Milaap Uses Crowdfunding to Catalyze Energy Microfinance

PHOTO: SOURADEEP GHOSH

AFFORDABILITY MECHANISMS AND ENERGY ACCESS

Online Lenders Channel Low Cost Credit for Investments in Essential Services

Founded in 2010 by three young entrepreneurs from the microfinance, off-grid lighting and mobile technology fields, Milaap is a Bangalore-based social enterprise that deploys online lending and other innovative funding methods to fill the existing capital gap for microfinance institutions (MFIs) interested in building lending portfolios for energy and other essential services. By channeling low-cost, flexible loan capital from an expanding base of both online and offline lenders to a select group of MFI field partners, Milaap is directly impacting the lives of a growing number of poor people throughout rural India. As it continues to engage additional field partners and reach more borrowers, Milaap aims to demonstrate the viability of essential services lending to the wider Indian microfinance sector and its commercial funders.

CHANGING LIVES THROUGH ACCESS TO FINANCE FOR CLEAN ENERGY AND WATER

arcfinance

> *"Unconventional practices – like energy lending – at this stage require patient flexible capital. Crowdfunding is a mechanism for aggregating and delivering exactly that kind of capital."*
>
> — Sourabh Sharma, Milaap Co-Founder and CEO

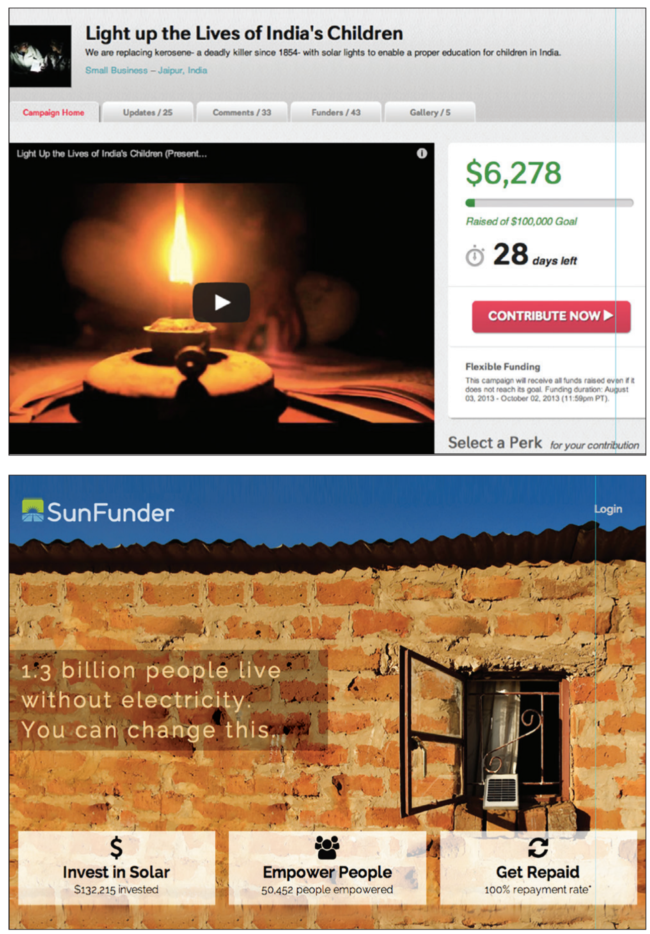
Crowdfunding and Energy Access

Context: India

2012 POPULATION 1.2 BILLION	76 MILLION HOUSEHOLDS WITHOUT ACCESS TO ELECTRICITY
66 MILLION HOUSEHOLDS DEPENDENT ON SOLID COOKING FUELS	26 MILLION ACTIVE MICROFINANCE CLIENTS

Microfinance institutions (MFIs) can play an important role in the removing the barriers to affordability and access that prevent millions of poor Indian households and businesses from adopting new sustainable energy products, which have been proven to save money, increase productivity and safeguard health. However, the Indian microfinance sector has been slow to embrace energy lending as a mainstream practice. While a number of factors contribute to this situation, lack of access to affordable capital from conventional sources of debt and investment is a significant one. Milaap's crowdfunding platform was developed to close this gap.

Crowdfunding is the practice of raising financial support for commercial, creative and social ventures from large numbers of small contributors, typically via online platforms with the support of social media. Today, over 600 different platforms cater to an increasingly diverse variety of project types and funding needs. With the total amount of funds sourced globally projected to surpass US$5 billion by the end of 2013[1], crowd-funding has emerged as an increasingly mainstream mechanism by which new businesses, projects and campaigns are financed and launched.



ENERGY ACCESS CROWDFUNDING: (Top) India-based Frontier Markets' 2013 campaign to raise US$100,000 for 4,000 solar reading lights on Indigogo.com; (Bottom) Via its own online platform, Sunfunder raises capital for solar entrepreneurs and end-users in East Africa.

While crowdfunding continues to be most prolifically deployed in support of new technology and entertain-ment ventures in developed economies – most notably

[1]Massolution. 2013 CF: *The Crowdfunding Industry Report*. 2013.

the United States – it has also become a successful financing strategy for a growing number of development initiatives and social enterprises in emerging markets. Since the core value proposition of crowdfunding is generally the same irrespective of how, by whom and for what purposes it is being practiced, this is not surprising. Popular platforms such as Kickstarter and Indigogo are used to channel financial resources for initiatives that conventional sources of investment, debt and charitable funding are often either unwilling or ill-equipped to support, or even incapable of identifying in the first place.

