

Ecozoom East Africa: Exploration of Internal Asset Finance for Cookstoves

Organization Profile

- Year Established: 2013
- Country: Kenya
- Type of Organization: stove manufacturer and distributor of energy products
- Product- Zoom Jet <http://catalog.cleancookstoves.org/stoves/58>
- Grant: Spark Fund Round II, 2014
 - *Ecozoom's Spark Fund grant included four major growth initiatives. This case features Ecozoom's consumer finance initiative

Organization Overview

EcoZoom East Africa Ltd is a certified B Corporation that makes energy efficient cookstoves and solar lighting solutions globally accessible and affordable. EcoZoom East Africa builds on Ecozoom Global's experience designing, manufacturing and marketing cookstoves in Latin America, United States and Sub-Saharan Africa. The East African entity started operations in October 2013 with an initial investment of \$140,000 and have since sold over \$2 million worth of products and generated \$2.5 in revenue. EcoZoom's wood and charcoal powered stoves are independently tested and have demonstrated income and energy savings of more than \$280.



EcoZoom targets high, medium and low-income end-users through four distinct distribution channels:

- **Corporate Sales:** EcoZoom targets corporations headquartered in Nairobi and other urban areas and works with HR departments to implement programs where employees buy EcoZoom stoves through flexible payment schemes.
- **Distributors:** EcoZoom has five regional coverage areas and enters into agreements with scaling organizations like Microenergy Credits and Living Goods that have access to large agricultural networks and offer end user payment terms.
- **Sales Agents:** EcoZoom is developing its own network of sales agents by tapping into existing entrepreneurial networks such as Musoni Microfinance and other trusted networks like Kenya Red Cross and AMPATH
- **Direct Sales:** In order to build the market for efficient cookstoves and awareness of the brand, EcoZoom also pursues direct sales to end-users by conducting stove demonstrations at local events such as microfinance demo days.

In addition to advisors and partners with experience in product development, sales and marketing, operations, global supply chain and distribution, Ecozoom has a 10-person core team that is led by CEO Ben West.

Grant Objective

The primary objective of the Spark Fund was for EcoZoom to establish efficient sales and distribution methods and try innovative mechanisms for consumer or end-user financing. With direct retail sales accounting for less than 3% of their total sales, EcoZoom's goal was to design a consumer financing option to boost this proportion to as high as 30%. Given that some families live on as little as \$2 a day, the cost of a cookstove at \$45 is a huge investment hurdle for the low and middle income customer segments. The need for finance is present all along the supply chain as end-users seek finance from distributors, who in turn need financial support from EcoZoom.

Ecozoom had experienced significant default on financing to distributors who had been on-lending to consumers. Their existing system of credit extension to distributors and end-users lacked clarity and it was difficult to identify whether it was the end-user or the distributor who was responsible for credit defaults. One of EcoZoom's leading products, the charcoal cookstove, had a payback period of approximately four months to account for the money savings from the product and as a result distributors sought credit sales from EcoZoom in order to further extend credit to the end-users. However, the distributors lacked the organizational ability to collect payment if the end-users defaulted.

With the Spark grant, EcoZoom wanted to conduct a baseline study in order to understand the amount of relative risk and the additional routine management that might be involved with offering direct to end consumer credit. The plan was to conduct an initial baseline study to assess repayment patterns with very little management and follow-up from Ecozoom's part. Following an expected repayment rate of 80%, EcoZoom would evaluate the viability of developing an algorithm to understand the profile of the ideal borrower. Following this, a larger scale, secondary trial with this ideal borrower population would be rolled out to test repayment rates again.

Key Questions that EcoZoom posed:

- Could we in fact successfully offer credit directly to end-users?
- Can this be managed within an acceptable limit of risk to the business?
- If we took the distributors out of the supply chain and dealt with the end user with more transparency could there be more accountability?
- Would EcoZoom be well placed to track and monitor payments?

