2.5 billion customers in the BOP who currently have little to no access to safe and clean energy technologies. They are currently reaching these customers in partnership with governments and NGOs. One Earth Designs plans to expand sales channels in the future to include direct and retail channels in select locations.
2. **Commercial:** One Earth Designs also plans to tap into the multi-million dollar outdoor cooking industry among green consumers globally via international retail channels and online sales.

#### b. Stakeholders

One Earth Designs works closely with its technical, financial and beneficiary stakeholders to align interests and achieve goals; products are intended to provide net positive social, environmental, and financial impacts and manufacturing processes are designed with the environment in mind. One Earth Designs' technical partners are:

- MIT, Harvard University, Tsinghua University, Wellesley College, Qinghai Normal University, Sustainable Minds, SolidWorks

### 2.5.6 Success factors

- a. **Leadership with a vision for sustainability:** What stands out in this case is the innovation and attention that has been achieved by a youthful team, many of whom were or are university students. This is due to a comprehensive leadership vision that illustrates the type of attitude and strategic planning required for solving some of the world's most pressing problems (See box at right for an illustration of this vision).
- b. **Product innovation:** Solar cookers as a technological alternative to fuel for cooking have been used throughout the developing world for more than 30 years (Knudson, 2004). However, they have faced low adoption rates around the world because they: (1) cause unwanted fires, (2) expose people's eyes and skin to harmful radiation causing discomfort, (3) lack the temperature adjustability found in every other stove technology, and (4) are not able to cook when the sun is not shining. The SolSource solves issues 1-3 and One Earth Designs has already prototyped solutions to issue 4. In addition, SolSource reflector technology achieves efficiency and durability in low-weight optimal geometries where other reflector materials are unable to do so.

Further, according to local users, solar cookers previously available in western China were too heavy and difficult to repair. More portable, international solar cookers were unable to provide sufficient power. The SolSource achieves an ideal power/portability ratio for western Chinese users.

Other technologies under development at One Earth Designs interface with the SolSource to provide a wide range of additional energy functionalities desired by rural households in China and around the world.

- c. **Community-based research and development approach and a concern for consumer satisfaction:** The product's innovation is due in large part to its having been developed with local communities. According to Frank (2012), "We strive to have a product that addresses the needs of the people. We develop it by working directly with communities and end users to ensure that we follow the expressed needs of the beneficiaries. We do not develop the technology and then find a place it would be useful. Rather, communities come to us - our approach is based on the co-development of products".

Further, customer satisfaction and trust is a key for the product and the enterprise. Local market research indicated that consumers would not trust any other products, so One Earth Designs strives to be "the technology company that cares – the green apple of the consumer market" (Frank, 2012).

**Support provided and skills developed through Innovation awards, environmental prizes and incubator programmes:** Prizes and awards have provided important sources of funding and drawn attention to the product. They have also helped One Earth Designs to expand its contacts

#### Scot Frank's advice to aspiring innovators

"Spend the time necessary to really understand the people you are trying to help and include them in all parts of your project. (...) Dedication and follow-through are essential to make the significant impact your commitment has the potential to achieve. (...) Treat the real world and real lives seriously and consider the effects of your actions. Make one-month and three-month plans, as well as one-year and five-year strategic plans, and revise them frequently.

And last, let your passion show and let your passion live. Let it show because that is what will attract team members, partners, and investors to your organization. Let it live because mountains that seem insurmountable look like hills when you love what you do". (Source: CGIU, 2012)

Scot Frank, ONE EARTH DESIGNS  
Founder and CEO (in commentary posted in Fahys, 2011)

and networks with people doing related types of work and that have similar experiences; business consultants who have relevant market expertise; investment-type financing and funding.

For example, according to Frank (2012) SEED's Award Ceremony in Beijing increased One Earth Designs' credibility and helped the enterprise to expand its network through providing a number of useful contacts. SEED introduced One Earth Designs to Hogan Lovells, which was instrumental in providing pro-bono support and legal consulting on corporate structuring, Intellectual Property (IP) and on registering patents in China. SEED itself also provided good advice during a time a critical junction when One Earth Designs was transitioning from volunteer to full time staff.

## 2.5.7 Challenges and how they have been met

According to SEED's analysis of the enterprise's main challenges upon winning the SEED Award, "One Earth Designs is still very much in the start-up phase and faces a number of challenges that are unusual for an organisation at this stage: it is trying to establish a group of organisations consisting of a US not-for-profit organisation, a Hong Kong for-profit, and potentially a Chinese for-profit company. The team is still very young and there are distributed centres – Hong Kong, US and Xining communities in Western China. Specific challenges that are being met include:

- a. **Consolidating the team and its key partners:** This includes establishing partnerships with local government, legal agreements between HK and One Earth Designs inc. To help solve this hurdle it worked together with Hogan Lovells which provided it with important legal support in this process.
- b. **Acquiring financial resources:** One Earth Designs has had to spend considerable time looking for resources to overcome the hurdles of moving into manufacturing, expanding sales teams, and developing capacity in technical areas. The SolSource has just come out of the product development phase; manufacturing has only just started and in small numbers. One Earth Designs is working toward overcoming this barrier through increasing its marketing and outreach activities.

At the time of the interview, the Winner observed that short term government subsidies to low-income rural families to help them purchase electric appliances and renewable technologies could help in the launch of the SolSource. This might not be such an issue next year when One Earth Designs will expand manufacturing and produce additional units and the profits from the sales should make the enterprise self-sufficient.

- c. **Finding the right manufacturers:** A significant challenge for One Earth Designs has been in finding manufacturers that are low cost yet also environmentally and socially responsible. "We don't want to compromise on hurting the environment on the one hand while we are trying to save it on the other" (Frank, 2012). In China, common pitfalls among manufacturers include poor working conditions (e.g. unsafe and/or unclean working environment, excessive noise, lack of safety equipment) and poor organisational practices, such as no IP protection for clients and no quality certifications (e.g. ISO 9000 or ISO 14000). One Earth Designs has identified manufacturing partners with sound environmental and social practices and has proceeded to establish manufacturing with these partners.

## 2.5.8 Current needs/types of support the enterprise requires now

According to Frank (2012), these are currently One Earth Design's most pressing needs:

- financial resources to underwrite expansion – the "missing middle – before we reach economies of scale."
- more connections; more mentors and support from people who have industry experience in China.
- distribution partners in China and other nations, especially in Asia
- excellent sales people with experience in China interested in joining the team

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"We were able to get quite far with the design for this and other products for low-income communities on very little capital. However, setting up manufacturing capacity in order to get the SolSource to the people who need it most on a large-scale has required considerable funds. Thus far, One Earth Designs has supported all R&D and manufacturing set-up costs through research grants and innovation awards".

Catlin Powers, Co-founder, Executive Vice President and Chief Operation Officer of ONE EARTH DESIGNS.

Text source commentary in Fahys, 2011

## 2.5.9 Conclusion and summary of lessons learned

This case shows how community involvement is central to ensuring appropriate technology design and use in the local context. The SolSource, developed through close collaboration with Himalayan communities, has resulted in a superior alternative to traditional solar cookers available in the region in that it is more portable, more energy efficient, safer, more comfortable and has a maintenance warrantee with local after sales-service provision. The SolSource S2 model is the first solar cooker in the world to offer temperature adjustability. Finally, the products still in the R&D phase at One Earth Designs constitute multi-functional add-ons to expand the functionality of the SolSource home energy solution.

The case also provides a strong testimony of the role university grants and awards have in channeling and harnessing youths' energy, innovative capacities as well as influencing thinking toward sustainability. These catalysts, in conjunction with organisations providing start-up and entrepreneurial support, provide the important skills and funding required for launching enterprises that help toward building the green economy.

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- Unreasonable Institute Video Presentation: Scott Frank, One Earth Designs. Unreasonable TV. <http://unreasonable.tv/2011/scot-frank-one-earth-designs/>

## 2.5.12 Interviews

- Scot Frank, president and CEO of One Earth Designs
- Mirko Zürker, consultant, Adelphi (conducted remote support for ONE EARTH DESIGNS)



UN TOIT  
UN METIER

La Voûte Nubienne  
Sans Bois Ni Tôle



2010 SEED Winner Village Cereal Aggregation Centres

## 2.6 Kenya - Village Cereal Aggregation Centres (2010)

### 2.6.1 Overview

In this initiative, a local commercial entity has joined forces with the national government, the financial sector and cereal buyers to establish mobile post-harvest management centres in Kenyan villages – enabling farmers to deliver high-quality grain to the market value chain and encouraging more participation of youth in cereal production.

These centres, called “Village Cereal Aggregation Centres” (VCACs) comprise grain processing and bulking facilities equipped with mechanical threshers, collapsible dryer cases, moisture meters, aflatoxin-testing kits, cleaning and grading trays, bagging gear and weighing scales. The initiative also offers farmers comprehensive training in post-harvest management including aflatoxin and pest control methods, grain marketing and trading standards, and business and financial management.

### 2.6.2 Origins

VCAC was initiated by Kenya Promotion and Marketing Company Holdings (KPMC), a limited business registered in Kenya in 2007. KPMC is the Kenyan representative for GrainPro Inc, “a Green, Not Only for Profit Company” based in the US that markets a range of post-harvest technologies.

In 2010, the KPMC successfully piloted the concept of ‘Village Cereal Aggregation Center’ (VCAC) using a comprehensive approach to post harvest management and value chain development. With partial support from USAID’s Market Linkages Programme and additional support from the Government of Kenya, KPMC began rolling out of the VCAC concept country-wide. That year, it also won the SEED Award.

### 2.6.3 How it has grown/current status/future prospects

At the time of winning the SEED Award, KPMC set measurable targets to achieve in one year. Less than 2 years on, VCAC has met and exceeded most of these targets. For example:

- The targeted number of households benefitted was 2,000. To date, it has already benefitted 7400 households.

#### The Problem

Millions of Kenyans are starving, yet 40% of crop harvests go to waste – the equivalent of 11.2 million bags of maize. The main contributors to grain loss are:

- Moisture
- Aflatoxin
- Pest infestations
- Oxidation

#### The Solution

VCAC virtually eliminates post-harvest losses with hermetic storage: airtight bags that combat moisture. Benefits include:

- Zero loss, no chemicals
- Seed germination qualities remain intact








Source of text: KPMC Holdings website

### KPMC's Mission

To empower small-holder farming communities by availing technologies for post-harvest handling. We build the capacity of farmer for increased production, reduced losses and encourage them to work collectively in order to attract value chain partners and by so doing, increase their incomes.

Source: VCAC website

### VCAC's Value chain intervention

Link in the Value Chain	Targeted stakeholders	Support Services
Production ↓	 Farmer	Supply of production inputs
Post-harvest handling ↓	 Farmer	Supply of drying equipment
Processing ↓	 Farmer group	Supply of threshing packing & loading facilities
Storage ↓	 Farmer group	Supply of storage facility; Financial services
Trading to market ↓	 Traders	Offering competitive products
Retailing ↓	 Retailer/wholesaler	Offering competitive products
Consuming	 Consumer	Provision of competitive products

Source: Adapted from Adelphi Consulting

- In terms of capacity building in post-harvest management, KPMC targeted 1,500 farmers and 40 master trainers from the Ministry of Agriculture extension staff. It has already trained the 40 master trainers and has built the capacity of more than 3,400 farmers.

- Food processing and storage: the target set is to aggregate 30,000 bags of maize for food security and trading. It has already cumulatively processed and stored 23,000 bags to date.

- VCAC implementation: It set out to establish twelve VCACs. So far, three have been established and six more will be implemented by the end of 2012.