Cost and flexibility are equally important advantages. Funds sourced from informal networks composed of personal contacts and shared interest communities linked through the web and social media – "the crowd" – tend to be far less expensive and impose far fewer demands and expectations on fund-seekers than do conventional private, public or charitable sources. Finally, the very exercise of appealing to the crowd for funds doubles as a means of building recognition and establishing a brand among potential customers and constituents.

As crowdfunding has become more pervasive in the development sphere, its applications have diversified, and its influence is now felt across a broad range of impact areas. This includes a growing number of initiatives that aim to increase access to modern energy services among the poor and underserved in Asia and Sub-Saharan Africa. The recent experience of the Bangalore-based startup Milaap illustrates how the mobilization of low-cost, flexible capital from the crowd can help overcome critical barriers that keep modern energy out of reach for millions of low-income Indian businesses and households. The company combines several different online and offline strategies to raise lending capital for MFIs that offer credit for improved energy products, such as solar lighting devices and clean, efficient cookstoves for the poor in India.

Catalyzing Energy Lending with Low-Cost, Flexible Capital from the Crowd

MFIs are uniquely well-positioned to facilitate improved energy access in India. Energy specific loans enable borrowers to pay incrementally for products that they would otherwise be unable to afford on an up front cash basis. MFIs also have direct, regular access to large numbers of energy poor consumers and can therefore leverage their existing operations to fill other key gaps in the rural energy value chain, namely: marketing, consumer education and/or sales.

In spite of this potential, to date the Indian micro-finance sector's engagement in energy has been generally limited. Lack of familiarity and widely held risk perceptions concerning energy remain pervasive among both MFIs and their funders. Typical concerns include: fears about the potential damage to portfolio quality and client trust that could result in the event of energy product failure or underperformance; reduced efficiency and profitability due to added operational complexities and costs imposed by new energy practices; client inability or unwillingness to repay energy loans that do not directly or immediately increase borrower cash flows; and general uncertainties as to whether improving energy access is even ideologically consistent with microfinance's core mission of promoting micro-entrepreneurship.

The prevalence and persistence of these concerns makes it difficult for MFIs that do seek to engage in energy lending to raise debt from conventional sources for the purpose of on-lending to their borrowers. Historically, commercial banks, which are compelled by India's priority sector lending regulations[2] to lend to MFIs for standard income-generating activities (IGAs), have been reluctant to extend credit for alternative lending portfolios, such as energy. If available at all, wholesale credit is usually obtainable only at a high cost, effectively

[2] To encourage investment in under-financed, pro-development sectors, the Reserve Bank of India (RBI) mandates that banks must dedicate a portion of their total lending to any of several sectors that have been designated 'priority sectors'. Bank lending to MFIs is considered priority sector lending under current regulation.

making entry commercially unviable. MFIs may choose to draw from their own limited equity or to seek grant funding from donors, but such resources are rarely adequate in size or available on a consistent, ongoing basis, both of which are necessary conditions for portfolio growth and sustainability. Ultimately, as is the case with conventional lending, energy lending can only be established once a regular line of affordable credit is secured.

Milaap aims to fill this credit gap for essential service lending by using financial resources sourced from large numbers of both online and offline lenders. The origin of the company's vision and approach can be traced directly to insights gained by company co-founder Anoj Viswanathan while working as an intern for one of India's largest MFIs. Anoj was part of a team that carried out a solar lantern loan pilot in 2008 in the state of Orissa. Through his visits with clients to assess product satisfaction and user behaviors, he gained a powerful, firsthand appreciation for the transformative impact that end-user credit for basic lighting products can have on the lives of poor people.

"We felt that the so-called 'unconventional' lending products for essential services were the ones that actually created the most long-term, permanent impacts in people's lives. Traditional microfinance was not really focusing on these sectors. One of the primary reasons for this was the type of capital that MFIs typically have access to."

– Anoj Viswanathan, Milaap Co-Founder

However, Viswanathan also quickly recognized the financial constraints that prevent more MFIs from pursuing this type of lending. Any effort to promote and popularize lending for energy, as well as other high-impact, high-demand essential services, such as education and improved water and sanitation, was to grapple with a classic chicken-and-egg problem. Access to affordable credit from India's commercial banks is necessary for essential service lending to replicate the success of conventional IGA lending, and ultimately scale and attain similar mainstream acceptance. However, banks will only lend to MFIs for these purposes if it can be demonstrated that products are sufficiently low risk and profitable. But in order for MFIs to demonstrate viability on a large enough scale and over a meaningful period of time they require access to affordable credit.

Viswanathan discovered that resistance to new forms of lending among MFIs was an even more immediate barrier than the resistance of commercial banks. There are potential risks and real costs associated with starting and maintaining any new product line, and, indeed, this is certainly the case with lending for energy, water, sanitation and other essential services. The typical MFI whose core activities are limited to conventional IGA lending will not automatically be predisposed to taking on such risks and costs, even if they can be avoided or contained by appropriate program design and a greater knowledge of the energy sector. For a large number of MFIs to commit and succeed, credit must not only be made available, it must also balance real and perceived risks and offset new costs by being more flexible in its terms and less expensive than credit secured for IGA lending.

