The ACP-EU Energy Facility

Improving access of energy services for the poor in rural and peri-urban areas





Thematic Fiche

Thematic Fiche no. 3

Microcredit - a tool to improve access to modern energy

In development work, microcredit has become the buzzword and advocates of microcredit often perceive it as a panacea for poverty reduction. However, experiences show that using microcredit as a tool for development can be challenging and often more complicated than perceived in the design of a project. In the following, experiences of the projects financed under the ACP-EU Energy Facility Programme will be presented. At first the background for linking micro credit and energy will be given, followed by a presentation of successes, challenges and lessons learnt by the projects.

Modern Energy as a Foundation for Development

Estimates are that 1.4 billion people in the world have no access to electricity. In Sub-Saharan Africa the Electrification Rate is the lowest level in the world. At

present, the overall rate is 31%, in rural areas only 14%¹, and the percentage of people relying on traditional energy sources is a high as 80%². Having no access to energy seriously hinders people's opportunity to take part in development.

Access to modern energy has the potential for greatly improving peoples' livelihoods. By itself, energy is of little

Some positive effects of access to energy

- Modern cooking fuels and stoves
- Lighting for home/business
- o Better air quality indoors
- Pumped water
- Telecommunications
- Agricultural processing

¹ http://www.worldenergyoutlook.org/electricity.asp

² "Energy Poverty: How to make modern energy access universal?" p. 7, at http://www.worldenergyoutlook.org/universal.asp

importance to most people but the benefits of it are central to practically all aspects of people's lives. For example, shopkeepers can earn extra income by charging mobile telephone batteries, selling cold drinks and staying open late. It is also possible to pump water so farmers can better irrigate land and produce saleable crops. Access to energy is, therefore, not an end in itself but, rather, a foundation for development.

Microcredit - a tool to Improve Livelihood

According to its basic definition, microcredit involves provision of small loans and other financial services (such as savings accounts, cash advance, insurance) to poor people, who do not qualify for formal credit as they have no credit history or collateral. Microcredit allows them to pursue income generating activities that can generate extra income and thereby help them to better provide for themselves and their families³.

As everyone else, people living in poverty need access to a range of financial services to optimize their opportunities such as run businesses, build assets, stabilize consumption and protect themselves against crises. By making microcredit accessible also to the poor it allows them to plan for the future and move away from poverty by increasing earnings and savings and thereby reducing vulnerability.

The key objectives for microcredit are to:

- 1) provide small loans and thereby improve loan conditions for poor people, who have traditionally borrowed from informal lending services such as money lenders, pawn shops, friends and relatives;
- reach those who cannot borrow through traditional banks because they do not have credit history or collateral;
- 3) improve employment opportunities through income-generating activities; and
- 4) reduce poverty and improve living condition in a sustainable manner.

What are the Principles behind Microcredit?

Although microcredit is often referred to randomly different kinds of microcredit are offered. Originally the focus was mainly on poverty reduction and changing conditions for livelihood. However, this has gradually shifted as the need of poor people has broadened to also include other financial services such as savings, deposit facilities, insurance etc. As a part of this the focus of microcredit provision has changed from 'development as charity' to 'development as business' and micro credit is to a larger extent provided through commercial banks instead of Non-Governmental Organisations, as originally.

Despite the different kinds of microcredit providers the principles behind are common: They

_

http://www.microcreditsummit.org/about/what_is_microcredit/

- 1) offer flexible financial services targeted on poor people (e.g. repayment intervals and payback period);
- 2) align operations and reduce costs (decentralize loan approval, use inexpensive offices and staff from local communities, simplify loan appraisal and approval process);
- 3) operate on a market basis charging market interest rates and fees; and
- 4) aim at recovering the costs of the loan.

Table 1 - Overview of different kinds of microcredit

Туре	Characteristics	Model for Lending		
Traditional informal microcredit (money lenders, pawn shops, friends and relatives)	 Considerable market knowledge; Lower transaction costs Monitor reliability of borrower easily due to proximity and knowledge of social status Primarily provide consumer loans to cope with crisis 	Individual		
Туре	Characteristics	Model for Lending		
Traditional informal groups (Tontine, ROSCA).	Tontine: - Kind of life insurance - Members give a sum of money to the tontine and receive an annual dividend on the investment - Shares are reallocated to other members if one dies Rotating Savings and Credit Association (ROSCA) - Members agree to meet for a specific period to save and borrow money from a common "pot". - Variation of consumer credit	Group		
Traditional banks	Generally specialised in specific sectors, e.g. agricultural, livestock credit, fisheries etc.	Individual		
Specialized banks	Offer cooperative microcredit and rural credit	Individual or group		
Modern microcredit (Grameen credit, bank-NGOs partnership)	 Specialised in low-income clients with no collateral, credit history or formal employment; Primarily loan for entrepreneurial activities; to cope with crisis; or stabilize consumption 	Individual or group: - Individual serves less poor clients; - require collateral and pledges of title to land or other property Popular group models: Village Banking: - Informal self-help groups of 20-30 members;		