KPMC has expanded its work to 3 regions in Kenya. According to Bilha Maina, Managing Director at KPMC holdings, the initiative has also made good progress toward creating market chains. For example, it has secured contracts to with the World Food Programme (WFP) and a subsidiary of a Local Brewing company - East Africa Malting Limited. According to Maina (2012), "these two organisations offer forward delivery contracts that enable KPMC to create a marketplace for the farmers to supply their produce at good market prices". KPMC has also expanded its partnerships with the financial sector to start offering agency banking services to small holder farmers, as well as micro credit. The enterprise is also making progress toward establishing a national stakeholder forum in order to monitor the initiative and support policy development.

### 2.6.4 Social, environmental and economic benefits and outcomes

With a focus on livelihood improvement through improved food security that is not harmful to the environment, VCACs are able to provide social, environmental and economic benefits.

**a. Social outcomes:** The initiative is creating new community-level co-operatives, which enhance the farmers' ability to engage in joint production, processing, storage and marketing activities. This will lead to increased incomes, food security and improved social welfare.

**b. Environmental outcome:** By encouraging improved production and proper land and water utilisation, the initiative encourages farmers to adopt environmental protection practices and reduce the use of harmful pesticides in food storage, such as phosphine and Methyl Bromide. GrainPro's pesticide-free hermetic storage units provide long or medium term organic storage, eliminating the need for chemical insecticides and fumigants and, hence, the associated risks to farmers, agricultural labourers, consumers, wildlife and the environment.

**c. Economic outcome:** Post-harvest losses in cereals are reduced by over 25%, thereby increasing profitability in cereal production activities. This helps farmers to gain better returns on their investment. Further, through the VCAC, farmers can fetch a 30% return on their investment. This generates at least five US dollars profit per bag of cereal. With an average production of 15 bags per acre and 3 acres under cereal production this means an income of US\$ 225.

There will also be a few opportunities for employment at the VCAC at a salary of US\$200 for those employed on regular basis (Maina, 2012).



## 2.6.5 Mapping VCAC's business model and stakeholders

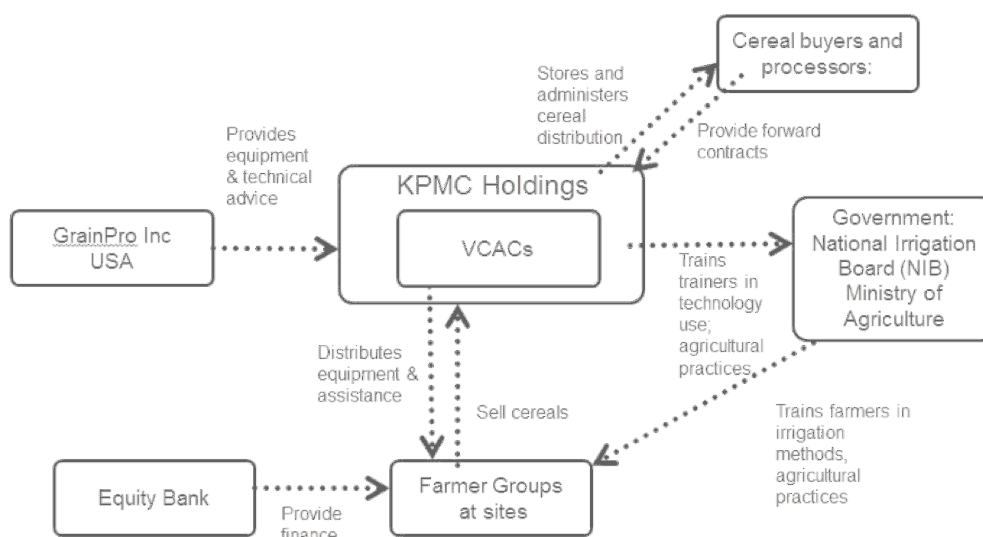
VCACs are run through a partnership model, bringing together farmers, cereal buyers and processors, traders, a technology company, financial organisations and government organisations. Funding and support to establish this initiative has been provided from US AID, SEED Initiative and FAO. Key partners and their functions are described in table 7 below:

Table 7. VCAC's stakeholders

Partner	Function
Kenya Promotions & Marketing Company (Holdings) Limited	Project leader. Technology supplier through GrainPro product representation. Establishes the VCACs.
<b>Government Partners:</b>	
Kenyan Ministry of Agriculture	Supports the establishment of the VCACs on a public private sector basis and promotes the establishment within key cereal production areas
Kenya National Irrigation board	Supports small-scale farmers to engage in irrigation farming.
<b>Financial Sector Partners</b>	
Co-operative Bank, Equity Bank, Mobicash Network	Provide agency banking services to small holder farmers
<b>Clients</b>	
Cereal buyers	Purchase and process grain
WFP	Purchase and process grain
Local brewery	Purchase and process grain
Agmark	Bulk Cereal transportation solutions and agricultural commodities
<b>Beneficiaries</b>	
Small holder farmers	Produce grain, and sell it to KPMC Holdings

The stakeholder map below briefly outlines the interactions of these stakeholder groups.

VCAC Stakeholder map (source: adapted from Adelphi, 2011)



## 2.6.6 Success factors

This partnership initiative, although still fairly new - less than 2 years old - has already enjoyed substantial success in meeting its targets. Two key factors can be identified as enablers of this success:

- a. **A difference in the services offered:** According to Maina (2012), “we are not ordinary traders and speculators. KPMC works in true partnership with farming communities in order to build their capacity and make trading decisions. This fosters trust in the VCAC model”. This trust extends itself beyond the farmers: “The fact that KPMC comes in as a 3rd party collateral manager means that banks and processors can trust us and hold us accountable”. VCACs bring the expertise that is needed to transform farmer groups (or aggregated farming communities) into successful traders. In the words of Maina, “Farmers are good at producing; we come in to offer them the services they need to attain good prices, in a transparent way”.
- b. **Support and guidance from international organisations:** This initiative has been supported by key organisations focusing on supporting specific, interrelated elements of the project. These include:
  - **The SEED Initiative** – Aimed at supporting innovative small-scale and locally driven start-up enterprises around the world that integrate social and environmental benefits into their business models: through winning the SEED Award, the partnership was given the needed impulsion to start up, by indicating that the project concept note was worth exploring further. It also provided important recognition needed to capture the attention of other international organisations. The funds from SEED helped to: start up the agency banking model, undertake training for staff and build the capacity of 40 ministry of agriculture staff, and covered some of the initial costs for meeting with the PPP members to get the project accepted. Its support services helped to strengthen its triple bottom line approach. According to Maina (2012), “SEED services helped us to think more critically about our social impact, our environmental contribution and how to keep the business going sustainably not only for profit. (...) We are constantly reviewing the goals we set out for ourselves under the SEED grant to see if we have kept to our mission and what has changed and why, this helps to keep us on track with all our triple bottom line goals”.
  - **FAO** incorporated KPMC as key partners in reviewing food wastage. The organisation has undertaken a joint study on community grain marketing and disseminated the results. “This has helped us understand more how our value proposition should take shape to be of benefit to communities. This study has put us ahead of the pack and we are recognised as being serious about community grain marketing challenges and how to find workable solutions” (Maina, 2012).
  - **USAID** – KPMC received funding from USAID’s Market Linkages Programme (\$181K). This funding was very important, giving the initiative capital boost and increasing our value proposition and sustainability.

## 2.6.7 Challenges and how they have been met

- **Fluctuations in market prices:** Changing market prices can have great impact on farmers’ profits. VCACs work by storing cereals and selling when the market prices are favourable. However, storing cereals first requires buying from farmers and having the available credit to do so (see related problem below). To move away from this hurdle, forward contracts (with buyers such as the WFP and a local brewing company) help the initiative aggregate commodities at a predetermined price. In turn, it sells for a higher price than the average market rate for the commodity aggregated.
- **Access to credit:** This is a significant challenge because the VCACs are required to have collateral in order to borrow. According to Maina, “We need credit to pay farmers an initial deposit that will allow them to hold on to their grain a little while longer to have the market prices go up. Without initial funds to pay, we cannot help them to fully speculate in the market”. The way KPMC has dealt with this challenge is to encourage farmers to accept joint ownership of the commodity that is aggregated so that KPMC also waits to be paid when the farmers eventually sell their produce.
- **Availability of adequate liquidity in some markets:** Being able to buy and sell cereal products easily in some markets in Kenya is a key issue that remains unresolved. Cash-based purchases and sales means that VCACs need to make cash available and

manage cash exchanges in their outlets, requiring an additional investment and expertise. The initiative has been working toward alleviating this situation by interfacing with as many M-Pesa<sup>1</sup> agency outlets as possible.

### 2.6.8 Current needs/types of support the enterprise requires now

- Mobilise value chain partners to provide financing, insurance, agro-inputs and markets.
- Generate evidence to support public policy development.
- Undertake field research to support the adoption of hermetic storage.
- Undertake field research to establish farmer capacity to produce for specific value chains and how to successfully contract them

### 2.6.9 Lessons Learned from the VCAC Case Study

The VCAC case illustrates how an agricultural commodities trader with a triple bottom line objective can be successful through establishing market linkages for farmers. Its success in turn results in improved livelihoods for farmer groups and reduces the amount of chemicals in the environment. The VCAC model was established through the trader being able to articulate their initial ideas with international organisations, including technology distributors and donors, which helped it to get the momentum going, including pilot a demonstration project, training trainers and helping to create strategic partnerships. This case is exemplary of the benefits of having a good marketing plan and creating the right initial strategic alliances. However, much work remains to be done. Continued success will depend upon the degree to which more key partners can be secured to ensure establishing further market linkages.

### 2.6.10 References

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### 2.6.11 Websites consulted

- Agricultural Market Development Trust AGMARK
- KPMC holdings - <http://kpmcholdings.com/>
- Grain Pro - <http://www.grainpro.com/>
- World Food Organisation -

### 2.6.12 Interviews

- Bilha Maina, Managing Director at KPMC holdings
- Mirko Zürker, Adelphi (provided SEED support services)

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<sup>1</sup> M-Pesa is a mobile phone money transfer service that allows those without a bank account to transfer funds through sending a text message. Users send and pick up cash at participating outlets (Graham, 2010).



2008 SEED Winner Pintadas Solar Brazil



2010 SEED Winner Oribags Innovations Ltd.

## 2.7 Uganda - Oribags Innovations Ltd. (2010)

### 2.7.1 Overview

Oribags Innovations (U) Ltd is a Ugandan private enterprise which makes hand-made paper bags, printing paper and jewellery from agricultural wastes. It recovers waste paper and natural fibres in an environmentally-friendly way to transform them into products for the local market. Agricultural waste is collected and purchased from local farmers and other groups. The raw material is processed at the incubation centre of the Uganda Industrial Research Institute (UIRI). The products are marketed locally and primarily sold to supermarkets and small craft and gift shops. The paper bags provide a better alternative to the environmentally-hazardous polythene bags used in packaging. Oribags aims to promote environmental sustainability through value addition, focussing on client needs' satisfaction and creating rural livelihoods. The enterprise was a recipient of the 2010 SEED Award.

### 2.7.2 Origins

Oribags Innovations (U) Ltd is a private company operating in Uganda. It was conceived in 2007 with a mission of being the leading producer of eco-friendly alternatives to environmentally hazardous polythene bags in the East African region, while utilising locally available materials. The company was registered in 2008 and began its work under the support and guidance of three key partners: a government research centre and business incubator-Uganda Industrial Research Institute (UIRI); a national NGO - Uganda Women Entrepreneurs Association Ltd (UWEAL), and TechnoServe - an international NGO aiming to support women-run SMMEs. In an interview, the company owner – Rusia, tells a story of passion laced with innovation and the ability to take opportunities when she talks about how she met her key stakeholders today.

*'We were working as a group of students at the university to promote paper beads. I got to know about the Uganda Industrial Research Institute and invited them to a launch of one of our activities. We got to know more about the Institute and its work. When I started Oribags, I made use of this information to apply for assistance under their idea incubation programme. We signed a Memorandum of Understanding in December 2008. I became a member of UWEAL that same year, with whom I was able to get linked to TechnoServe and many other useful networks'.*

Oribags applied for and won the SEED Award in 2010. At the time, the enterprise had less than five staff, no office, and was getting the bulk of support from UIRI.