It was obvious to Viswanathan that such credit would need to come from an alternative source and be raised in a new type of way. Following his internship, he partnered with friend and mobile technology entrepreneur Sourabh Sharma, and Mayukh Choudhary, who had also been involved in the Orissa pilot while working for a leading solar lantern design company. Together, the three began to explore innovative new means by which affordable debt could be raised and channeled to MFIs seeking to engage in essential service lending. Ultimately, their search led them to crowdfunding; specifically: online peer-to-peer or retail lending, a method that was already being proven effective for conventional enterprise-based lending by the U.S.-based non-profit organization Kiva. In December 2010, the three partners formed a new for-profit social enterprise and launched the company's retail lending platform, Milaap.org.

Startup ventures require enormous patience and the wherewithal to endure past early stage development, when sources of investment are elusive, learning curves steep, and unanticipated setbacks all but inevitable. Milaap's experience has been no exception. However, from the outset, the company's founders prudently focused their limited resources on improving and building the capabilities of their platform and team, defining and promoting a distinct brand, and identifying and selecting committed, high-capacity MFI field partners. This measured approach and focus on quality are now yielding clear returns in 2013, as online lending performance has begun to increase appreciably each quarter. Milaap is ahead of its own earlier projections and now crowdfunds and deploys approximately US$90,000 every month.

As of August 2013, the company had raised and channeled nearly US$1 million into a diverse portfolio of 6,400 loans, impacting the lives of over 30,000 people. Funds are raised from an increasingly global crowd of lenders[3] and disbursed to borrowers across ten Indian states through a network of fifteen different field partners. The company's energy portfolio continues to advance through its active partnerships with three microfinance institutions based, respectively, in the states of Orissa, West Bengal and Manipur. Due to the comparatively small size of loans for clean energy products such as solar portable lanterns and improved cookstoves, energy represents only 10% of Milaap's total portfolio. However, with over 2,000 borrowers financed to date, energy accounts for nearly one third of all loans disbursed. As new partnerships are formed and MFIs continue to learn and improve their approaches, the amount of funds that Milaap mobilizes for energy lending will expand proportionally.

In addition to online lending, Milaap raises capital for MFIs using a combination of different online and offline strategies. These include innovative corporate employee engagement initiatives, but also the solicitation of funds from more conventional philanthropic sources, such as high net worth individuals (HNIs), foundations and other donors. By diversifying its sources, Milaap is able to smooth out any month-by-month inconsistencies in funds secured via its lending platform, and therefore increase the predictability and consistency with which capital can be made available to its partners.

In the long term, however, Milaap anticipates that online lending will become the central engine of its overall fundraising approach. The very nature of crowdfunding as a distributed, network-based, internet phenomenon creates opportunities for viral promotion and growth that other mechanisms do not. Success can breed future success exponentially, as satisfied lenders share their experiences through social media, and as Milaap's brand becomes more familiar among key demographic groups. Early evidence of this trend is already beginning to materialize, as online retail lending now accounts for 35%-40% of all capital raised by Milaap, up from 20% in early 2013.

[3] Approximately 40 per cent of loans transacted through Milaap's online lending platform originate from outside of India, accounting for nearly half of all funds raised.

