

Shell Foundation and the Breathing Space Programme

Innovations Case Commentary:
Envirofit International

When Shell Foundation was established in 2000, we had the ambitious objective of catalyzing scalable and sustainable solutions to key global development challenges. We set about doing this in ways that were new at the time: by pioneering an enterprise-based approach, and by focusing on a range of social and environmental issues in which the energy industry has a particular responsibility. We also sought to harness links to our corporate parent, Shell, for the purpose of delivering greater charitable benefit.

INDOOR AIR POLLUTION

In 2002 Shell Foundation established a program to find a solution to achieve a significant long-term reduction in the incidence of indoor air pollution (IAP) at the global level. However, it was only toward the end of 2007, after five years of pilots and partnerships around the world, that we realized this could only be achieved through the market-based development, production, distribution, and sale of high-quality, durable, and affordable cookstoves to households affected by IAP. A problem as large as IAP can only be solved through market thinking and private-sector involvement. This represents a radical departure from most traditional methods, which have seen NGOs and governments give away or subsidize improved stoves. Following a number of pilot projects, in 2007 we selected Envirofit as our global strategic partner, and since then we have supported the establishment and growth of their cookstove business in India and Africa. In addition to our direct support to Envirofit, the IAP program encompasses a number of supporting activities that are considered to be of critical value to the sale of these cookstoves, such as the capacity-building of large distribution partners, social marketing efforts, and, more recently, carbon finance. Last year, the Shell Foundation became a founding partner of the Global Alliance for Clean Cookstoves (www.cleancookstoves.org), a public-private partnership that aims to create a thriving global market for clean and efficient household cooking solutions.

Pradeep Pursnani manages Shell Foundation's Indoor Air Pollution Program.

Its Room to Breathe campaign (www.roomtobreathecampaigns.org) runs activities to raise awareness among affected households of the benefits of clean cookstoves.

PAST EXPERIENCE

From 2002 to 2007, the Shell Foundation carried out nine pilots in seven countries to help us understand the issue of IAP—cooking habits, technologies, fuels, and distribution mechanisms. The lessons learned from these pilots helped us shape what the Breathing Space Programme is today, and clearly are the reason behind our partnership with Envirofit.

While a large number of stoves were distributed through our partners in the pilots, the model that was being explored did not allow for either global scale or financial sustainability, and therefore required large amounts of funding to support it or enable it to be a local solution.

Through these pilots we learned five key lessons:

1. *Focus on biomass fuel, as this is the fuel used most often in households affected by IAP, and the most affordable.* Some of the pilots did focus on other fuels and how they could be adopted by the users. While they did reduce IAP, the solutions were either not preferred by the users, as it required them to change their cooking practices, or they were solutions that would not allow global scale. Biomass is still the main fuel used globally in households affected by IAP, and we decided that this would be the fuel to focus on so as not to disrupt their cooking practices, and it would not require a parallel fuels supply chain to support any program.

2. *Centralized manufacturing will ensure the ability to scale-up, economies of scale, as well as good quality control and consistent performance.* During the pilots, some local stoves were used and other new stoves produced. However, there were either concerns about the consistency of the quality of these stoves or the ability of the manufacturers to produce them in the vast numbers that would be required. We realized that to deliver an IAP solution at scale, centralized manufacturing would be the way forward in order to meet demand. Once this was put in place, local assembly operations could take over at a later stage.

3. *Focus on having a commercial partner that supports the market-based approach of the foundation.* Some of the pilots were done with NGOs, and while they are great partners for a stoves program, they cannot focus on manufacturing a sustainable global solution at scale. NGOs are generally donor-based organizations, and if they also have to produce stoves with this limited funding, then they would have to compromise either on the number or the quality of the stoves to achieve their targets, unless unlimited funding was available. Having a market-based approach would ensure a sustainable model.

4. *The solution must meet certain performance benchmarks around fuel efficiency, carbon, and particulate matter (PM); and must be technology driven, well engineered, durable, and affordable.* It is clear that artisan-built solutions did not have the level of R&D funding to ensure consistent performance and high fuel efficien-

cies, which is what drives consumer decisions about purchases in most cases, and solutions were often not durable either. The stove needed significant R&D investment to address the needs of the consumers, just like any consumer durable.

5. *Monitoring and evaluation and social marketing are key to a successful program.* Finally, it was also clear from the pilots that there were lots of cookstove programs in action around the world; however, their performance and deliverables were not being measured. Monitoring in the field to ensure that the program is performing is essential to having a positive impact as people adopt the stoves, both socioeconomically and from an IAP perspective. Awareness of the IAP issue was low among the families that cooked on open fires, so it became clear that any future program should contain an education element to address the issue of IAP, as well as the fact that the globally recognized solution was to use an improved cookstove.

THE PARTNERSHIP WITH ENVIROFIT

Envirofit was chosen as Shell Foundation's global partner for the IAP program because it is an engineering-focused organization with strong R&D and commercial foundations that had experience in emerging markets and a global ambition. Although Envirofit had limited stove experience, we could see from their previous achievements how they could apply their skills to this area and find a solution.

Envirofit became a Shell Foundation partner toward the end of 2007 and commenced operations in India, where they also inherited some of the work the foundation had done in that country. For the first 18 months, they focused on understanding the market and developing a new product. In 2009 they introduced the G3300, an affordable, high-performance, durable stove that was centrally manufactured and looked very different than any other stove on the market. This was clear evidence of what the group was capable of.

Since then, Envirofit has expanded the business into Africa and South America and developed a range of other products in line with their R&D strengths. While the company is still funded through a grant, four years later it is growing at an unprecedented rate and financial sustainability is in sight.

There are three things that will shape Envirofit over the next few years: commercial partnerships, carbon finance, and the start of large-scale local assembly operations.

Commercial partnerships. Over the last six months, Envirofit has either signed large commercial supply agreements or become the technology partner to large stove program developers. They have even developed tailor-made products to suit those partnerships. This will be a key strength to build on in the coming years. Whether it is with governments, distribution partners, or carbon developers, Envirofit's ability to produce a durable, affordable product that is liked by the user and performs well in the field will be the only way to distribute stoves at scale. This will allow them to shape their R&D efforts and bring new technologies into the industry.

Carbon finance. Developments in the last 12 months in the carbon markets have been a game-changer for the stove industry, particularly in Africa. This trend is now expanding to other parts of the world. With the innovation demonstrated by Envirofit and Shell Foundation in creating a carbon fund that enables the price of the stove to be reduced in exchange for future carbon revenue, Envirofit has seen higher than expected growth in Africa. The carbon fund is a model that needs to be proven and then replicated for other markets. This will also allow better technologies to be made affordable for users, and attract more investment in local supply chains and communities.

Local assembly operations. In 2011, Envirofit will take the first step on this journey with the start of local assembly operations in Kenya, which will serve as a manufacturing hub for its partners in East Africa. While centralized manufacturing made sense for the first few years, regional demand has grown and now justifies the investment required for local assembly operations, including Kenya in 2011, Nigeria and India in 2012. Local assembly will not compromise the quality and durability of the cookstoves, but will reduce costs significantly and also create local employment—a clear must for the sector.

We are now at a tipping point for both the stove sector and for Envirofit as an organization, as it is now scaling-up the work from the first three years of its partnership with Shell Foundation and is growing to be a global company with substantial partnerships. In the next few years, Envirofit will be financially sustainable.