### 2.7.3 How it has grown/current status/future prospects

Oribags applied for the SEED Award when it was still in the start-up phase. The main objectives for the company's application were to improve and grow by being able to meet urgent needs. To achieve this, the company set a number of objectives aimed at increasing processing capacity; diversifying and up scaling the existing range of products; intensifying marketing activities to commercialise products regionally; training youth and women in paper making and other entrepreneurship skills; and enhancing the administrative and management capacity. A number of these objectives have been supported under the SEED package accessed by Oribags in March 2011. The support SEED provided with the award included technical and financial support, advice on business planning, provision of contacts and networking services, and high level profiling. The financial support was used to address some of the urgent needs under the different components of the support plan. For example, in total 60 people (30 from a women's group and 30 from a youth group) were trained in issues including waste management, sorting, packing and transporting raw materials, and record keeping. The company also purchased office equipment including a computer and desk, and paid rent for new operational and office space. Finally, part of the money was also used to set up a website, make flyers, brochures, and business cards.

Today, the company is a micro enterprise which manufactures and sells its own products (handmade paper and paper bags) through direct sales to individuals and organisations backed by a sales distribution channel which targets craft stores and supermarkets. Direct sales to government agencies and private enterprises are Oribags' most profitable market involving fairly large orders, ability to pay and prospects for repeat buys. At the time of this study, an order for 400 paper bags had just been completed in a single afternoon. Another order for an upcoming inter-parliamentary Union of East Africa summit was being processed. The researcher saw samples of tailor-made products made for Uganda Wild Life authority (UWA), the Presidential Initiative for Banana Industrial Development (PIBID), UIRI, and Café Pap, a Coffee shop.

To meet the growing demand, the enterprise has opened a third production centre in Lukojjo-Mukono 28 kilometers east of Kampala City. This is an addition to the UIRI- Incubator Unit where the paper is handmade and a rented complex in Kampala Industrial Area which houses the company offices. It is in Mukono and the industrial area complex that the paper is made into the final product (paper bags). Oribags' products are also sold in Katuna, at the Uganda- Rwanda border where they are very popular due to a ban on polythene bags commonly known as "Kavera", in Rwanda.

The company has acquired land in Mukono 26 Kilometres from Kampala with funding from profits made in 2011. The land measures three acres and there are plans to start construction of buildings, purchase of an entire production line, transport equipment as well as raw material. Orikiriza Rusia, the key person and Managing Director has already identified the machinery on visits to India, South Africa, Europe and the United States.

### 2.7.4 Social, environmental and economic benefits and outcomes

#### a. Social outcomes and benefits

- i. 160 women and youths (organised into farmer groups) have been trained in practical skills in paper bags and jewellery making. These groups have also been trained in sustainable agricultural harvesting, waste handling and supply of raw material. DEL farm women's drama group, one of the samples selected for the case study, have been trained in making paper bag handles out of banana stems (agricultural waste). The paper bag handles previously being used on Oribags' products were synthetic. With training, DEL farm women's group is now able to supply enough eco handles to Oribags.

*'We took some time to research into how we could make firm handles for our bags to replace the synthetic ones. Now our bags can be classed as 100 percent eco friendly which adds value to the final product'* a beaming director told this researcher.

- ii. The women also make other crafts like mats, and jewellery which are marketed through Oribags extensive network. Oribags does not charge a commission for this service to the women since the volumes are still small. The women have a register where every transaction including items delivered and monies owed or received are recorded.
- iii. Three groups have been trained as part of social responsibility
  - Uganda Charity Trust Fund- 35 youths
  - Kawempe Home Care that has 130 HIV-affected youth and women
  - Youth Empowerment Development- 30 youths
- iv. The enterprise has been able to participate in the following exhibitions where they create awareness about the advantages of eco products, and give paper and bag-making talks to participants and attendees.
  - Uganda Manufacturers Association- Annual show- Uganda
  - The Global Women Forum- Washington USA
  - The National Science week- Uganda
  - National Youths Day Celebrations 2011- Arua, Uganda
  - Makerere University Business School Entrepreneurship Centre Expo- 2011 Uganda
  - German Cultural Centre Exhibition

#### **b. Environmental outcomes and benefits**

- i. Oribags makes use of agricultural waste and transforms it into products of value. By doing this the initiative creates an eco-friendly substitute for polyethylene bags.
- ii. The company has trained the groups which supply the raw material in waste management, specification, business records management and enterprise management.

#### **c. Economic outcomes and benefits**

- i. The company employs five permanent staff down from seven last year. Whereas the company had projected a growth in staffing over the years, they have found it operationally more efficient to use casual labour. Casual labourers are trained (free of charge), their work rate calculated and quality of output pre-tested before they are taken on. This, Rusia says, is very effective in meeting large orders. After the training, casuals are tested to see how long they take to make a single unit. They are then hired and each given a quota for which they are paid on completion. A pool of over 30 such trainees exists from which the company can choose whenever labour is needed. Most of the casual labourers are unemployed women and youths who have dropped out of school.
- ii. Retailers of Oribags' products earn 10% on recommended resale value. Some of the retailers however price the product a little higher which results in higher returns. A large number of craft shop owners are women employed on other jobs and stocking Oribags supplements their income. Prices for the paper bags range from 0.7 USD to 3.5 USD, while jewellery sells for between 3.4 USD and 8.6 USD.
- iii. Oribags sources its raw materials from the NAMA agribusiness initiative, a women's group in Mukono, and the Kahondo Grassroot Foundation in Kabale (south-western Uganda). These groups earn an income from the supplying the waste.

## 2.7.5 Success factors

- **Leadership:** Leadership appears to be one of the main factors which has contributed to the growth of this enterprise. Rusia displays qualities of having a clear vision, ability to innovate, and perseverance. 'I know where the machines are; I now have to work hard to get them' she said when asked about the purchase of machinery for the production line which is close to four months behind schedule now. We also observed a spark of brilliance in her plan to increase efficiency by lowering the number of permanent staff and replacing them with casual labour. Dorothy of UWEAL had this to say about the reasons behind Oribags' growth:

*'The most important factors that have contributed to the growth of Oribags are Rusia's involvement in networks, the trainings she has received in marketing and export, and her desire to learn. I have noted a great improvement in the appearance of her products over the years...'*

- **Skills:** The paper, paper bags and jewellery are all handmade. There is a need for skill at all levels to avoid wastage and maintain standards. When we visited the paper-making plant, some paper was being laid out on panes to dry in the sun. Considerable skill is required to ensure that the paper is not spread out too thin, and that when still wet it does not get contaminated. The bag handles which are made by women groups must be of standard size not to mention tensile strength. All these aspects call for a high level of skills.
- **Training:** Training of women involved in the supply of raw material and the production of paper bags has been one of the factors that has contributed to growth. The products are handmade and require skills which can only be gained through training. The business is also labour intensive, requiring that many people are involved in production to meet demand.
- **Networking:** Networking has played a key role in the growth of the enterprise. The business owner mentioned a number of networks which have been instrumental as sources of information and linkage to markets and potential funders. These include:
  - BiD Foundation
  - World of 30
  - The International Alliance for Women
  - Uganda Women Entrepreneurs Association Limited
- **Support from SEED:** According to the business owner, working with SEED's support partner, *Adelphi*, to develop the business support plan helped to focus the enterprise by aligning all the needs of the company, attaching a budget to each and prioritizing them. High-level profiling of Oribags had significant benefits in forging important new contacts. Government officials and related business enterprises in the private sector were invited for the Award winning ceremony. The British High Commissioner to Uganda, Martin Shearman, hosted the award ceremony. Some of the people who attended ended up being customers of Oribags. The award ceremony also helped in raising the profile of Oribags in important networks.

## 2.7.6 Mapping Oribags' stakeholders

Oribags key stakeholders include their partners, high-level networks, customers and beneficiaries. These key stakeholders have been pivotal in referring Oribags to other individuals and institutions. These have developed into a network which has played a major role in the growth of Oribags. These organisations and their roles are briefly summarized below.





Who	Nature of Organisation	Role
<b>Category 1. Partners</b>		
Uganda Industrial Research Institute (UIRI)	Government- Uganda. UIRI is a government research institute and business incubator	Technical assistance, product research and demonstration of operations. Purchases Oribags' products and facilitates Oribags in attending trade fairs and exhibitions. Provides access to the resource centre and internet.
Uganda Women Entrepreneurs Assoc. Ltd (UWEAL)	National NGO (local membership, not-for-profit organisation)	Training, networking, mentoring and business counseling, information provision. Access to a network of over 700 business women and professionals.
TechnoServe Uganda	International NGO	Training, counselling and business coaching under Women Mean Business programme
<b>Category 2. High level networks</b>		
SEED Initiative	International awards platform, founded by UNEP, UNDP and IUCN	Technical and financial support. Advising on business planning, provision of networking services, and high level profiling.
BiD Foundation	International network	Business coaching and a chance to win prize money.
The International Alliance for Women	International network	Training in best business practices and sharing success stories from women's networks around the world; programmes for economic empowerment. High level profiling through the TIAW World of Difference Award 2011
World of 30	International Platform of Women in their 30s	Awareness-raising through writing articles
Voice of America	Media house in America	Awareness-raising through live stories
<b>Category 3. Customers</b>		
Brussels Airlines	International Airline	Product purchase
Exposure- Africa	50 Retail shops- Uganda	25 Shops retail Oribags' products
WWF	International conservation organisation	Products purchase
Presidential Initiative for Banana Industrial Development (PIBID)	Government of Uganda Business Incubator	Supplier of of raw material (banana waste)
National Federation of coffee growers	Federation	Product purchase, roast coffee bean packaging
International Women's Organisation of Uganda	NGO	Networking
Uganda Wildlife Authority (UWA)	Government-	Products purchase, company seasonal greeting cards.
K-Roma Ltd	Wine maker- Local	Products purchases
Capital Shoppers	Supermarket- Local	Paper bags retailers
Anna's corner	Café, library, African Art centre	Products purchase
SEWA crafts	CBO- Women craft makers network	Networking
Café Pap	Coffee shop- Local	Products purchase
Uganda National Council of Science and Technology(UNSCT)	Government Institution	Products purchase
<b>Category 4. 'Other' Beneficiaries</b>		
NAMA agribusiness initiative	45 member local- group- Mukono	Receive training, supply raw material to Oribags.
DEL Farm women's drama group	Local women group- Mukono	Receive skills training, supply raw material, make bag handles for Oribags
Kahondo Grassroot Foundation	Local group, Kabale	Receive skills
Uganda Charity Trust Fund		35 youths receive skills training
Kawempe Home Care	NGO- Local	130 HIV-affected youth and women trained

## 2.7.7 Challenges and how they have been met

The company has faced a number of challenges and barriers in its effort to scale up. These include the following:

- **Access to finance:** Access to finance has not been easy for Oribags. According to company's fundraising strategy, it estimated that approximately 900,000 USD was needed to finance activities between 2011 and 2012. The 9,000 USD received from the SEED initiative, and profits made in 2011 are the major sources of financing so far. The company has not been able to meet major components of the development plan like setting up a paper processing facility, enhancing marketing activities, building management and technical capacity, and training. There has however been some progress towards achieving some of the components such as purchasing land and setting up a website. Management is considering accessing a loan to purchase machinery while it continues to seize any opportunity for funding from potential donors and partners.
- **High operational costs:** It is quite expensive for Oribags to employ staff on permanent basis as the total output per staff – under minimal supervision - is low. As a result, the company has resorted to employing casual workers based on the prevailing demand. A few dedicated staff however, are maintained on a permanent basis.
- **Access to technology:** The machinery needed cannot be obtained in Sub Saharan Africa, which is frustrating. It can be got from America, Europe, India, China, and South Africa. The Managing Director feels that low technological innovations in Africa are a major constraint. The equipment therefore must be shipped in, albeit expensively.
- **Managing cash flow:** There are delays in receipt of payments especially with government contracts. "You have to be patient", Rusia says. This comes with costs since the suppliers and employees need their money paid immediately. She notes that the networks she is engaged in have provided the necessary cushioning.
- **Weak market for eco-friendly products:** Whereas on 1<sup>st</sup> September 2007 the government of Uganda banned polythene bags (commonly known as "Kavera") to date the ban has not taken effect. If this had happened, there is a high possibility that the growth of Oribags would have been faster driven by a high market demand. That notwithstanding, there is a notable trend in the way the business is growing. In the absence of general demand, the proprietor is skimming the market to target high end large buyers who are keen on consuming eco-friendly products. These high end consumers like UWA and WWF not only buy in bulk, they are also willing to pay a premium because they understand the product. This strategy may be justifiable in the short run but ultimately for the wider benefit to the environment and community, the way to go is to scale up production with reduced costs so that the products are available and affordable.