The Key Drivers of Milaap's Approach

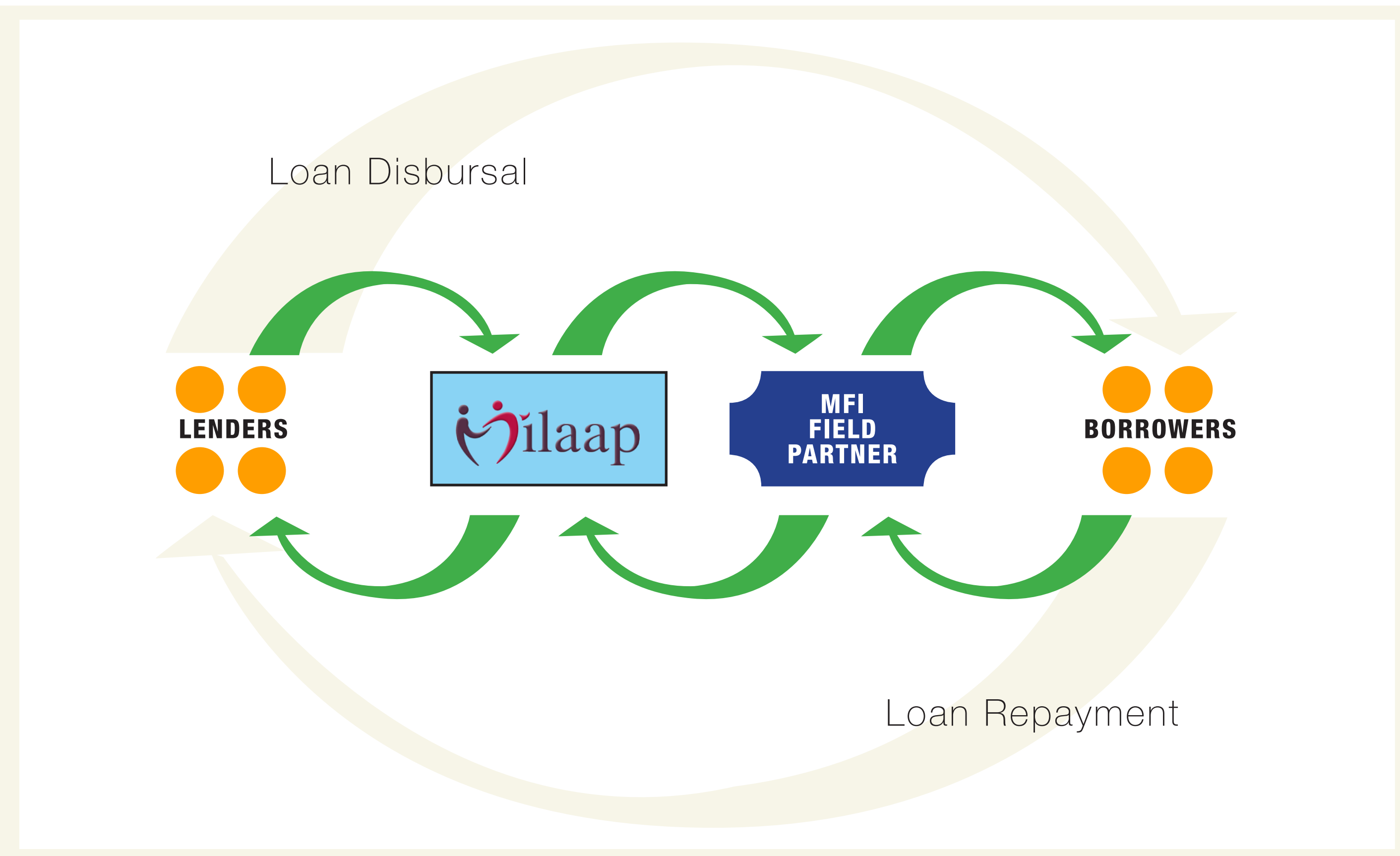
"We are not looking to provide capital to our MFI partners throughout their entire lifetime, but rather only at a particular phase of growth when capital is most scarce. Our goal has always been to act as a catalyst."

— Sourabh Sharma, Milaap Co-Founder and CEO

Available, Affordable and Flexible

Availability, affordability and *flexibility* are the three main ingredients of Milaap's catalytic lending strategy. Availability means that Milaap provides capital to MFIs that otherwise might not be accessible to them. To ensure affordability, Milaap charges a low, 5%-8% fee on the capital that it disburses to its MFI field partners. This

Loan Disbursal and Repayment Cycle



THE LOAN DISBURSAL AND REPAYMENT CYCLE. Milaap aggregates and channels capital from multiple online lenders to its MFI field partners. The field partners disburse 100% of channeled funds to borrowers in the form of loans. When loans are repaid, lenders have the option of reclaiming their funds, or initiating a new cycle by redisbursing to another borrower.

rate is two to four points below average interest rates offered by commercial banks to MFIs for mainstream IGA lending portfolios. Milaap is able to provide capital to partners at such a competitive price because online lenders do not earn interest on the contributions that they make through the platform. The appeal of Milaap for lenders does not derive from incentives based on the likelihood of direct financial returns or – as is the case with many popular crowdfunding platforms – in-kind rewards. Rather, according to Milaap CEO and Co-Founder Sourabh Sharma, Milaap's strategy is to appeal to "people who are already willing to do good and give, but until now only had the option of making donations." The ability to source zero-interest capital not only underlies Milaap's value to its MFI partners and borrowers, but is also the basis of the company's revenue model.

Milaap capital is flexible because the company does not dictate to an MFI partner either the interest rates or terms that it must offer to its clients. This can translate into a variety of different benefits for partners and borrowers, depending on the type of loans offered. For example, in the instance of loans that do not generate additional revenues for borrowers, at least in the immediate term – such as those that facilitate ownership of latrines or clean water connections, or pay for school or vocational training tuition - MFIs can pass the low cost of Milaap capital on to clients in the form of lower interest rates. MFIs are also granted the flexibility to offer extended loan terms (within RBI guidelines), or temporary interest moratoriums. In short, loans can be structured in different ways to increase affordability, and thus bolster demand, as well as the ability to pay, among borrowers.

By contrast, loans for solar lighting devices used for livelihood purposes typically do translate into immediate cash flow benefits for borrowers in the form of both fuel savings and additional revenue from increased productivity. In this case, the MFI may elect to apply its standard interest rate and use the extra margin earned to offset any special investments or additional operational costs that are incurred, either up front or on an ongoing basis, for activities such as staff training and product demonstration.

The affordability and flexibility that characterize funding from Milaap are key factors which help limit the risk of field partner participation in new, unfamiliar forms of lending. This advantage can have a powerful ongoing influence not only on an MFI's willingness to engage, but also its ability to experiment, adapt and endure setbacks over time. Low-cost, flexible credit affords an MFI partner time and space to learn and improve, rather than to potentially implode, following inevitable mistakes and short-term challenges. This is a particularly important advantage to consider within the context of the Indian energy microfinance experience, which, historically, has witnessed the launching of a great number of energy pilot programs, but has seen only very few permanent, successful and sustainable initiatives.

