Climate Innovator Success Stories

A collection of stories showcasing clean technology startups within infoDev’s global incubator network.

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**KML Grid Solutions**

*Product:* Our primary products are energy saving devices that are cost effective and easy to install offering immediate savings to the end-user by as much as 25%. Our product is the only product of its kind that transmits coding through the mains. Our marketing plan is to roll our product out through municipalities and councils using locally based electrical contactors.

*Reason for starting your business:* Our recent motivation has been the national energy crisis along with the reality that we are using up our natural resources to help meet the demands of a growing economy and population. By installing our simple product, we will help contribute to saving the environment and resources, while allowing for the much needed growth of our country.

*Major challenges:* It has been a learning curve having to understand the correct departments to deal with, therefore we are much the same as any other business that starts from zero - Putting together a business plan, raising startup capital, creating and maintaining cash flow and most of all, getting others to believe in our product.

*Plans for growth:* As our business grows we will be employing up to 25 staff and then as we expand into different provinces, we will set up offices in each area.

*Your advice to other entrepreneurs:* Never lose sight of your vision, and never give up.

*How has the business incubator helped you?* As a member of the SBTI program we have received invaluable support with regards to development of a business plan and business models, identifying potential target markets along with encouragement from fellow incubatees which is important for entrepreneurs.

“It has been a learning curve... most of all, getting others to believe in our product”
Product:
Our products are predominantly focused on providing sustainable, cleaner, cost effective and greener energy for cooking and lighting purposes especially for the people at the bottom of the pyramid. Our primary products are:

- Hybrid Stove: An attempt to conserve fossil fuels and encourage the use of renewable energy.
- Plant Oil Stove: A breakthrough technology that uses plant oil as cooking fuel, this stove enables the use of locally available non-edible plant oil instead of Kerosene.
- Plant Oil Lamp: A simple lamp that enables the use of straight vegetable oil as fuel.
- Gasifier Wood Stove: These wood stoves can accept waste materials like twigs, dry grass, and husks without cutting down trees.

Business model:
We have successfully implemented satellite production centers. These are outsourced production units owned and operated by local entrepreneurs and NGOs. We provide all the materials and know-how and the NGOs use their own place and people.

Successes:
Received first round of VC investment in 2002 and became profitable in 2004-2005. We have reached 60,000 burners per month, and have plans to reach 250,000 burners per month within the next 3-4 years. We currently employ 8 people and have 85 outsourced employees.

Challenges:
One of the big challenges while promoting our low carbon product among the ‘bottom of the pyramid’ has been to sustain the value proposition when dealing with an extremely price sensitive market. The company is working on overcoming this through its continued product innovation and material substitution.

Future growth:
Serval has plans to add a host of low carbon products to its range of cooking stoves. Rural Lighting (with solar energy), LED lighting.

“One of the big challenges while promoting our low carbon product ... has been to sustain the value proposition when dealing with an extremely price sensitive market”
By recovering paper pulp from laminated paper waste, the use of water, electricity, chemicals and trees are reduced and consequently pollutants emitted into the environment. Moreover, the cost of paper using my recovered paper pulp is lower than using virgin pulp.

About the Entrepreneur:
Three years ago, I decided to quit my job and start my own business by submitting this recovered paper pulp business project to Thailand Science Park.

Successes:
In 2004 I started with 2 employees and sales of 1 million Thai Baht (Approx USD 30,000). So far in 2009 I have 17 employees and sales of 25 million THB (Approx USD 750,000)

Major challenges:
1. The technology - I have to do a lot of research to get the most effective enzyme and recovery process, with many repeated trials.
2. The investment for the necessary recovery machine - I have to plan and use my money carefully because in Thailand, bank loans are not easy for SMEs. With the limited amount of money I had, I had no choice but to start with old machines and refurbish/modify them.

Advice for other entrepreneurs:
I strongly believe that every low-carbon entrepreneur must possess two qualities. One is being innovative by having the ability to make their products/services become a reality. The other is caring for the environment.

Plans for future growth:
I plan to expand the variety of laminated paper waste available in the market - right now I can recover sticker backing paper, laminated paper sack. I also plan to increase a production scale. As of now I can recover 100 tons/month of paper pulp.

How has the incubator helped you?
The incubator helped me by providing a very cheap price rented-space to set up a laboratory to do my research and development and providing research resources such as testing equipment, technology databases, etc. They also helped me promote my products in many trade shows both domestic and abroad.

“...Every low-carbon innovator must have two qualities. One is having the ability to make their products a reality, the other is caring for the environment.”
**Product:**
We are a raw material research and development company. Our products include:
- Go-green bio diesel: A jatropha curcas based bio diesel.
- Rozme premium beauty soap: A jatropha curcas based organic soap.
- Rozme balm: Shea butter enriched skin protection and beauty balm.
- Neem jell: A bathing jell formula enriched with fruit juices and honey.
- Jatropha organic manure.

**About the entrepreneur:**
I am a laboratory technologist and am motivated by the fact that the trees around us produce these raw materials nonstop, fall and decay without most people knowing they could be harnessed for many commercial applications.