## 2.7.8 Current needs/types of support the enterprise requires now

- Machinery
- Marketing
- Support to train others





2009 SEED Winner Oro Verde

## 2.8 Colombia: Oro Verde® (2009)

by Amparo Cadavid, ECHO Consultants

### 2.8.1 Overview

Oro Verde® reverses environmental degradation caused by uncontrolled mining in Colombia's Chocó Bioregion by developing certified responsible mining practices. The partnership, consisting of a national NGO, a local NGO and two grassroots organisations, has created the basis for the world's first local certification scheme for precious metals and has propelled a worldwide fair-trade movement around responsible small-scale mining. The artisanal miners who extract the gold and platinum comply with strict ecological standards. They preserve the Chocó Bioregion, one of the world's biodiversity reservoirs, by fostering sustainable use of natural resources between the mining communities. Both the miners and the tropical rainforest are protected from contamination produced by the use of mercury or cyanide in normal commercial mining practices. The responsibly extracted gold and platinum is then sold under the Oro Verde brand name and Fairtrade and Fairmined label to ethical jewellers in green and fair (trade) markets mainly in Europe and North America<sup>1</sup>. In 2009, Oro Verde was the winner of the SEED Initiative Gold Award.

### 2.8.2 Origins

The Oro Verde mining initiative was conceived in 1999 as a result of alliances among AM-ICHOCÓ, a NGO based in the city of Medellín<sup>2</sup>, the local community councils of Condoto and Tadó, and FUNDAMOJARRAS, another NGO of professionals of Chocó interested in the ethnic and territorial rights protection of the communities in this region. The objective of these alliances was to validate and deepen a model of Artisanal Small-Scale Mining (ASM), a model dedicated to minimising and controlling negative impacts of mining on the environment, society or culture (see box on the following page). In 2004, Oro Verde joined forces with other organisations to create the Alliance for Responsible Mining<sup>3</sup>. The business was started with seed money in a revolving fund of US\$40.000 donated by the Tiffany Foundation, in a project carried out between 2006 and 2007.

<sup>1</sup> <http://www.seedinit.org/en/awards/winners-database/2009%20Awards/oro-verde-.html>

<sup>2</sup> AMICHOCÓ's raison d'être is to maintain, protect and recover the Chocó's ecosystems and biodiversity.

<sup>3</sup> [http://www.greengold-oroverde.org/loved\\_gold/](http://www.greengold-oroverde.org/loved_gold/)

Credibility and sustainable mining practices have been assured by Oro Verde through the development of a certification for “Oro Verde”. The Corporation has established an own list of ten principles to ensure environmentally and socially responsible production which underlie the certification scheme. These are:

- i.** There is no ecological disruption that will not allow the possibility of recovery. No irreparable damage can be done to an ecosystem.
- ii.** No toxic chemicals such as mercury and cyanide are used in the extraction process.
- iii.** The mined areas must regain ecological stability within three years.
- iv.** Topsoil removed from the site during the exploitation process is replaced.
- v.** Tailings and pooling do not exceed the local ecosystem capacity for rehabilitation.
- vi.** The silt load into stream, river or lake systems is controlled in quantity and frequency, such that the native aquatic ecosystem is not disrupted.
- vii.** Mining operations are conducted with the agreement of the local Community Councils.
- viii.** The origin of gold and platinum (for royalty purposes) is declared in favour of the corresponding municipality.
- ix.** In forested areas mining activities do not exceed 10% per hectare in rotation periods of two years.
- x.** Local, regional and national regulations are followed.

Over time, new criteria have been added through working with the Alliance for Responsible Mining (ARM)<sup>4</sup> which integrates other mining organisations in Latin America, small scale international mining experts and members of the industry, and through the development of the Fairtrade and Fairmined international standard. Some of those most entrenched by the community are:

- i.** No child labour as a form of exploitation
- ii.** Gender equality in employment opportunities.
- iii.** The gold and platinum is sold exclusively to the **Oro Verde** Corporation through Biodiversa, its marketing and sales branch.

#### Main Characteristics of Oro Verde’s Artisanal Small-Scale Mining (ASM) model

In this model there is no large land-moving with heavy machinery that requires large amounts of gasoline and other fuels; thus, the generation of CO<sub>2</sub> is very low. Rather, gold panning mechanisms like “bateo” or “mazamorreo” are used. These involve using a wooden pan-shaped handmade tool called a “batea”. The batea is filled with soil and large amounts of water are taken from the mine and then moved in repeated circles. Stones and heavy mud are thrown aside (see picture at right), while tiny bits of gold remain at the bottom of the pan; there is no harm to nature as a result. Further, the whole family works in the mine, helping to maintain the family unit and transferring traditional mining techniques from one generation to another. Mining is not the only productive activity in this model. The families are also farmers, and grow crops such as banana, cassava and beans. They also raise pigs, cattle, poultry and farm fish in order to ensure food security.

Under the Oro Verde initiative, the Community Councils are responsible for strengthening the social and cultural aspects of the model and the integral perspective of the community life, in which mining is the principal livelihood. The household members that make up these councils are the metal producers. The family members who are producers form units called

<sup>4</sup> [www.communitymining.org](http://www.communitymining.org)

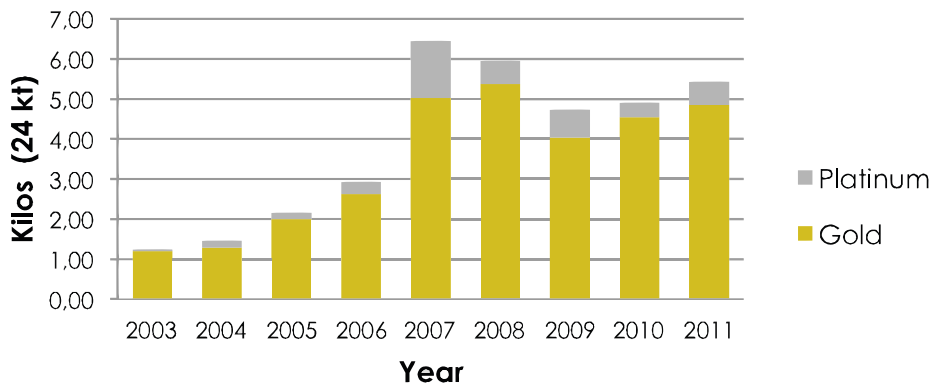
Producing Households (UFP). The union of several UFPs creates a Producer Group. Such Producer Groups develop their own rules and regulations and are certified by the international sustainable mining standards.

### 2.8.3 Growth/current status/future prospects

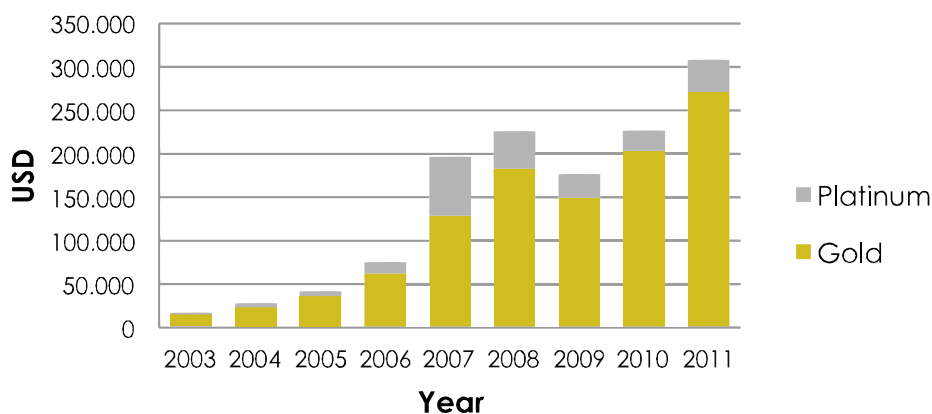
Essentially, Oro Verde has successfully supported and repositioned traditional mining practices that have been employed for over 200 years in Chocó, and in the process, inspired the creation of an international alliance of responsible mining, helped to develop responsible mining certification schemes, and achieved national and international recognition.

From 2003 to 2011, the Oro Verde Corporation enjoyed a five-fold growth in sales and a more than ten-fold increase in terms of the number of kilos extracted per year of Oro Verde gold and platinum (see charts below). Oro Verde currently has 114 Producing Households (UFP) associated in two Groups of Production. These consist of 377 miners and 1,885 bene-

#### SALES (Kilos - 24 kt)



#### SALES (USD)



ficiaries who operate a protected biologically diverse area of 4,500 hectares. Together, the UFPs sell approximately 6 kilos of gold and platinum per year under the brand Oro Verde. It has also increased its initial revolving fund of USD40,000 to USD200,000.

The funding for the costs of certification, promotion, international positioning, marketing, communications and public relations carried out by AMICHOCÓ have been raised through national and international cooperation. The main partners of Oro Verde have been OXFAM Novib, Stitching DOËN, USAID through through the Pan American Foundation for Development (PAFD), and Solidaridad. The first two organisations accompanied the process of the Oro Verde model creation in Tadó and Condoto, and funded activities for three phases, each of three years. In 2009, the last three-year plan ended and Oro Verde began to receive resources from the USAID through the PAFD and Solidarity, in what was called the consolidation phase.

Over these years, the corporation Oro Verde has also received several nominations and awards, beginning in 2003 as a *Ventures* winner. Then, in 2004 Catalina Cock, founder of AMICHOCÓ, became an *Ashoka fellow*, and in 2007, was awarded the *Young Global Leader Prize* at the World Economic Forum. In 2008 Oro Verde was a World Challenge, finalist and in November, 2009 Oro Verde was awarded the SEED Gold Award. SEED's USD25,000 prize helped the corporation to improve its business plan, and to increase the supply of gold through the implementation of a communications strategy between the mining families and the Community Councils. The SEED Award also helped to raise awareness about the initiative through a high-level award event and by sending a group of journalists to the region to produce media reports. After winning the SEED Gold Award, international recognition of Oro Verde has continued to grow. In 2010, the corporation won the BBC World Challenge's *Down to Business*, and in 2011 it was awarded *New Ventures Enterprise* as well as *Sustainable Luxury Best Performance Prize* in Latin America for the conservation of biodiversity and the traditional mining traditions of the Afro-Colombians in Chocó.

The influx of visitors has increased positively following the Oro Verde success and raised its international reputation. Journalists, documentary makers and jewellers are now common guests coming to learn more about the famous green gold. A community farm was established in the village of Manungará in order to create an accommodation and food service area for community meetings and to receive visitors. The farm also contains a nursery of native species for restocking and reforesting the mining areas where families have worked. It houses products aimed at improving the food security of the mining families, including from aquaculture, poultry and egg production, and a pigs. Since being established, the farm has tripled its initial capacity and the community leaders have increased their managerial skills to make this a profitable business.