Engaged Giving: The Milaap Lending Experience

"We wanted to build a personal connection so that people can understand what small amounts of money can do. When you do that it isn't just giving; it becomes what we call 'engaged giving.'"

– Anoj Viswanathan, Milaap Co-Founder

Milaap.org enables individuals or groups of individuals to channel funds to MFIs that offer credit for both essential service and enterprise-based lending. The experience of online lending through Milaap is designed to be quick and convenient, but also, far more importantly, meaningful and engaging for lenders. Realizing this last goal, Milaap contends, will be the most essential driver of the company's performance and growth in the future. Milaap.org is not merely a mechanism for financial transactions, but is rather a point of contact, or window, through which lenders are able to form a connection with MFIs that serve and impact the lives of very real people. This principal of "engaged giving" is the cornerstone of Milaap's approach. Milaap.org has been developed (and re-developed) to facilitate this experience in a number of different ways.

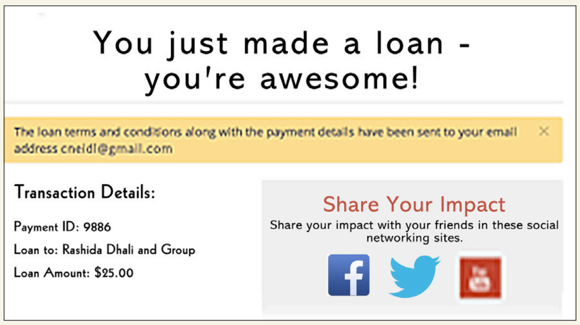
Engagement is built and sustained in a series of stages. First, lenders set up a simple account and profile on the website, for which they provide basic personal details and a short statement that expresses their motivation and interest to contribute. Next, lenders are able to browse and filter borrower profiles on the

Individual Retail Lending: Fast, Convenient and Engaging

1. SELECT

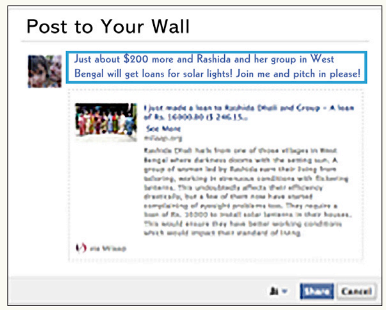
After setting up an account profile, Milaap lenders can browse and filter borrower profiles on the site according to an area of impact (e.g. water, energy, etc.) and other borrower characteristics. Profiles include the names, images and locations of individual or groups of borrowers, the intended purpose of the loan, a one-paragraph borrower summary, and complete loan details (size, term, and amount raised to date).

2. LEND



Using a credit or debit card, lenders can opt to make contributions starting at as little as US$25 towards loans, complete an entire loan, or give any amount in between. 100% of the amount given by the lender goes directly to borrowers since all transaction fees are absorbed by Milaap.

3. SHARE



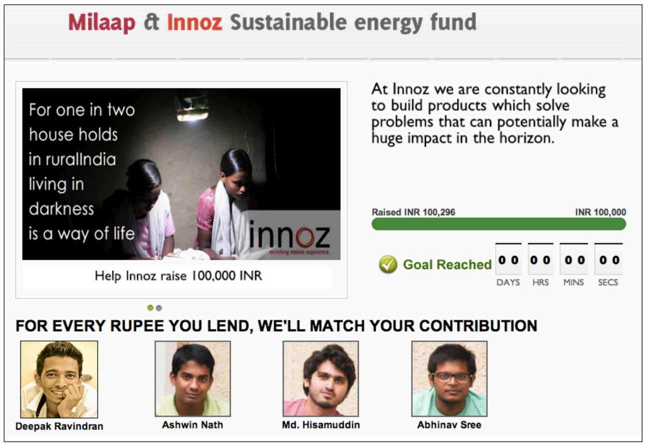
Once a transaction has been processed, lenders are prompted to share their experience and promote their chosen borrowers to a wider network using popular social media platforms such as Facebook and Twitter.

site according to an area of focus (e.g. water, energy, etc.). Other criteria may be repayment period, level of urgency (i.e. how close the loan is to being fully funded), or particular borrower characteristics, such as gender. Profiles include the names and locations of individual or groups of borrowers that are among those seeking loans from MFI field partners, the intended purpose of the loan, a one-paragraph borrower background and goal summary, a photograph of the borrower (or borrowers), and complete loan details, including the size of the loan required, amount raised to date by other lenders towards that requirement, and the loan repayment period and term.

Lenders can opt to make contributions as little as US$25 towards loans, complete an entire loan, or give any amount in between. According to Milaap, creating lender choice, both in terms of borrower selection and level of contribution, is one of the primary principals underlying the engaged giving experience. After selecting a borrower and amount, lenders then make payment using a credit or debit card. 100% of the amount given by the lender goes directly to borrowers since all transaction fees are absorbed by Milaap, and all overhead costs for the company and the MFI partner are recovered through interest on loans to borrowers.