- first loan comes from e.g. an NGO. Following deposits come from individual savings amounts
- provide members with loans;
- members are jointly liable

Solidarity groups:

- groups consist of 3-7 members
- members provide collateral through a group repayment pledge;
- disbursements and repayments is regimented;
- 2 participants take their loans and begin repayment, then 2 more can take loan and so on;
- members are jointly liable

How Microcredit can be a Tool to Improve Access to Energy

In many developing countries energy services are often unreliable and of poor quality, if at all available. There are ready cash markets but consumers often do not invest in new energy sources because of intermittent or seasonal income flows. The often high upfront cost associated with modern energy technologies is a challenge to poor people that are not accustomed to saving. This underscores the relevance of making energy available to poor households and enterprises and is also an indication of the ability of energy consumers to pay for modern energy services. Therefore, Micro Finance Institutions (MFIs) can expand access to energy for poor clients by offering loans for energy technologies. Over the last 20 years, microcredit has played

an important role in enhancing the economic opportunities available to poor people but the experience to date with loans for energy services technologies is limited. and Appropriately designed loans can improve poor people's ability to afford, and take advantage of, the many benefits of modern energy services. This will also motivate local energy companies to branch out into new markets and provide liable energy service to poor and rural people.

Still attention must be paid to the fact that microcredit initiatives have

Why should Microcredit be a tool for financing modern energy technologies?

- It provides credit for investment in smallscale activities (for energy access systems and self-employment) chosen by the poor themselves;
- 2. Microcredit can pay for itself with the interests earned:
- It gives trust to the poor that they have opportunities and can change their livelihood to the better; and
- Microcredit can be expanded endlessly to underserved people with no access to funds or savings for modern energy technologies.

shown a number of limitations. Microcredit plans should be carefully set up taking into account previous experiences and lessons learnt otherwise they may not reach

their objectives. In the following we will use case studies to examine experiences and lessons learnt under the ACP-EU Energy Facility.

Experiences with Microcredit Provision under the ACP-EU Energy Facility

Under the ACP-EU Energy Facility programme a number of projects have included microcredit as a component to improve access to modern energy. The approaches they use are diverse ranging from simply facilitating linkage between loan takers and MFIs to actually providing credit, loan guarantees as well as subsidies themselves. The goal is to facilitate access to financial resources, which are needed for the upfront payments when acquiring modern energy sources.

Examining the experiences of these projects, questionnaires have been sent to 13 projects financed under the ACP-EU Energy Facility programme, all focusing on microcredit or provision of other financial support. Out of the 13 projects, 9 projects responded. The questions related to the following;

- Type of microcredit agent used and target group;
- Maximum/minimum/average size of loans;
- Average interest rate and other costs applied to microcredit;
- o Required collateral and average payback period;
- Type of energy services the loans are taken for;
- o No. of loan applications in process/declined/accepted; and
- Successes/challenges/lessons learnt;

Overall the target groups can be categorized into two groups, namely households/community groups; and enterprises. The loans are typically for:

- Purchase of energy equipment: lighting kits; freezers; charcoal burners; bio fuel processing equipment, stoves, chimneys for charcoal burning;
- Purchase of energy technology: biogas plant; solar home systems;
- Rehabilitation of existing hydro power plant turbine, generator and upgrading of power house;
- Establishment of new energy enterprises:
- Promotion of ceramic stoves.

Looking into the successes, the projects report the following when using microcredit as a tool to improve access to modern energy;

- Uptake of modern energy technologies has been reported after linkages to MFIs have been established and increasing numbers of households and enterprises have been approved for microcredit loans;
- Business environment for energy supplying enterprises has improved with customers' ability to purchase new energy sources. Increasing demand and timely payment allow for long term planning of the enterprises and expansion of business areas:

- MFIs are willing to provide loans for modern energy technologies after awareness raising on technologies and its use;
- With access to modern energy technologies, enterprises have been able to use electrical tools and thereby produce better quality products, which are sold at a higher price;
- Enterprises have established credit history and have been able to increase business as a result as they are better able to plan long term;
- Available MFIs have been identified and linkages created to potential loan takers; and
- Loan takers are experiencing improvement in small scale business opportunities since provision of credit for energy technologies and an increased income as a result.