Over the past two years, the programme has focused on:

- strengthening the organisational capacity of the Producer Groups and the Community Councils;
- establishing the Internal Control System;
- improving the productivity of the UFPs; and
- implementing action plans to respond to nonconformities identified by FLO-CERT auditors during visits in order to maintain the fair trade international gold certification "Fairtrade & Fairmined".

The Community Council of Condoto and Iró River was the first miners' organisation to certify their gold as Fairtrade and Fairmined Ecological Gold in February 2011, while ASOCASÁN, the Community Council of Tadó, obtained their Ecological Gold certification in January 2012<sup>5</sup>.

Today, Oro Verde metals are sold in Colombia, and in Canada, Denmark, France, Germany, Netherlands, United States, and the United Kingdom, among other countries. Worldwide replication is already being carried out through the creation of the Alliance for Responsible Mining<sup>6</sup>. Although Oro Verde has not yet been able to achieve self-sufficiency in all its areas of business, it expects to become fully profitable in the next phase of development through the establishment of its marketing and sales branch, Biodiversa.

5 <http://www.communitymining.org/index.php/en/colombia/oro-verde-green-gold>

6 [http://www.entrepreneurstoolkit.org/index.php?title=The\\_Oro\\_Verde\\_Programme\\_in\\_the\\_Colombian\\_Choc%C3%B3\\_Bioregion](http://www.entrepreneurstoolkit.org/index.php?title=The_Oro_Verde_Programme_in_the_Colombian_Choc%C3%B3_Bioregion)



## 2.8.4 Social, environmental and economic impacts

The Oro Verde ASM programme has been established in order to ensure social, environmental and economic impacts, as follows:

- a. **Social impact:** The programme empowers communities by helping them to use, protect and gain control over their territory, so far directly benefitting 114 households including 377 miners and 1,885 other community members. Compliance with the social, economic, environmental and labour standards of the certification also result in improved working and living conditions.
- b. **Environmental impact:** Oro Verde preserves 4,500 ha of an important biodiversity reservoir by fostering sustainable use of natural resources by mining communities. In contrast to normal commercial mining practices, Oro Verde uses neither mercury nor cyanide, so miners and the tropical rainforest are protected.
- c. **Economic impact:** Oro Verde provides communities with employment to diversify their income and with complementary benefits such as training to improve managerial skills<sup>7</sup>. The miners receive a premium price from the market for reinvesting in their own priorities.

## 2.8.5 Mapping Oro Verde's stakeholders

The four original core partners of Oro Verde, and their corresponding roles are:

- AMICHOCÓ coordinates the programme; manages marketing and international relations; works toward stimulating demand and a market niche for Oro Verde; and has enabled the gold to be certified in order to give the miners an added value to their outputs.
- The Community Councils (ASOCASAN and COCOMACOIRO, of Tadó and Condoto respectively) are the organisations that gather together and represent the miners and farmers families. The Community Council is responsible for the local programme coordination; in charge of the internal control system and the traceability of the metals; of ensuring the miners participation in decision making; and of guaranteeing the application of the Fairtrade and Fairmined standard criteria.
- FUNDAMOJARRAS is a local NGO that has pioneered the social and organisational processes of the community at a local level. It has been the legitimising body of the community mining process and their alliance with AMICHOCÓ. FUNDAMOJARRAS includes professionals with knowledge about traditional mining who provide technical input to the producers, guaranteeing the green gold quality in order to acquire certification.

The Oro Verde partnership now also includes Biodiversa - an independent legal entity directed by AMICHOCÓ and created to serve the Oro Verde initiative as well as seeking to bring forward a whole biodiverse economic-social-cultural model that includes other products. It leads the marketing plan and receives the revenue generated from the sale of the gold which is transferred to the miners in recognition of the Fairtrade criteria established in the agreements between the Community Councils and Biodiversa. For example, Oro Verde's business model based on international certification allows the miners to charge a premium of 15% on the established international price of gold. It has been agreed by all partners that this percentage be returned to the communities.

Each of the Oro Verde Corporation members have contributed to the different components of this programme, and through their coordinated teamwork they have managed to penetrate beyond local and national boundaries, reaching exclusive European and North American markets and distinguished international awards and recognition. The following table describes the full range of Oro Verde's stakeholders at all levels, from local to international.

<sup>7</sup> Social, Environmental and Economic impacts as reported on the Oro Verde Flyer, available on the SEED Initiative Website. [http://www.seedinit.org/index.php?option=com\\_mtree&task=att\\_download&link\\_id=70&cf\\_id=42](http://www.seedinit.org/index.php?option=com_mtree&task=att_download&link_id=70&cf_id=42)

## Oro Verde's Stakeholders and their roles:

STAKEHOLDER	ROLE
<b>LOCAL</b>	
ASOCASAN; COCOMACOIRO (Community Councils of Tadó and Condoto)	<b>2 core Partners</b> of Oro Verde Corporation. Include the UFPs and the Producer Group; these are the main actors in the enterprise and <b>the principal beneficiaries.</b>
FUNDAMOJARRAS	Local Foundation Las Mojarras <b>a core partner</b> of Oro Verde Corporation
<b>REGIONAL</b>	
AMICHOCÓ	Environmental NGO located in Medellín, lead NGO and <b>core partners of Oro Verde</b>
Pacific Environmental Research Institute, Precious Metals Certification Office	Monitoring and control of clean gold production; training and technical support to the miners as regards artisanal gold production;
Local and regional media	Publicity and dissemination of Oro Verde activities
<b>National</b>	
Presidencia de la República	The current Colombian President has recognised and publicly endorsed Oro Verde as an example of responsible mining.
Mines and Energy, and Environmental Ministries	Recognition and endorsement
National media: <i>TV, radio, newspapers, magazines, etc</i>	Raise the profile of Oro Verde at the national level and awareness of sustainable mining.
<b>International</b>	
New Ventures – Colombia	Supports the strengthening of the environmental enterprises, and links them to funding sources.
International media (e.g. BBC, Miami Herald, AFP)	Raise the profile of the Oro Verde Corporation and bring to international recognition the importance of sustainable mining
ARM – Alliance for Responsible Mining	Promotes ASM projects by setting up value chains around the world. Built up the <i>Zero Standard</i> for clean gold (bedrock of the Fairtrade & Fairmined certification) inspired by Oro Verde principles; ensured its applicability to other places in Latin America.
UNDP	Host of SEED Award ceremony in 2009
ASHOKA	Provides recognition of Oro Verde and has promoted people working in it
Both ENDS – Connecting people for change	Dutch Foundation that supported the capacity building component of the Oro Verde programme.
CI-CEPF – Critical Ecosystem Partnership Foundation	Financial support in 2005 to reduce the negative environmental impacts of mining.
CIIGSA - International Trade and Investment Company of Precious Metals	International trading mining company that shared its expertise in gold trading and supported the first exports made by Biodiversa as part of its CSR policy.
FPAА- Fondo para la Acción Ambiental y la Niñez	Implemented quality management system of sustainable gold extraction, attracting 18 new clients and reforesting 48 hectares of tropical forest.
OXFAM-NOVIB	Financial support
Tiffany & Co. Foundation	Provided grant to Oro Verde to assist productive family units from Tadó and Condoto
Leo Johnson - of PricewaterhouseCoopers	Promotion and networking of Oro Verde in Europe
Greg Valerio – Jeweller and activist	Promotes Oro Verde in the UK and Europe.
FLO-CERT Fairtrade labelling organisation	Clean gold certification.
World Challenge	2008: Oro Verde was a finalist. Has since provided further in-kind Support.
World Challenge <b>Down to Business</b>	2010: offered Oro Verde specialised consultancy.
SEED Initiative	2009: SEED granted a Gold Award to Oro Verde.
Centro de Estudios de Lujo Sustentable	2011: granted a mention award in the category Best Performance in Sustainable Luxury to Oro Verde.
Toby Pomeroy	North American eco-designer and jeweller who promotes Oro Verde.
Solidaridad	Funded the consolidation phase of <b>Oro Verde</b> in Chocó.

USAID through FUPAD Fundación Pan-americana para el Desarrollo (Panamerican Foundation for Development)	Provided financial support for producer groups capacity building
DOEN Foundation	Provided financial support for producer groups capacity building
Conservación Internacional	Supported integration of the Analogue Forestry model to the certification of responsible metals.
Fondo para la Acción Ambiental FPAA	Fund used to support Oro Verde in the integration of the Analog Forestry model to the certification of responsible metals.
IDEA WILD	American organisation, gave computers to Oro Verde.
Waterloo Foundation via Fairtrade Foundation	Supported pilot of the certification standard zero under Oro Verde through the Fairtrade Foundation.

## 2.8.6 Success factors

- **A community organisation with strong leadership and negotiation capabilities:** Leadership has been a strong factor for success, as regards both individual and collective levels. At the individual level, the legal representatives of the Community Councils have played a central role, yet at the same time, they have shared their leadership with other important members of the Councils, for example, those in charge of selling gold and those who provide technical support and training. ASO-CASAN and COCOMACOIRO, in partnership with AMICHOCÓ, have developed a participatory knowledge dialogue that has contributed to the growth in the autonomy and self-management of the mining organisations, contributing to the protection of their territory and sustainable development.
- **A leading NGO with commitment and vision:** AMICHOCÓ was founded for two entrepreneurs who have led sustainable projects with different ambits; its Board is composed of experts in business development, marketing, finance, environment and social development; it is operated by four highly committed young professionals who share a passion for sustainable development, a great sense of loyalty to the cause, and a vision for the business. Key contributions of AMICHOCÓ have been the:
  - i. capacity building and training of the miners and their leaders in management, quality processes for certification, and public relations.
  - ii. positioning of the Oro Verde brand.
  - iii. planning and securing certification under the Fairtrade & Fairmined Gold Standard: “Fair Trade Certified Gold”<sup>8</sup>
- **A partnerships and public relations network:** Oro Verde has been able to create strategic alliances within the territory where the gold is, in the department of Chocó in Colombia, and around the world. Through those alliances Oro Verde has secured funding from international bodies, as well as support, visibility and positioning of its business in markets abroad, especially Europe. Companies such as Greg Valerio and Leo Johnson’s World Challenge Down to Business, has furthered its placement in the international arena. As an artisanal small scale and environmentally-friendly mining initiative, Oro Verde has also received several national and international awards which have helped by strengthening the business model, achieving financing and raising the profile of the initiative.

## 2.8.7 Challenges and how they have been met

- **The need for more working capital to enhance mining production in the communities:** The biggest challenge of the initiative has been its funding; it was not until 2009

<sup>8</sup> The standard Fairtrade & Fairmined requires that the gold must be extracted from ASM mining zones by associations belonging to an Organization. The gold must be traceable and marketed by the Organization. Furthermore, this standard imposes the following conditions for the ASM: Strengthened miners organizations; Improved working conditions (mandatory use of protective gear and health and safety training for all miners); Freedom of association and collective bargaining ; Responsible use of chemicals, chemicals have to be reduced to a minimum, and where possible eliminated over an agreed time period.

that the miners could obtain the 15% bonus for their certified gold because of the necessity to fund the initiative before redistributing the profits. The first and most important challenge is to reach the break-even point so the business can become self-sustaining because partners like Biodiversa and AMICHOCÓ are funded through international development cooperation which does not provide long term security and means that their operational resources can be seriously curtailed. The Corporation has been working towards that end, but the first call is to generate more income in the short term to provide better conditions for its associates, including the miners.