The final stage, repayment, is where Milaap diverges most significantly from many online crowdfunding experiences. Since Milaap.org is not a donation platform, but rather a lending platform, money put into it by lenders returns to them as their loans are repaid by borrowers.

Individual Retail Lending: Fast, Convenient and Engaging



INNOZ'S ENERGY CAMPAIGN: In late 2012, the four founders of the Indian mobile technology startup Innoz carried out a successful energy-focused campaign with Milaap.org. They raised nearly US$2,000 through their networks, and then matched every dollar to double their impact. A portion of the funds raised was channeled to DCBS at the earliest stages of its solar loan program.

This hugely important distinction has major implications for how Milaap attracts, creates value and sets expectations for the crowd, as well as for the total number of borrowers that it is able to reach and impact over time.

Built into the loan repayment process are several important dynamics that directly or indirectly enrich the lender experience and support engagement. The very fact that repayment is, indeed, a process, involving ongoing, consistent interactions between Milaap and lenders, rather than a single encounter, helps foster a relationship between both parties. Repayment also facilitates choice and transparency. While Milaap is designed to appeal to charitable impulses rather than profit motives, it is not the case that lenders operate without any consideration of reward or risk. In this context, rewards are realized to the extent that investments result in positive impacts in the lives of poor people. The possibility that investments do not result in such impacts because they are misused, misappropriated or deployed towards ineffectual programs constitutes a risk.

In a Milaap lending scenario, lenders can reclaim whatever money has been repaid if they are dissatisfied with results for any reason. The repayment cycle doubles as a powerful transparency and feedback mechanism for lenders, creating a window through which risk and reward can be assessed over time. As loan installments are successfully repaid each month, lenders receive regular reminders that they are having an impact. Repayment is also evidence of program efficacy and quality, signifying that Milaap, MFI partners and borrowers are all delivering as advertised.

The most important reward built into the lending and repayment cycle is the capacity that it gives lenders to multiply their impact over time. A lender has the option to either reclaim repaid loans or re-lend the investment to other borrowers. The strong appeal of re-lending rather than reclaiming funds is evidenced by the fact that over 98% of Milaap lenders choose the former option at the completion of the loan cycle. In addition to being an indicator of successful engagement, high retention also has powerful consequences for Milaap's long-term financing power and reach: as capital is lent, rather than spent, it continues to accumulate rather than diminish over time.

Making 'Mini-Milaaps': Democratizing Lending through Campaigns

"We decided to democratize the entire process and open-source the platform so that people can build their own mini-versions of Milaap. And the moment we started doing this, people started running marathons, some started climbing mountains, cycling, baking, dedicating their birthdays, weddings and so on…"

- Anoj Viswanathan[4]

Milaap's approach to retail lending continues to evolve in response to lessons learned, challenges encountered and new opportunities discovered. The most significant shift in the company's approach has involved the ways in which Milaap has come to leverage the passion, creativity and contacts of its most committed lenders.

Initially, the company's promotional and marketing strategy was based on a single, uniform expectation for all current and prospective lenders. Success was measured by how

[4] Excerpted from a presentation given at TEDx ChristUniversity, Bangalore, November 10, 2012. http://www.youtube.com/watch?v=U0bApb7Tbmw

many of the latter engaged in only one type of activity: giving loans, as individuals, through Milaap.org. However, as time passed, Milaap experienced difficulty increasing the overall proportion of funds as a percentage of total intake, that it was able to raise through its online lending platform. The company ultimately discovered how to increase performance by taking cues from some of its most enthusiastic earlier lenders, who began, in greater numbers, to inquire by email how they might be able to do more beyond just lending. Some shared personal stories of how they had managed to convince friends to set up Milaap accounts and make loans. Through these communications, Milaap essentially crowdsourced a whole new strategy for unleashing the potential of its most passionate lenders and, as a consequence, increased the performance of Milaap.org.

CAMPAIGN PIONEER: Roshni Mohapatra, one of Milaap's earliest campaigners, raised almost US$1600 from twelve different lenders in the lead-up to her participation in Singapore's Energizer Night Trail Race in April 2012. The funds have enabled over fifty women to purchase solar lanterns with loans from different MFI field partners.

Milaap now recognizes that the level of appetite and expectation for engagement is not uniform from lender to lender, but rather varies considerably. Instead of offering everyone just one option – i.e. make an individual loan – Milaap.org now aims to empower its most active supporters to take fundraising into their own hands by becoming champions and starting personal campaigns. Through a campaign, individuals and groups engage their own networks to accomplish specific lending goals using a number of different methods. For example, campaigners may request that friends and family make loans through Milaap in lieu of birthday or wedding gifts. Others organize special events such as bake sales, house parties or other get-togethers. Still others may solicit pledges in the lead-up to their participation in a marathon, mountain trek or some other challenging physical activity.

To encourage and facilitate the initiation of campaigns by active lenders, Milaap has added a "Do More" page to its website where visitors can review and register different campaigns.