Activities and Achievements of Grant

The implementation of the Spark grant served as an opportunity for EcoZoom to understand the challenges involved with offering direct to consumer credit. EcoZoom tested and validated multiple channels to offer consumer financing and increase financial inclusion along their distribution networks. They experienced a steep learning curve and by addressing the many challenges and surprises throughout the implementation process, EcoZoom gained a deep understanding of not only the market but their internal capacities, which in turn has shaped their current strategy. The various implementation stages of the Spark grant are described below:

1. **Baseline Study to Assess Repayment Patterns:** EcoZoom entered into a partnership with a social enterprise called Juhudi Kilimo in order to distribute products to both member and non-members of JK to test whether membership increased repayment rates for loans from EcoZoom. The expectation was that repayment rates among members would be higher since they would

not want to damage their existing relationship with Juhudi Kilimo by defaulting on an EcoZoom loan. The primary interest was to track the performance of non-members, as this would indicate feasibility of direct credit to end-users and the level of resources needed for the management of such an approach.

2. Roll-out of Baseline Study: EcoZoom designed an application form to capture end-user data such as age, gender, income level, behavioral information such level of community engagement and perceptions about the importance of repayment etc. Juhudi Kilimo and EcoZoom staff that served as Credit Officers administered the application process. Payments were collected through M-Pesa (a mobile money platform operated by Safaricom, the dominant mobile network service provider). The number to which payments needed to be sent was communicated to the end-customer on a card which the customer would take away with them along with their purchase after placing the initial deposit. Minimal management was then invested in monitoring repayments although reminders were sent out prior to payment due dates.

The two repayment plans are described below:

Payment Plan: Cheetah		Payment Plan: Elephant	
Duration: 3 months		Duration 6 months	
Down payment (10%)	430 KES	Down payment (10%)	430 KES
Payment Fee	165 KES	Payment Fee	325 KES
Total Cost	4,465 KES	Total Cost	4,625 KES
Monthly Payments	1,345 KES	Monthly Payments	699 KES

3. Performance of Baseline Rollout: Repayment rates were poor with 52% of customers repaying 67% of the total value in addition to the initial deposit. The number of applicants that paid in full was 19.8% and repayment rates dropped dramatically after the second payment. The biggest finding from this initial rollout was that there was no difference in the repayment rates of members and non-members.
4. Group lending through Sales Agents model: Due to the low repayment rates and the high cost of subsequent debt collection, EcoZoom decided to cease the direct distribution of loans to end-users. Instead, Ecozoom tried a different approach with a group-lending model by targeting Community Health Volunteers (CHV). EcoZoom’s partner, an NGO called PATH was looking for a way to enable CHVs to increase their income and the introduction of the sale of cookstoves posed an opportunity for this. EcoZoom provided credit to CHVs who would borrow as a group and would be held collectively accountable for the products that they then subsequently sell to end-users. The rationale for this approach was that it would obviate the need for EcoZoom staff on the ground to follow-up on repayment. The PATH CHVs were directly responsible for sale of the products and repayment of the loan.
5. Performance of Sales Agent Model: Even though this new approach was successful in achieving high repayment rates of over 90%, the method remained an unviable solution owing to extremely low the volume of product sales.

Lessons Learned

Providing end-user finance is cost prohibitive given EcoZoom’s current size. The implementation of Spark grant threw light on the immense cost involved in providing direct end user credit. EcoZoom

recognizes that they initially underestimated the amount of work involved in financing end-users and they now have a better understanding of the variables and costs involved. Additional costs can be attributed to new systems to track stove loans and payments, credit officers or other staff to follow up on payments and a loan loss reserve to cover defaults.

The credit officer makes a difference in repayment rates. EcoZoom found a correlation between repayment rates and the credit officer processing the application form. Among the Juhudi Kilimo staff that served as Credit Officers, seven were Kenyan women and one was a white American man. Repayment rates varied by loan officer and it was found that the American credit officer's clients displayed the highest repayment rate. While the reasons for this correlation cannot be definitively known, it is plausible that the officer's gender, ethnicity or authoritative nature may have been potential contributing factors. This finding emphasizes the need for careful and consistent training and awareness of both credit officers and borrowers to ensure a uniform understanding of the expectations and terms of the loan in order to engender better repayment rates. This presents considerable financial and time costs to EcoZoom.