- **The lack of access to appropriate technology:** The second challenge is to engage the business in new clean and appropriate technologies in order to make the process more efficient. The goal is to extract more gold by moving the same amount of land, and to reduce the physical effort of the miners. Traditional artisanal mining, as practiced by miners associated with Oro Verde, requires great physical effort because the miners have to remove soil with their hands and discard the stones and excess material, moving across their land and using much water. It would be beneficial to design manual or electrical machines to help in the removal of land with less effort for the miners. The challenge is to stimulate universities to research and develop this type of technology. This is a task that is on Oro Verde's to-do list.
- **The lack of appropriate laws and regulations for the ASM in Colombia:** The mining code in Colombia, dating from 2001, has been directed at regulating large-scale mining by large domestic and foreign companies. However, regulating mining in Colombia has historically been very difficult due to the considerable amount of informal mining, artisanal mining (like Oro Verde), and medium scale mining activities that face barriers to legalisation. The current government of President Juan Manuel Santos has been working on a new mining code which was due to be concluded by late 2011, but unfortunately this code does not recognise or regulate small and medium scale mining, and it has not yet been approved by the Congress. This is a major challenge for artisanal mining initiatives like Oro Verde.

### 2.8.8 Current needs/types of support the enterprise requires now

- Expert support in marketing.
- Expert support in licensing of the Oro Verde® trademark.
- Funding partners to support scale-up<sup>9</sup>.

These needs require enhanced innovative marketing strategies so Oro Verde can gain increased attention worldwide, allowing Biodiversa not only to be self-sustaining but also a profitable business. The strategies can exploit the sound environmental and social protection associated with Oro Verde products – factors that are likely to become of increasing concern for consumers. Meeting the challenge will require Oro Verde to strengthen its relationships with similar operations in other countries, and not only ASM corporations but also other types of organisations interested in participating in any part of the production and marketing chain. In addition, Oro Verde needs to transform consumer mentalities to increase demand for products from biodiversity-friendly mining.

### 2.8.9 Lessons Learned from Oro Verde's case study

This case reveals how the Oro Verde sustainable mining initiative has achieved success in terms of scaling out and delivering social and environmental benefits through strong leadership and strategic alliances that started at the local and regional levels. It has also helped to define and expand and spread a sustainable, small-scale artisanal mining model to other locations in Colombia, and in Latin America, and Africa. Oro Verde still needs to increase its working capital and strengthen its presence and action in the national and international fair

<sup>9</sup> <http://www.seedinit.org/en/awards/winners-database/2009%20Awards/oro-verde-.html>

markets. The Corporation knows that they have significant business opportunities given the excellent reputation of the brand and the rising demand for clean gold; however these still have to be consolidated.

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2011 SEED Winner Sri Lanka Rural Enterprise Network (REN)

## 2.9 Sri Lanka: Rural Enterprise Network (REN) (2011)

by Sarath Buddhadasa

### 2.9.1 Overview

The “Rural Enterprise Network” (REN) is a social marketing organisation that aims to link small-scale farmers in Sri Lanka to input-output markets through improved product quality, access to market information and the establishment of a common brand. By organising producers in a network of organic agro- and food processing enterprises, the farmers benefit from joint marketing services. REN was the recipient of the SEED Award in 2010.

### 2.9.2 Origins

As an initiative of Practical Action which is a sustainable development corporation whose mission is to build the technical skills of poor people in developing countries, REN is aimed at filling the gap in market access and marketing information experienced by rural micro-enterprises. REN has operated within Practical Action South Asia since 2002, and was formally established as a company limited by guarantee in Sri Lanka, 2004. REN’s vision is to make “markets work for the poor” while its mission is to “empower rural small-scale producers by promoting collectivism, providing sustainable marketing services and useful linkages, and advocating for pro-poor, pro-rural policies”. In order to achieve this, REN provides Business Development Services (BDS) to rural small-scale producers with a focus on marketing their products under a common brand.

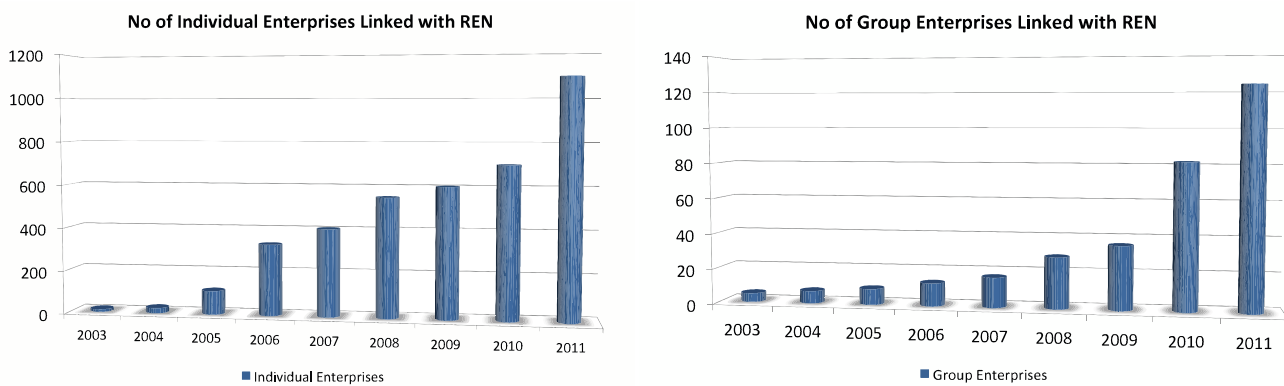
### 2.9.3 Growth/current status/future prospects

Over the years REN has been able to successfully establish itself as a social marketing entity with substantial potential to grow further and faster, expanding both internal and external markets. From its beginnings of only five member enterprises in 2003, to the last count at the end of the fiscal year in 2011, REN’s network has grown to include:

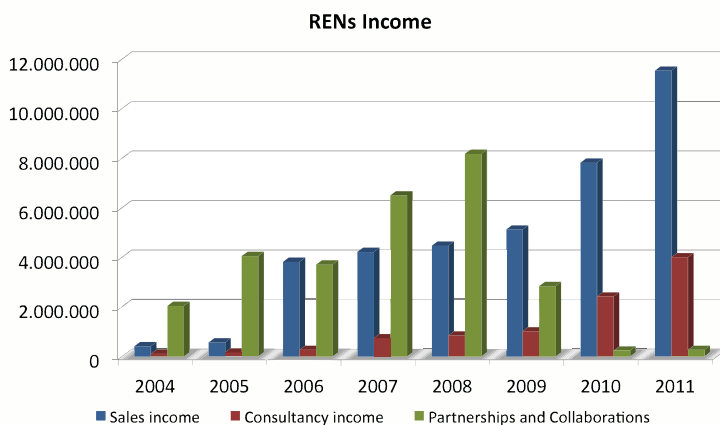
- over 132 group enterprises and 1150 individual enterprises as members/suppliers;
- 30 exporters and 5 leading supermarket chains as buyers;
- Approximately 80 outlets throughout Sri Lanka as retailers.



The following figures show the growth from 2003 through 2011 of the number of RENs individual enterprises (below, left) and group enterprises (below, right).



Major income sources of the REN enterprise include product sales, consultancy in the form of training and research, and external (donor) funds received through partnerships and collaborations. The red and blue bars in the graph on the right show that REN’s sales and consultancy income have grown steadily from 2004 through to 2011 (besides a decline in 2009 due to the worldwide economic recession). It also shows that external funds (green bars in the graph) played a key role in income generation from 2004 to 2008, bearing witness to REN’s financial dependence on these sources during those years. However, in 2009, external funds diminished sharply, while strong growth was experienced in sales and consultancy. Looking at overall financial performance, the graph indicates that REN was able to achieve financial sustainability by the year 2010. According to REN Manager Nilantha Atapattu, the net profit is currently approximately 9% of the annual turnover.



Presently, REN offers a range of 42 different products, 90% of which are food items such as fish, rice, vegetables, fruits, spices and herbs, with the balance being reed, coir and hand-craft items. In terms of product sales, 80% of REN’s income is generated from exports, while the other 20% comes from high-end health-conscious customers in Sri Lanka who patronise the leading supermarket chains in the country to whom REN supplies organic products.

Nationally, REN products are channelled through Sri Lankan supermarket chains, mini supermarkets and ayurvedic (herbal) drug shops. The enterprise is present in eight out of nine provinces in the country (excluding the north), offering its consultancies or links with suppliers consisting of both individual and group enterprises. Its highest concentration of sales is in the southern and western provinces.

## 2.9.4 Social/environmental impacts/benefits

REN, as a social marketing entity, has been very successful in managing its triple bottom line by providing social and environmental as well as economic benefits.

- a. **Social:** REN provides social benefits through working with rural enterprises and specifically economically weak peasants. REN pays a better rate to farmers, resulting in income increases. This has made a positive impact on the quality of life of the farmers, their families and specifically their children's education. Presently, of REN's 132 small-scale suppliers from the rural sector, 33 are small producer groups of community development programmes. Further, the majority of REN's beneficiaries' are women. When analysing data, it was found that 977 of 1150 individual enterprise members are women-led, while 495 members (approx. 75%) of the 132 group enterprises are women.

Further, through REN, the community has the opportunity of working together as a team, and this has enhanced cohesiveness among the villagers, promoting a sharing culture in which people tend to help each other. This social mobilization helps reduce the types of conflicts which are invariably a characteristic of socially and economically weak societies.

- b. **Environmental:** Much of the agricultural sector of Sri Lanka has become dependent on agricultural chemicals. Fertilisers, pesticides, and growth regulators are widely used because of the increasing demand for food quantity, rather than quality, from a limited land area. Recently however, interested individuals and organisations like REN have promoted organic farming that uses reduced chemical inputs, promotes soil fertility, reduces environmental degradation, leads to cleaner water and watershed preservation, and helps to maintain a green environment. By 2006, there were 15,215 hectares of land under organic management, with a 0.65% share of the total agricultural land and a presence of around 3,300 organic farms in Sri Lanka. REN's contribution, although small, is likely to have an increased impact in the years to come. According to Atapattu, although no studies have been conducted on the environmental impact of organic farmer activities of REN, he is aware that the members' willingness to continue with organic food production and the annual production increases recorded through sales figures implies that there is a positive impact on the environment.
- c. **Economic:** REN's intervention has helped farmers to increase their income. Growing different varieties of organic food has reduced input costs such as expenditure on chemical fertiliser etc. and at the production end the food products fetch a price considerably higher than previously. Finally, staff members of REN are well looked after with competitive salaries and social benefits.

## 2.9.5 Mapping REN's stakeholders; REN's business model

REN is formally registered company limited by guarantee. The enterprise is managed by paid professionals who handle procurement and marketing, and provide expertise in the product sales and BDS. A 15% commission is levied for selling the produce to make the enterprise commercially viable. REN is governed by an elected, seven member Board of Directors representing partners, members, and the private sector. The Board is responsible for the formulation of policies, strategies and plans for the company.

Currently REN has 8 partners, 2 institutional clients, 132 group members (consisting of 660 producers) and 1150 individual members. REN's members are its suppliers as well as the chief beneficiaries of the model. An example of a group member is the Kothmale honey-making project, which operates independently with groups producing and supplying organic products to REN. Individual enterprises are basically farmers supplying their products to REN.

Institutions that provide funding and/or technical support to REN are considered partners. REN has had several support partners throughout the past decade; however the majority of their association was limited to a short term project period. Some examples include: the Christian Children's Fund of Canada (CCFC); World University Service of Canada (WUSC); the International Center for Underutilized Crops (ICUC); the Alliance for Appropriate Technology Exchange (AfATE); SEEDS Gte. Limited; and the government-sponsored Gemidiriya Programme.

The key partners that exist today are limited and are described below.