> *"I wanted to deal first with the challenge of finishing my first marathon, but I figured this was a great opportunity to set another goal, raising funds for a cause that I feel is really important: rural electrification. Milaap made it very easy for me to do that."*
>
> – Chris, Milaap Champion (June 2013)

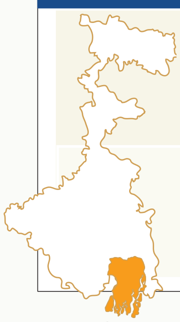
The campaign allows Milaap to reach people who may never have been exposed to the company or its platform if not through the personal connection of a champion. Significantly, these are connections that are established with zero marketing resources deployed by Milaap. At present, Milaap estimates that 60% of crowdfunded loans now occur as a direct result of campaign activities. Milaap CEO Sourabh Sharma explains how campaigns have fueled growth in contributions by leveraging the bonds and trust between a relatively small number of ultra-committed champions and the large number of people who make up their social networks: "It is challenging to build trust and credibility with potential supporters without having years of connection. But people who lend for campaigns do so because there is someone that they know and trust, who clearly trusts Milaap and the organization that is being funded, and who has done his own 'due diligence.' That model of democratizing the process or giving 'power to the people' is working for us."

Field Partner Case Study: DCBS's Solar Loan Program, South 24 Parganas, West Bengal

"Without Milaap we couldn't carry out our energy program right now because we just don't have access to other low cost funds. Banks charge us interest rates as high as 16.75%. But Milaap lets us offer our clients a 9% rate for solar loans, making it very affordable and attractive."

– Animesh Naiya, DCBS Founder and CEO

Context: South 24 Parganas, West Bengal



POPULATION (2011) 8,153,176	53% WITH GRID ELECTRICITY
84% RURAL	37% BELOW THE POVERTY LINE (BPL)

Dhosa Chandaneswar Bratyajana Samity (DCBS) is a small community-based MFI that operates in roughly 200 village communities in West Bengal's South 24 Parganas District. Founded ten years ago, the organization today maintains an active client base of nearly 8,000 women borrowers, the vast majority of whom either work from home as independent saree embroiderers or are engaged in small-scale agriculture or retail for their principal livelihoods.

In December 2012, with a line of credit from Milaap, DCBS began promoting a new solar lantern loan product to existing borrowers. Small but important changes to the way the bank interacted with its clients followed. These changes, while seemingly minor from an operational perspective, signaled the beginning of a major shift in the way DCBS defines its social mission and how it aims to impact the lives of its clients. Flexible, low-cost capital from Milaap enabled the energy program to launch and move forward, and has allowed DCBS to overcome early barriers, learn from mistakes and implement new strategies that have ultimately led to greater success.

DCBS chose to pursue energy lending with Milaap based on its own analysis of the livelihood and household needs of its clients. A significant percentage of active borrowers are grid-connected, but service is very limited and highly irregular, with frequent extended outages lasting several hours a day. Kerosene and candles are widely used as backup sources, but poor light quality and indoor air pollution make these alternatives unattractive.

Starting in late December, DCBS staff began demonstrating a small portable solar charging device called the *Sun King Pro*™ to existing borrowers while they were visiting branches to collect new loans. Manufactured by Greenlight Planet, a Mumbai-based design firm, the device produces a clear, smoke-free light that is ten times brighter than the common kerosene wick lamp used by virtually all DCBS clients. Borrowers were also shown how the device is also capable of charging mobile phones. Following the demonstration, clients were informed that DCBS members would now be eligible to purchase the product on credit directly from the bank with a new low-cost, 12-month loan.[5]

[5] The total loan amount (principal + interest) is Rs. 1750 (US$32). DCBS applies a 9%, declining interest rate. The institution is able to offer such a low rate partially because of the margin that it earns on the sale of the Sun King Pro product itself, and because solar loans are offered concurrently with IGA loans, thus offsetting any additional operational costs that would be generated with the repayment process.

BOX 2. TECHNOLOGY

Greenlight Planet Sun King™ Pro

SERVICES:
LIGHTING, MOBILE PHONE CHARGING

COMPONENTS:
2.5W PHOTOVOLTAIC PANEL

1W LED

1450 MAH LITHIUM FERRO-PHOSPHATE (LFP) BATTERY (5-YEAR LIFE-CYCLE)

LUMENS:
BED LIGHT MODE: 20 LUMENS
NORMAL MODE: 40 LUMENS
TURBO MODE: 100 LUMENS

PRODUCT LIFESPAN:
5 YEARS

DESCRIPTION:
The Sun King Pro is a portable, multi-purpose solar power device used for both task and space lighting and mobile phone charging. A built-in LCD screen indicates charging effectiveness on a scale of 1 to 5 during charging periods to optimize panel placement, and during use displays the number of hours of light remaining in any of three power modes. The device is equipped with a universal, 5-volt power output port and six phone adaptors, enabling users to charge nearly any mobile phone day or night. A microprocessor–based active charge controller prevents over-charging or deep discharge of battery. Smart battery management technology automatically switches out of high power modes when battery is running low, giving users 5 additional hours of low power light.

DCBS management projected that the superior, reliable light output of the *Sun King Pro*™ would directly increase the productivity, and therefore income, of a large segment of its client base (most significantly, embroiderers and shopkeepers). But it also predicted that other potential benefits not directly related to livelihood would also drive demand more broadly; namely, increased savings from kerosene displacement, better studying conditions for school-age children, and greater convenience and safety in carrying out a variety of day-to-day chores and activities.