**Milestones:**
I am currently employing 12 people. Our products are very well received, and our sales figures are very good. Our go green, bio diesel was presented and satisfactorily tested by the executive advisory committee of plateau state, a working committee setup to advise the governor of plateau state, Nigeria on alternative energy sources. Our products have been showcased in many local and international trade shows.

**Challenges:**
The challenges are great persisting, some of these are;
- Lack of finance. People, investors and even government is scared of putting money in unknown areas.
- Lack of equipment.
- Lack of power.
- Lack of access to a dependable and affordable platform for exchange of ideas.

**How has the incubator helped you?**
The incubator has helped by having electricity consistently available. However, I am very convinced that the board of technology incubation in Nigeria will gain more results by making direct financing available to startups and other services including reliable internet access. Right now I am in a private cyber café with unreliable power supply.

“I am very convinced that... technology incubation in Nigeria will gain more results by making direct financing available to startups”
**Kine Technologies & Research**

**Product:**
The solar mosquito destroyer offers a cost-effective and environment-friendly solution to controlling mosquitoes. It works simply by attracting the mosquitoes through smells emanating from a drainage/septic tank and trapping them into the translucent top ("solar furnace"), where they perish in the heat of the sun. The innovation is based totally on solar energy which is used to kill the mosquitoes, attracted by sewage. This makes the system very eco friendly. The conventional mosquito destroyers are available from INR 880 (battery operated) to INR 13,000 whereas this product costs only INR 500.

**Milestones:**
We have sold over 250 units mainly to institutions such as hospitals, hostels, old age homes, seminaries, convents, military compounds, houses etc. We are also getting orders from institutions and individual customers.

**Challenges:**
There was a need to redesign the device for commercial production. We used professional designers, who made computer designs, and gave an estimate of Rs. 500,000 for the device. We approached many banks, but banks were not willing to offer support for the innovation. Finally we were able to get an agricultural loan.

**Plans for growth:**
During the marketing of the product, we realized that people are more interested in an indoor device that can be kept in the room to control mosquitoes that come into the room. Recently we have developed another indoor device which can be kept inside a room and which traps all types of mosquitoes. I plan to involve myself directly in the marketing of the products to understand consumer feedback for improving them.

"I plan to involve myself directly in the marketing of the products to understand consumer feedback for improving them"

**Kerala, India**
**Founded:** 2006
**Sector:** Rural Innovations
**Product:** Solar mosquito destroyer
**Employees:** 3
**Revenues:** USD10k ('08), USD 20k ('09)
**Incubator:** NIF
We manufacture inverters with power ranges from 500VA to 15,000VA for use in homes, offices, community boreholes, health institutions and outdoor picnics camps. We have differentiated our products from our Indian and Chinese competitors by manufacturing models with low ranges of power output to target the mass market.

About the entrepreneur:
I am a physician and my flair for engineering stemmed from a desire to find a solution to recurrent power outages during surgery.

Successes:
Our employees number twenty eight in total and they are composed of electrical engineers, administrative managers and a marketing and market research team. We sell an average of twenty inverters monthly and our products produce comfort in homes, light and power institutions and schools and provide energy to pump potable water for communities.

Main Challenges:
Circuit board design and modification to suit local demand and taste is the main challenge. Conforming our inverters to work with imported solar panels. This endeavor is knowledge based and capital intensive. The research work in perfecting our inverters and all of the components was also quite challenging suppliers are few and far between.

Plans for growth:
We plan to provide solutions on a large scale to solve electricity problems in health institutions, universities and for large energy consumers.

Future challenges:
Renewable energy is new in Nigeria and funding is not readily coming from the political system. Also people are quite interested in cleaner energy but feel reluctant to pay the price for it.

Incubator quote:
We received series of advice on the packaging and presentation of our products from the incubator. We were also provided office and factory site accommodation for free. However, more support in marketing our products would help us further.

“Our products produce comfort in homes, light and power institutions and schools and provide energy to pump potable water for communities”
**Energy Research Applications**

*Products:*
Our primary products are “ENERGY CAKES” made from industrial and agricultural waste. Processed sponge iron industrial waste is used to make “Energy Cakes”. These “ENERGY CAKES” are available in different dimensions and with capability of different temperature ranges. This can be as high as 700°C and can burn up to 3 and ½ hours. These cakes are very efficient source of energy. One piece of cake weighing 900 grams gives 600°C temperature. These cakes are smokeless and easy to produce by women groups at the village level.

*About the entrepreneur:*
I have a Master of Technology degree from Indian Institute of Technology (I.I.T.) Delhi in renewable energy. I am trained as a low carbon individual and I want to use this knowledge not only to address environmental issues but also make economic issues by generating wealth for the society and in the process for myself. My “PASSION” is to create a replicable model which would convert waste into wealth thereby minimizing fuel costs and sustaining low income enterprises.

*Major milestones:*
Two patents have been granted for this technology in collaboration with Department of Science and Technology, Government of India. ERA has developed a Clean Energy Technology network in 15 States in India and is in the process of exploring opportunities to disseminate this technology to RWANDA and other countries in Africa.