- **Practical Action** can be considered the long term collaborator and the Cathy Rich Memorial Food Processing Training Center located in Embilipitiya in the southern Sri Lanka as its training arm. Practical Action gave birth to REN and provided initial administrative and management support while training and coaching the REN staff, providing networking support and linking technically-trained small farmer beneficiaries and micro entrepreneurs.
- **The Farmer Federation of Traditional Seeds and Agro-Resources (FFTSAR)** is a Sri Lanka-wide network consisting of approximately 17,000 community-based producers. REN provides market access for 40% of their produce. Every producer of FFTSAR becomes a REN member. REN enters into an annual agreement with buyers as regards the products, prices and quantities they will transact during the year, thereby assuring the market for FFTSAR products. The FFTSAR promotes REN amongst its member farmers and liaises with REN to obtain technical and business development support. REN buys traditionally farmed, organic produce at double the market rate of non-organic varieties from FFTSAR members.
- **The government-sponsored Vidatha programme** is a technology transfer programme of the Ministry of Technology and Research that plays a vital role in transferring technology to the villages. Vidatha Resource Centers (VRCs), established in all districts, are equipped with computers, and about seven widely-used model items such as a dehydrator, a bakery oven, a coconut oil extractor, an incubator, wood stove, a set of electronic testing equipment, and a coconut de-husker, for demonstration purposes. In some districts the VIDATHA technical officers help REN members in solving technical problems.

Finally, an important feature of REN's model is that it attempts to work with large supermarket chains in Sri Lanka such as Keels, Laugfs, Arpico, and the Cargill's Food City chain. Apart from these, REN works with mini supermarkets located in major cities and hotel chains such as Aitken Spence, one of the largest in Sri Lanka, and Ayurvedic (traditional medicine) drug shops.

## 2.9.6 Success factors

- Practical Action's Support:** Initial technical and managerial support given by Practical Action, and the Cathy Rich Centre, coupled with the commitment of the Board of Directors that included a representative from Practical Action, were key factors for REN's growth. Practical Action shared its long years of experience in working with livelihood projects and rural farmers by providing appropriate technologies and training to REN. According to Attapattu, when REN staff members are faced with any issue related to technology, organisational development and beneficiary management, they look to Practical Action and the Board of Directors for advice and guidance.
- Strategic planning:** The systematisation of REN's operations by introducing a strategic plan in 2007 with technical support from the World University Services of Canada (WUSC) and funding from the Canadian International Development Agency (CIDA) helped REN to break into untapped markets. The shift from serving only group enterprises to individual enterprises was the key strategy that boosted income and expansion of the supplier base. In 2007 REN served only 26 group enterprises and it grew sharply thereafter up to 132 today.
- Leadership style of REN's Manager:** Managerial and leadership competence of REN's Manager and the team orientation of the staff has clearly made things work for the enterprise. According to REN staff members, the caring attitude, participatory management and problem solving ability coupled with information sharing and effective communication displayed by REN's Manager Nilantha Attapattu has created a very cohesive and productive team that is committed to achieving the enterprise's goals.
- Market promotion:** REN's market promotion has allowed the enterprise to spread its message to both beneficiaries and clients. This was done by upgrading its website and developing marketing materials such as promotional brochures and leaflets describing REN's concept and benefits. Such material is distributed to visitors at exhibitions and

similar events. Further, REN participates annually in exhibitions organised by the Chamber of Commerce, the Convention Bureau and government, with stalls to promote the REN brand and services to visitors. In 2010-2011 alone, REN was able to promote approximately 173 enterprises through its participation in local exhibitions.

- e. **Increased brand image through international awards and recognition:** REN's image has gained by receiving international and local awards which in turn has been a key influence in REN's growth, as it has paved the way for key market players to trust REN as a business partner. According to Attapattu, the SEED Award created an enhanced image of REN between the partners and collaborators, and with market players. Because of SEED's recognition, REN was able to secure IUCN's collaboration in carrying out a technology transfer and marketing linkage programme for the fisher community in the north-west coastal area in partnership with Sri Lanka Nature Forum (SLNF).
- f. **Increase in health conscious market segments:** People are more health conscious than ever before and therefore they seek safe and healthy food. Organic food is safer and healthier and as a result the demand for organic food is fast growing, especially in developing countries. Following the global trends, and health-conscious Sri Lankans are also adopting healthier food products. These trends have helped to increase the demand for REN's products both nationally and globally.

## 2.9.7 Challenges and how they have been met

- a. **Lack of working capital and funds for market expansion:** The majority of individual and group enterprises' members (i.e. REN's suppliers) do not have financial reserves to look after working capital requirements. Therefore, REN must pay its suppliers immediately in order for them to be able buy raw materials/inputs to continue their production. Further, the group enterprises have to pay their own suppliers and employees. On the other hand, when REN sells the members' products to local and foreign distributors, the enterprise is not paid immediately but the credit period is extended sometimes to 3 months and hence REN has to delay payments to its suppliers. The vicious cycle of the need for immediate payments and long credit settlement periods is a key issue for REN.

A related issue is the lack of funds for market expansion. One of REN's key strategies was to expand its operations into northern and eastern Sri Lanka where a vast market potential exists since the war ended in May 2009. In the post-war period, the people of these regions, mainly Tamils who are traditionally small-scale farmers and micro entrepreneurs, need support to revive their lives. Apart from agriculture, fishing is their main livelihood. However, without funding, it will be difficult for REN to finance the promotion and expansion to these regions and consequently it is likely to lose this opportunity.

In order to meet its main financial challenges, REN has re-examined its operating costs. Although the business levies an approximate 30% margin on products, it was observed that the overhead cost of REN is extremely high. Staff salaries and benefits, administrative costs, marketing costs and rent are significant cost items that have made the net profit extremely thin, and as a result REN has not been able to meet its key financial challenges. However, with the substantial sales income increase the enterprise has experienced since 2010, it seems that the market is expanding and thus REN's financial health will improve. The enterprise hopes to be able to build a large enough financial reserve to be able to obtain loans to finance further activities.

**Non-availability of national certification for organic products:** REN is promoting organic products in the health-conscious middle income and high end markets. Most of the developed countries have set up the minimum requirements for organic regulation and therefore products are checked at customs with relevant documentary proof to support the claim that the product is organic. However, Sri Lanka has not regulated organic product manufacture and has not developed organic standards. A few international bodies are actively involved in organic inspection and certification in Sri Lanka but certified organic products are mainly exported under destination countries' national regulations by a limited number of exporters in Sri Lanka. Thus, obtaining organic certification is a high cost item which is at present cannot be borne by REN. Since REN has no certification from a recognised international standards institution, its product labels cannot include the word 'organic'. Instead the words "chemical free" are used which does not give the

appropriate impression to the market and is a disadvantage for market expansion. According to Atapattu, many importers have declined REN's offers as it is unable to submit organic food certification. This market segment is concerned about certification; if it can be obtained, REN will be able to increase its quantity of exports. In order to help alleviate this barrier, all of REN's organic production methods are monitored by Inspection and Certification Bodies (ICBs) that are accredited by EN 45004/45011 or ISO 65.

**Technology and process improvement:** According to Isuru Liyanage, Manager Quality Assurance, at present REN does not have major problems with technology, but as demand grows and customer requirements evolve, he feels that the enterprise does not have the adequate technical infrastructure and know-how required to conduct research and product development, and doubts whether REN is currently ready to face future challenges of maintaining product quality backed by new technologies and improved processes. REN has addressed this challenge in part through accessing the technical infrastructure and the support of the Cathy Rich Centre, and of a few universities, as well as using Vidatha technical services mainly to improve the quality and processes of its client enterprises.

- b. Human resources:** Although the REN team is highly motivated, cohesive and displays a strong people orientation, in terms of functional competencies staff members need improvements in the areas of work organisation and planning, marketing research, networking, IT skills, computer and English language skills. To meet this challenge, REN has provided technical training for its staff, again through the World University Service of Canada and Practical Action.

## 2.9.8 Current needs/types of support the enterprise requires now

REN needs support in three areas to continue and grow as a sustainable social marketing institution:

- 1. Establishing a sound economic base:** According to REN's Manager Nilantha Attapattu, REN's entry into the northern market is hindered by lack of funds. It needs to develop a network of beneficiaries, create awareness, develop promotional materials, provide publicity to mobilise individual and group enterprises, and develop linkages and network with stakeholders.
- 2. Organic certification:** Not having an organic certification for REN limits its marketability and expansion. However, neither REN nor its beneficiary farmers can bear the costs involved in obtaining organic certificates, which require a registration fee, annual fee and soil testing fee. Further, the charges vary according to land area and some certificates are valid only in specific countries. According to Atapattu, this is a challenge the REN cannot meet at the moment. However, REN can explore the possibility of seeking funds from international donors, or working with other players in the Sri Lankan market to initiate a certification process with Sri Lanka Standard Institute (SLSI).
- 3. Enhancing internal human resources capacities and installing systems:** The areas REN must improve are REN's information system and database, internet-based communications, market research, surveys, new product development, market promotion, networking with local and international support services, donors, etc. At present REN faces challenges in marketing its services and in the area of management and technical knowledge. Thus, enhancing the capacity of its human resources is needed to meet the growing demand from the market.

## 2.9.9 Lessons Learned from the REN case study

This case study has found REN to be a very effective social marketing model, successfully meeting the needs of the rural farmers while contributing to maintaining a TBL under several challenges. It seems that the entity is growing steadily, especially after the war ended in 2009. The SEED Award has been able to boost REN's image and through that to attract new customers while enhancing the capacities of REN's human resources and marketability. REN's continued success depends upon the degree to which it can develop a business plan suited to

the evolving business environment, and identify strategies and actions to expand its network as a social marketing entity. If it can do so, REN will be a role model not only for Sri Lanka but also for rural producers in developing countries throughout Africa and Asia.

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## 2.9.11 Interviews

- Nilantha Atapattu, Manager REN, and his staff, at 160/15 Poorwarama Road, Kirulapana, Colombo 5, Tel: +94 11 2812060 email: [info@rensrilanka.org](mailto:info@rensrilanka.org)
- Chopadithya Edirisinghe, RENs board member, CEO of SAARC Association for Household Businesses (SAAHB Project) implemented under Practical Action, Practical Action, No.5, Lionel Edirisinghe Mawatha, Colombo 5, Sri Lanka, Tel. + 94 11 2829412
- G. Jayemenike, Manageress of Kothmale Mahaweli Kithul Processing Unit and her staff, at Kothmale
- WM Benet President of Morakola Fisheries Co-operative Society, Dodanduwa and his team, at Galle Road, Dodanduwa
- Premasiri Gamage, Dehydration Project, Ranna and his staff, at Tangalle Road Tangalle
- Mr. P.Gurusinghe, President, Farmer Federation for Conservation of Traditional Seeds and Agro-Resources (FFTSAR), at No.10, Pragmatic Mawatha, Godagama, Tel. +94 71 7836803



2010 SEED Winner High Value Syrup from Prekese Fruit



2008 SEED Winner Andaman Discoveries

### 3. Key findings

Each of the nine SEED winners described in the case studies provided lessons learned in terms of growth and scale up of SMMEs seeking a triple bottom line. When analysing these as a group, the alignment with findings from the three years of survey data is clearly evident. The key findings in this set of case studies are summarized as follows:

#### 1. On the nature of social and environmental entrepreneurship

Each of the enterprises in the case studies group demonstrate a flexibility in operating models, ranging from those that are registered as not for profit entities (such as Natural Justice), to those that are clearly established as for profit businesses (such as MicroSow); as well as those that are hybrids, with not for profit status in some jurisdictions but with specific business ventures the success of which will require mainstream investment, business planning and marketing skills (such as SolSource). Within the case study group, no enterprise relies solely on development assistance grants from government, international agencies or foundations. All have at least a mix of revenue sources (usually from the sale of products and services, or licensing equipment and methodologies) and are seeking new ways to secure loans, lines of credit and investors to expand their operations.

#### 2. On common success factors that contribute to enterprise growth

Regardless of the focus of the enterprise or the operating model, the enterprises in the case studies group share common success factors in their growth. In efforts to create the conditions for replicating successful social and environmental ventures elsewhere in the developing world, these factors should be taken into consideration.