However, after DCBS first introduced the new solar loan, initial conversion rates remained low. Undeterred and confident that latent demand for the product was high, the organization changed its strategy and began to pursue a more proactive, client-centered promotional campaign. Starting in March, credit officers, who interact most regularly with clients, were trained to demonstrate the basic functionality and advantages of the product. This enabled primary outreach and education to expand outward from low-traffic branches to weekly center meetings and, eventually, nighttime events for the community at large. With decentralization, considerably larger numbers of clients were now being exposed to the product each month. By the end of June, field staff had carried out over one hundred demonstrations for roughly two thousand people.

At the same time, DCBS continued to refine not only its operational approach for promoting the *Sun King Pro*™, but also how it communicates product value to its members. The message shifted from an emphasis on general functions (lighting and mobile charging) to more context-specific illustrations of how the product would enable or enhance day-to-day work and domestic activities that are most important and relevant to members, and how adoption would translate into increased savings, productivity, safety and comfort.

> *"After buying the solar light my work has increased and so have my profits. Now I make between Rs. 400 and Rs. 500 more than before. Earlier, when the children used to study, I gave them the kerosene lamp and had to sit beside them, since there was a chance of it catching fire if they fell asleep. Now I no longer have to worry."*
>
> – Gajra, Embroiderer,
> DCBS client and *Sun King Pro*™ owner

A DCBS client becomes the proud owner of a Sun King Pro at a branch office near Jaynagar, South 24 Parganas, West Bengal.

DCBS's modified approach to outreach and demonstration, along with growing word-of-mouth communication between members, began to yield dramatic results early in the monsoon season when loan disbursals for the *Sun King Pro™*, rapidly multiplied. During the entire prior six-month period (January to June), a modest total of 419 borrowers had received solar loans. In the month of July alone, that total nearly doubled when 369 new applications were approved. When 550 additional loans were disbursed in August, it became increasingly apparent that the new program had likely turned a corner and was beginning to take off. With the *Diwali* holiday season approaching, DCBS can project that this trend will continue, and conservatively estimate that total penetration across the client base will surpass 25% by the end of 2013.

In addition to increased penetration, two additional indicators of the program's viability have become evident with time, and, if sustained, may ultimately prove more significant to its long-term viability. First, as of August 2013, monthly repayment rates for solar loans stood at 100% – a figure slightly higher than that of DCBS's conventional income-generating loans (98%). Second, clients and field staff had not reported a single product malfunction since the new loan was introduced in January. Rapid portfolio growth and high penetration certainly go a long way toward validating energy lending as a potentially commercially attractive practice for MFIs. However, the possibility of low demand for solar products is rarely the primary issue preventing MFIs from embracing lending. Far more important are concerns related to the risks of premature energy product failure, and client inability or unwillingness to repay loans.

Therefore, though still early, strong energy product performance and high loan repayment observed by DCBS are encouraging outcomes. If these indicators continue to hold as the program grows, Milaap and DCBS will have garnered powerful evidence that lending for such products, provided that the right operational model is in place, represents a safe, low-risk and high-impact practice.

Solar lighting enables a family of embroiderers to continue working uninterrupted during power outages, without the need for kerosene.

Closing: Lessons Learned

1. Engaging with the right field MFI partners is key

From the very beginning, Milaap has followed a rigorous approach to selecting its MFI field partners. Making sure to recruit institutions that can demonstrate a strong capability and commitment to executing quality lending initiatives, the company conducts extensive due diligence and field visits that can last several weeks or even months before formally engaging in partnerships. Without such stringent policies in place, Milaap might have formed additional partnerships and reached more borrowers than it has to date, but it would have done so at the risk of jeopardizing program quality and betraying the trust of its growing lender base. Milaap's unwillingness to compromise in this regard is an important reason why it continues to see repayment rates from borrowers at close to 100%.

2. Access to credit does not by itself ensure energy microfinance success

Access to the type of inexpensive, flexible credit that Milaap provides is a necessary but insufficient precondition for energy microfinance success. Depending on the nature of a microfinance institution's specific program, participation in energy lending often requires modifications and augmentations to existing operational practices that range from minor to substantial. MFIs must also develop an accurate understanding of the specific energy needs of their clients through market research and the ability to identify quality energy solutions and providers that match those needs. Few MFIs focused on IGA-based lending possess such understanding and many are unaware of the operational changes that are required to support successful programs. Milaap's core mission and competency is raising capital for MFIs, not capacity building.

To help overcome this gap, in 2012 the company began its collaboration with Arc Finance. Arc specializes in providing business development support for MFIs that seek to engage with the energy sector. At present, Arc is providing ongoing direct consultation for all three of Milaap's energy lending sub-partners, including DCBS. Arc has also committed a US$100,000 fund for Milaap's energy lending portfolio, which the company is matching through its online lending activities. Arc provides both technical assistance and funding under the auspices of the Renewable Energy Microfinance and Microenergy Program (REMMP), an initiative supported by the United States Agency for International Development (USAID).

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CONTACT
Milaap

WEB
HTTP://WWW.MILAAP.ORG

EMAIL
INFO@MILAAP.ORG

arcfinance

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CONTACT
Arc Finance

WEB
HTTP://ARCFINANCE.ORG

EMAIL
INFO@ARCFINANCE.ORG