Figure 1 – Successes in provision of micro credit to energy projects

Turning to look at the challenges that the Energy Facility projects experience in relation to the provision of micro-credit to energy projects, we notice a number of common challenges:

Common challenges

- Identifying MFIs operating on the basis of microcredit principles
- Finding credit products suited for funding of modern energy technologies
- Limited knowledge of modern energy technologies among MFI personnel
- Loan takers have never taken up a loan before
- Loan takers spend money on other things than it was earmarked for
- Pay back capacity and moral among loan takers is poor
- Low quality product and energy providing enterprises not able to ensure appropriate maintenance

Examining these challenges four key issues appear:

First of all, identifying suitable MFIs has been a challenge for some of the projects as many products do **not fully adhere to the principles for providing microcredit** (as described on page 3) and are more in line with traditional lending. Lengthy and complicated loan procedures make it difficult for poor people to access loans. For many it is their first experience with financial institutions. Furthermore, relatively high interest rates keep them from taking loans as they are not affordable and repayment will become a burden. This should be seen in connection with the fact that the loan conditions are rigid and do not provide the necessary flexibility for poor people in terms of repayment periods and pay back periods.

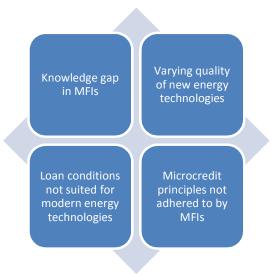
Secondly, **loan conditions are not suited for modern energy technologies.** Few MFIs offer credit products that are specifically targeted to modern energy technologies, which are characterized by high initial costs and benefits and savings that accrue over time. Often the offered credit products are conventional business or consumer loans, where the repayment conditions are not well suited to the payback period for these energy technologies, e.g. one project reports about weekly repayments, which does not allow time for realising savings.

The above mentioned challenges are to some extent due to the fact that there is **little knowledge of modern energy technology in MFIs.** In order to design suited credit products at affordable and attractive terms loan officers require technical training. Furthermore, they need to learn how to identify entrepreneurs they can fund and how to appreciate various funding activities and opportunities. At present, the MFIs have difficulties selling credit products to potential customers as they lack the technical understanding and hence must rely on NGOs to create links to potential loan takers.

Furthermore, it has been a challenge to ensure the **quality of new energy technologies**. Energy Supplying Companies play a key role in guaranteeing the quality of the products so the energy production in fact adheres to the estimations. Moreover, End Users are also responsible for correct use and maintenance of the technologies. Ensuring both has proven a challenge although it is imperative for

securing savings from substituting traditional energy sources with modern energy sources to pay back loans.

Figure 2 – Four key issues which form challenges in the provision of micro-credit to energy projects



The following table provides an overview of the loan conditions offered by the various MFIs involved in provision of credit under the ACP-EU Energy Facility. The table does not provide the full picture as some projects do not have available information on interest rates, payback period, collateral etc. However, key is that although focus is often on reducing interest rates, evenly important is payback period, request for collateral as well as other costs applied to the loans. These conditions are often not transparent and can become a burden for the loan takers.

Table 2 - Overview of loan conditions for microcredit

Purpose of Loan	Average Ioan size, EUR	Min/max Ioan size, EUR	Interest Rate, month	Other costs applied	Collateral	Average payback period, month	Credit Agent
SETUP - Services E	nergetiques et T	echniques à Usa	ge Productif au	Bénin, Contract no. 2	007/196-11		
Solar energy; Bio fuel processing equipment	1524	762-15,245	2%	Opening of account & management	Groups: mutual accountability Individuals: sponsorship or real estate	6-24	NGO & MFI
HydroBioPower - Ii Regional States of				aborative development	of renewable energy sources in Ord	omia and Southern Na	ations
Biogas production equipment	20	10-30	15%, yearly	3% service charge per year	Advance Guarantee of 90%*	-	Gov. MFI
Up scaling the sma	ller biogas Plants	s for agricultural	producers and	processors, Kenya, Co	ontract no. 2007/195-982		
Biogas production equipment	Equity Bank: 246	-	K-Rep Bank 16,5%, yearly	-	K-Rep: Upfront contribution of 20%; Only for groups Equity Bank: credit life insurance of 0,325%/yr; 20% upfront contribution	K-Rep: 18 Equity: 24	MFIs
Msamala sustainab	le Energy Projec	t, Malawi, Contra	ct no. 2007/196-	002			
Enterprises: stoves;	50	25-485	4	No	Group Guarantee	4	MFI
Projet d'électrificati	Projet d'électrification rurale dans le Brakna, Mauritania, Contract no. 2007/196-003						
Lighting kits Freezers	Lighting kits: 75 Freezer 390	Lighting kits: 75 Freezer 390	Lighting kit 2% Freezer: 1,5%	No	Lighting kits: Solidarity groups of 5 persons Freezers: The freezer itself	Lighting kits: 12 Freezer: 18	MFI
Community assisted Access Sustainable Energy in Rwanda (CASE-RWANDA), 9 ACP RPR 49-02, Contract no. 2007/195-975							
Stoves, technical equipment	MFI: 673 Voluntary Saving and Loan Groups: 8	8-673			MFI give group loans. The group distributes it to members based on their requests		MFI, Voluntary Saving and Loan Groups