- **Innovative product or approach that is appropriate for the needs and capacities of the local communities:** All of the winners have built their success upon innovations that are community relevant – a new product or approach, or a new application or adaptation of an existing technology or service, such as the provision of renewable energy in areas that are not connected to the grid (SolSource; MicroSow), improving agricultural market linkages through the creation of technology centres or a marketing brand (Adapta Sertão; VCACs, REN); creating environmentally-friendly products and empowering women through recycling waste products (Oribags); developing community-run conservation and sustainable resource extraction activities and/or frameworks (Blue Ventures, Oro Verde, BCPs). The innovative product or approach by itself is not sufficient: lessons from Adapta Sertão and MicroSow indicate that the original product or approach often needs to be modified to suit better the needs and capacities of the surrounding communities.



- **Community based research and development:** Research and development is critical to the success of all enterprises, and is often carried out with an independent research or technical partner institution
- **Strong leadership/innovative leadership style:** This was highlighted in the Blue Ventures case, BCPs, SolSource, REN and Oribags. Leadership qualities that contribute to success include: being visionary; adherence to participatory management styles; and having the ability to build a cohesive team and engage partners.
- **Ability to network:** The ability to engage in and harness a network of stakeholders and others is a clear success factor in three cases that have experienced substantial scale up and replication: Blue Ventures, BCPs and REN. More recent winners that are well-poised for significant scale up, such as SolSource and Oribags have also revealed skills for networking. These networks can help achieve funding and important project inputs, such as research and technical support. Creating solid networks and partnerships are important in terms of achieving financing and a range of social, environmental and economic outcomes. Social enterprises in developing countries are often faced with deeper systemic challenges (such as a lack of a healthy, literate workforce). Networks are extremely important in this context, in order to support the micro/small enterprise where it does not have expertise.
- **Gaining trust and credibility from stakeholders** (including community members, banks, supply chains, government departments and others.): These enterprises suggest that, among other factors, trust and credibility comes through strong scientific backing provided by research and technical support partners and through the endorsement of the enterprise provided by independent awards and recognition programmes.
- **Long-term commitment:** Winners have alerted that gaining trust and credibility requires time and perseverance, as well as a visible commitment to the community to “be in it for the long haul.”
- **The ability to harness or foment strong community governance and obtain community buy-in:** Understanding how to work with and enlist the support or acceptance of communities is a key skill enabling scale up. A key strategy to this end is to begin project implementation with communities or leaders who have significant influence or established governance structures/authority, as done in the case of Blue Ventures, Adapta Sertão, Oro Verde and BCPs. Main techniques to ensure community buy-in are capacity building events and awareness-raising activities. In the case of Blue Ventures, this was done through a partnership with Rare Conservation which trained local staff in social marketing campaign. In the Adapta Sertão case, this was carried out through working with schools and creating community events. BCPs have created training-the-trainer guides, which they see as key to the continued growth of the BCP concept. Newer organisations such as VCAC and SolSource recognise that, for their enterprises to succeed in the long run, more investment will need to be made in building community relations.

### 3. On triple bottom line planning

The survey data suggests that social and environmental enterprises struggle with setting clear and measurable targets for their social, environmental and business objectives. However, the case studies reveal that successful enterprise managers will work to sharpen these targets over time, when the appropriate capacity building support is provided to help with triple bottom line planning. In all cases, the targets have become much clearer and more measurable from the start of the enterprise to the present; and in many of the cases, the targets have been expanded (to reach more people and affect a wider span of the surrounding ecosystem, as in Blue Ventures) or diversified to address additional social or environmental concerns (as with Adapta Sertão). All of the enterprises stay focused on delivering a range of triple bottom line benefits: setting social and

environmental targets and outcomes, and, at the same time, creating livelihoods and income diversification for the enterprise managers and employees and/or for people in its surrounding communities.

### **On the economic dimensions of social and environmental enterprises**

#### **a. Income generation within the communities:**

Most enterprises in the case study group are able to quantify in some detail the amount of income the enterprise is able to generate within the community. BV for example notes that the sea cucumber and seaweed aquaculture farms are providing 23 families with approximately US\$540 at each harvest, netting over \$3,000 to date for each participating household. MicroSow suggests that solar charging installations can provide the franchise owners with regular incomes well over the poverty line of \$2 a day. Other enterprises, such as Adapta Sertão and VCAC note economic benefits such as increased crop yields through improved water management and reduction in post harvest losses through better storage techniques.

#### **b. Financial sustainability of the enterprise itself**

While all the enterprises in the case study group continue to operate, only a few (such as BV and Adapta Sertão) report significant growth in terms of jobs within the enterprise itself. Others report ongoing challenges with securing the necessary loans and investments for scaling up operations (Oribags, MicroSow, SolSource).

### **On the social dimension of their work**

The case studies reinforce the survey data with respect to the complexity of what these enterprises wish to accomplish. Many of the enterprises recognise that in order to meet environmental and economic objectives, deeper systemic problems must be addressed, such as population pressures, illiteracy, infectious diseases, and wide spread poverty, effectively turning environmentalists and entrepreneurs into specialists in local community management, networking, training, institution building, and policy influencing. Consequently the social benefits identified by the enterprises range widely from improving access to health and education (Blue Ventures), strengthening food security (Adapta Sertão), building community cohesion and institutions through participatory approaches (BCP, Blue Ventures, VCAC), improving the status of marginalized groups (Oribags) and developing technical competencies locally (MicroSow, SolSource).

### **On the environmental dimension of their work**

The enterprises in the case study group all have clear environmental outcomes at the heart of their enterprises, although they vary with respect to how they measure and monitor those environmental outcomes. Some are very specific, with respect to measuring the restoration of a resource base (coastal zones -- Blue Ventures, forests - Adapta Sertão, river systems - Oro Verde), while others note the potential for CO<sub>2</sub> emissions reductions (SolSource, MicroSow). Both Oro Verde and VCAC pay particular attention to environmental health issues – the exposure of workers to toxic chemicals and pesticides in their respective industries, although these types of outcomes are more difficult to measure.

What is interesting within the case study group is the general recognition of the role of the enterprise in not only working towards specific environmental improvements, but also improvements in national environmental policy and governance. BCP, Oro Verde, Blue Ventures, VCAC and others in the group note their efforts in seeking new legal frameworks and legislative reforms that are needed to support their work at the local level.

Finally, while the survey data focuses on the role of research and technical partners, the case study enterprises go the next step, to emphasize their own direct role in the generation of important environmental data and knowledge, which in many cases is not adequately captured and used by regional or national authorities.

#### 4. On common major barriers that affect enterprise growth

The barriers most commonly listed by the case study group include:

- **Access financing, including acquiring credit for beneficiaries:** The enterprises in the case study group reinforce the survey data that emphasizes access to financing as a leading barrier to success. The case studies provide more insight to this challenge, noting that start-up social enterprises do not meet typical requirements for loans (holding assets or demonstrating other income streams that can provide surety for loans or lines of credit). An operational track record of four to five years is also often required. The challenge can extend to the community stakeholders: even the SMMEs that have achieved sustainability in their own operations still report an on-going challenge in helping their beneficiaries to obtain credit, for example, in the case of VCACs, REN and Adapta Sertão. It is important to highlight that all nine SMMEs report that winning an award has helped the enterprise to gain credibility with those in positions to provide financial resources. However, even with significant recognition and a proven concept, these enterprises still spend significant efforts raising revenues to maintain and expand their operations.
- **Addressing internal enterprise limitations:** in addition to financing, the enterprises uniformly report on the need to improve communications and marketing, to expand networks and partnerships, and to manage the complexity of enterprise growth.
- **Dealing with gaps in national policy:** The enterprises that have scaled up significantly find themselves dealing with policy makers in order to be able to continue to grow and fulfil their triple bottom line objectives. For example, BV is currently collaborating in shape national fisheries policies in Madagascar. Adapta Sertão is advocating for Brazilian government policies be more in line with supporting climate resilience. Oro Verde focuses on production and consumption policies, listing its greatest task as to massively transform mentalities, with the aim of positioning the consumption of goods coming from biodiversity friendly mining . For REN, national policy on standards and certification in the organic farming sector is one of its top challenges. Sri Lanka has not regulated the organic product industry and has no organic standard developed; in general, lack of certification is leading to consumer confusion in many Asian countries. Among BCP's greatest challenges is the need to ensure that international commitments on biodiversity access and benefits sharing are met in practice at the national and local levels.



2005 SEED Winner Water for All

## 4. Synthesis and Analysis of a 3 year study for Policy Makers

In addition to conducting research, SEED brings together national and international experts and decision makers in its annual Symposium to discuss how entrepreneurs are driving economic, social and environmental change. The synthesis of SEED's research and consultations, together with advice for action, are published in the separate report *Social and Environmental Enterprises in the Green Economy: Supporting sustainable development and poverty eradication on the ground – Analysis of a 3 year study for policy makers*.

This report is available at [www.seedinit.org/en/best-practices-and-policy/seed-reports.html](http://www.seedinit.org/en/best-practices-and-policy/seed-reports.html)



2009 SEED Winner Suryah Hurricanes

## 5. Appendix 1: Guiding Questions

### 5.1 Questions for the winners

1. **How is the enterprise structured (e.g., as a company, cooperative, non-profit organization)?**
2. **What is the range of relationships (e.g. partners, community, clients...) that you must manage in order for your enterprise to be effective?**
  - a. Has this range of relationships changed from when you started and where you are at now?
  - b. Are there any linkages to other enterprises/networks that you find especially useful/beneficial?
  - c. What is the name contact data of your two most important partners (These will be interviewed as well)
  - d. What is the name and contact data of one of your most important clients/beneficiaries? (to be interviewed as well)
3. **What are your enterprise's top 3 targets (social, environmental, business)?**
  - a. Have these targets changed? If so, why?
  - b. What have been the social benefits of the enterprise? (for example to the community, to women and youth)
  - c. What have been the environmental benefits?
4. **Have you been able to maintain a focus on all three targets i.e., a 'triple bottom line'? What have been the challenges to doing that, if any?**
5. **Please describe what you started with when building your enterprise (e.g. infrastructure, admin support, NGO help, etc.) and what has been the growth of the enterprise since its inception in terms of:**
  - a. gross receipts and net profits?
  - b. number of members or employees?

- c. number of other direct beneficiaries (e.g., product retailers?)
  - d. geographic scope of membership? of markets?
6. **What appear to be the main factors that have contributed to the growth of your enterprise?**
  7. **What barriers has the enterprise faced in its efforts to scale up?** (for example, access to finance or technology, market factors, laws and regulations, lack of skills or awareness, lack of visibility etc.)
    - a. How has the enterprise overcome or tried to overcome these barriers?
  8. **What would you say was the main impact on your enterprise from winning the SEED Award?**
    - a. Please describe specific examples of how the SEED package of support may have helped to improve the enterprise's operations and development?
  9. **Aside from the SEED Award, what other external support has the enterprise been able to draw on for its development?** (for example, training programmes, government assistance or incentives, marketing support, investment, grants and awards, etc.)
    - a. How important have these been to the enterprise's development?
    - b. How do these compare to SEED's services?
  10. **What types of support does the enterprise require now?**

## 5.2 Questions for Partners

1. **When did your relationship begin with the enterprise? How would you describe this relationship? (formal agreement...) What is your specific role? How often do you interact?**
2. **How would you describe the benefits that you gain from this relationship?**
  - a. Economic benefits (if any) to your organisation
  - b. Benefits specific to the winning project/enterprise
  - c. Social and environmental benefits resulting from your partnership
3. **What do you think the enterprise is accomplishing?**
  - a. Social?
  - b. Economic?
  - c. Environmental?
4. **What are some of the main challenges/barriers to the continued success of the enterprise, as you see it?**
5. **What are 2-3 main things that the enterprise would need in order for it to successfully scale-up and/or be replicated elsewhere?**





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### Founding Partners



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