Organizational presence in a region is needed to reduce cost of payment tracking. EcoZoom undertook efforts to track repayment at one of the locations, Eldoret in which they had offered end-user loans and this process uncovered a lot hidden challenges. Many rural households do not have physical addresses and the end-user population is widely dispersed, which makes it difficult to locate borrowers. Further, they found that in areas where EcoZoom doesn't have a physical presence, one person not repaying a loan could inspire a domino effect of non-repayment since word got around rapidly that EcoZoom was not serious about collecting repayments. The operational cost of tracking repayment overwhelmingly outweighed any benefit.

The group lending methodology to extend credit to CHV distributors was not effective at accelerating sales. While the group-lending model with the CHVs had a high repayment rate, the uptake of cookstoves was low and this method presented a number of unforeseen challenges. Firstly, the group moved very slowly and was only as good as its slowest sales agent since they could get a new loan only when all the members of the group sold their share of the group consignment. Traditionally the sales agents were not used to working together but rather as individuals and so when they had to organize themselves there seemed to be a lot of political behavior with certain members of the group demanding additional payments for coordinating group activity.

Not all Community Health Volunteers are entrepreneurs and sales people. Ecozoom like other social enterprises looks to partner with NGOs who have large networks. However, these networks and individuals are often accustomed to the donor driven NGO system that offers goods and services for free. In this case, many of the CHVs were not necessarily entrepreneurial and struggled to complete their sale. The CHVs were accustomed to distributing free medical products and community members were accustomed to receiving free medical products from CHVs. It was a challenge to change the dynamics of that relationship and CHVs were not necessarily entrepreneurial enough to overcome that challenge.

However, CHVs provided an added trust advantage with customers, alleviating any concerns with tribal tensions in the region. Kenya is a country with ethnic and linguistic diversity along with multiple tribal groups and associated loyalties. Ecozoom had noticed that customers in certain areas displayed distrust

towards sales agents from other regions of the country. Through the testing of the sales agent model with CHVs, EcoZoom noticed that recruiting sales agents from local communities built trust with customers and addressed underlying tribal tensions. They also ensured engagement and inclusion of traditional community leaders in order to fortify long lasting relationships further building trust and driving sales. EcoZoom can now build out distribution channels, factoring in the need to engage community leaders when going into a new region and hiring local sales agents or distributors.

Outreach oriented micro finance institutions (MFIs) serve as more effective partners for providing end user finance. In addition to piloting in house asset finance, Ecozoom’s Spark Grant allowed them to effectively partner with MFIs. Ecozoom provided training on the technology and marketing support. The MFI channel now represents the greatest volume of sales for Ecozoom. Through their partnership with MFIs and previous experience financial inclusion, EcoZoom not only confirmed the need to partner with a financial intermediary to finance stoves for consumers but also identified the type of financial institution best suited for this purpose. **Outreach oriented** MFIs prove a better fit than the **branch oriented** MFIs. With branch oriented MFIs, people come to the MFI’s branch office and meet an officer to address a very specific need and are usually not interested in being sold a cookstove. In addition to logistical hindrances such as storage of cookstoves, these MFI’s are careful about balancing their loan portfolio with larger loans and have little incentive to market cookstoves. On the other hand, outreach MFIs send officers on a weekly basis to meet groups of people in different regions. They take a product and market it to the group and the officer brings a consignment the next week for interested customers. Even if only a few members of the group buy the product but they like it, they go on to effectively serve as ambassadors to the rest of the group. Sales typically keep increasing over the coming weeks as they all have weekly contact with the loan officer and not just when they need to take a loan. EcoZoom provides the MFIs a 30 day credit period which then translates to a 40-60 day repayment period for end-users and the Credit Officers receive a commission.

Conclusion

In an effort to build a distribution model that has a widespread local presence while limiting the challenges involved with group lending, EcoZoom now has a hybrid distribution model that combines elements from their association with both Juhudi Kilimo and the Community Health Volunteer (CHV) model. The direct consumer finance model with Juhudi Kilimo highlighted the need for a financial institution to serve as an intermediary in order to mitigate the high operational costs involved with consumer financing. The CHV model, despite the shortcomings of the group lending mechanism, displayed the benefits of having a widespread sales agent network. EcoZoom now works with MFIs and a social enterprise, Evidence Action to distribute stoves with consumer financing options.