*Future Challenges:*
The remaining challenges facing the future success of our low carbon business is to have more buy-in for this efficient technology among various stakeholders which include government, policy makers and end users. The challenge is to quickly penetrate the market and achieve widespread adoption to effectively mitigate emissions and the health problems of using traditional cooking methods.

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Gurgaon, India  
Founded: 1995  
Sector: Biofuels  
Product: Energy cakes for cook-stoves  
Employees: 11  
Revenues: USD154,000(‘08), USD245,000 (‘09)  
Incubator: API Network
GeoCiclos Ltda

GeoCiclos has two different product lines: The home line with the Garden Composter and the Terrace Composter, both products designed along with another Chilean company with the goal of providing compost systems for homes and apartments. The industrial line consists of a composting plant designed by GeoCiclos with technology created by GeoCiclos. The competition is less and less sustainable because of the cost of transporting waste to the dump.

Milestones:
Our main milestones have been winning the Second Business and Technology Contest organized by the International Institute for Innovation and Entrepreneurship of the Federico Santa Maria University of Technology (UTFSM) and obtaining 2 Seed Capital investments from Innova Chile.

Challenges:
Our biggest challenges have been obtaining working capital as with new ventures - resources are not always generated immediately, however, there are always expenses that must be paid, like rent, electricity, water, etc. In order to generate the resources necessary, sometimes you must work in other places until the company can manage expenses on its own, which takes precious time away from the entrepreneurial venture. Positioning the brand in the market and making a name for ourselves has also been difficult since one can have a very good product, but if people or users do not know about it, it’s hard for them to acquire it.

Advice for other entrepreneurs:
As advice for new entrepreneurs I would tell them to never stop dreaming, to be persistent, to pay attention to the market, to be cautious, and to really know their partners.

How has the incubator helped you:
The incubator has played an important role in our growth. First of all, it has provided us with infrastructure (physical space, computers, telephones, internet, office furniture, etc). Second of all, but no less important, they have provided us with business consulting, and at the beginning, an image. The support of the incubator has also been very important because it means that someone believes in you and it is always easier to believe in yourself when someone else already does.

“Never stop dreaming, be persistent, and pay attention to the market...”
Other Innovations Commercialized in infoDev’s Incubator Network

GloTech Organics
Agricultural Products in India

Recycla Chile S.A
Recycling E-waste in Chile

Portafolio Verde, Environmental Consulting in Colombia

Takasun
Solar Energy Solutions in Morocco

Ambio Participações Ltda
Carbon Market Services in Brazil

ESSCO Ltd
Fuel Efficient Ovens in Rwanda
Climate Innovation Center Success Story: Agri-Business Incubator@ICRISAT

Revitalizing Agribusiness

The Agri-Business Incubator@ICRISAT (ABI) that was launched in 2003, is an initiative of ICRISAT in partnership with the Department of Science and Technology (DST), Government of India. ABI promotes technologies that have been developed either exclusively by ICRISAT, or jointly developed with collaborators, or even other agri-technologies developed by R&D centers of excellence, universities and other institutions.

ABI at ICRISAT is a pioneering concept to promote enterprise development in agriculture and facilitates business for Entrepreneurs and Technology Developers. It supports business initiatives with various services and facilities in the area of technology commercialization and new venture creation.

Entrepreneurship Development

Entrepreneurs willing to exploit the technology for new venture creation are facilitated by ABI through host of services like technology transfer, business facilitation and escort services. Entrepreneurs can get support from concept to commercialization. Besides ABI also facilitates new venture creation in the focused areas of seed venture, biofuels, farm systems etc.

Technology Commercialization

ABI is a platform for commercializing technologies emanating from ICRISAT and NARS partners through startup agribusiness companies. It also facilitates the commercialization of entrepreneur’s technologies and services which benefit the farmers.

Services and facilities

ABI offers Technology consultancy, Business facilitation, Training, Office and Building, Agricultural Land, computer & IT enabled aids, etc.

Technologies commercialized

The agribusiness products and technologies incubated through the ABI include: sweet sorghum for ethanol production; insect-resistant transgenic cotton; biofermentor for biopesticide production; drought-resistant groundnut variety ICGV 91114; better-yielding chickpea varieties JG-11 and KAK-2; biopesticide formulations for controlling crop pest; pesticide-free crops and produce through organic farming.

ABI is supporting entrepreneurs under the board framework as mentioned above. ABI helps entrepreneurs in business planning through business plan development and evaluating the value proposition of the business. In terms of business development, ABI helps entrepreneurs on sales and distribution channel strategies, through exchange of ideas and by strategy development. In terms of capitalization ABI network in the industry among the Venture Capitalists, govt. funds and its own seed money given by Technology Development Board, Govt. of India.

Agriculture being a priority sector needs to be geared up for meeting challenges of food security, nutritional security and improved livelihood of the farmers. There have been advancements in this sector in terms of technology breakthroughs, increased investments, entrepreneurial activities, and innovations that need to be translated into sustainable ventures to have an impact on the industry as a whole.