Purpose of Loan	Average Ioan size, EUR	Min/max Ioan size, EUR	Interest Rate, month	Other costs applied	Collateral	Average payback period, month	Credit Agent
Providing access to	o modern energy	for northern Uga	nda (PAMENU)	, 9 ACP RPR 49-11, Co	ntract no. 2007/195-984		
Solar Home Systems (20 Wp) SMEs (lighting shops, phone charging, barber shop and video/DSTV halls)	142	MFI: 57-2,857 SACCO: 28-857	MFI: 2.5% SACCO: 3%	Loan application fee SACCO: 0,89 MFI :1,48	Group loan or if individual: movable assets (household property and livestock); Land (dependent on size of loan); Houses; Stock in the business	8-36	MFI, SACCO
Catalysing modern energy service delivery to marginal communities in Southern Africa, Malawi, Mozambique, Zimbabwe, Contract no. 2007/195-951							
Turbine, generator and upgrading of powerhouse	7,000	7,000	0%	No	Loan taker must own the power house	25	NGO

^{*}not being used as the requirements are too strict

Project approaches to micro credit provision

As demonstrated above, provision of microcredit as a tool to facilitate access to modern energy is a complicated matter still with many pitfalls. To avoid or accommodate for some of these challenges some projects have applied the following approaches to credit provision.

Financial Scheme: Microcredit through MFIs and Savings and Credit Cooperatives (SACCOs)

Project: Providing Access to Modern Energy in Northern Uganda (PAMENU),

C 2007/195-984

Location: Uganda

Overall Objective: Poverty reduction and improvement of quality of life in rural areas of Northern Uganda. Specific Objective: Provide access to modern energy services ("energy packages") for rural households, social institutions as well as SMEs.



The project is cooperating with two MFIs and several SACCOs as well as four solar companies. Emphasis has been paid to building a relation between the financial institutions and solar dealers. This model is intended to encourage lending by financial institutions to households and small and medium energy enterprises that are interested in investing in solar home systems. It is expected the willingness of MFIs to provide cost intensive loans for solar PV will increase when the quality of the technology is guaranteed by reliable companies. In addition the project has paid attention to training personnel in the financial institutions in solar PV technology and solar marketing to ensure their technical capacities and ability to explain technologies to potential loan takers.

Financial Scheme: Subsidies followed by microcredit

Project: Up scaling the Smaller Biogas Plants for Agricultural Producers and Processors, C-2007/195-982

Location: Kenya

Overall Objective: 1) Additional options for appropriate energy supply are available in rural areas and 2) A framework for sustainable dissemination of biogas technology is established. Specific objective: Small to medium rural livestock farmers, pastoralists and other beneficiaries have improved their living conditions and adequate supply of energy through use of Biogas technology.

The project provides a subsidy of 24% of the total costs for small size biogas plants (8 - 32m³). This was introduced as adoption of biogas plants was low in the initial stage due to the fact that benefits and profitability of these had not been clearly understood. As a result of this farmers were reluctant to obtain loans. The subsidy helped to install confidence in biogas plants since the farmers knew the financial



performance would be guaranteed with project funds being part of the investments. This model is not intended as a standalone solution as the involvement of MFIs is key to ensuring continued demand for biogas plants. Therefore, the project has also conducted sensitization workshops for financial institutions on the viability for providing microcredit to biogas.

Financial Scheme: Loan guarantees linked with microcredit

Project: Developing energy enterprises project East Africa, C-2007/195-993

Location: Kenya

Overall Objectives: 1) Increase the availability of sustainable, affordable and appropriate energy services to those unserved or underserved in rural and peri-urban areas of Kenya, Tanzania and Uganda; and 2) increase the availability of employment opportunities in rural and peri-urban areas. Specific objective: Enable the development of a sustainable and widespread industry of micro and small energy enterprises providing rural and peri-urban energy services and employment in Kenya, Tanzania and Uganda



This project has established a loan guarantee scheme, which is intended to encourage lending by MFIs to small and medium energy enterprises. With the loan guarantee that is given, MFIs are expected to provide favorable conditions such as a lower interest rate and longer pay back period. While the sustainability of this scheme is not ensured it has the advantage that MFIs build up their confidence in relation to energy lending.

Financial Scheme: Voluntary Saving and Loans Groups linked with microcredit

Project: Community Assisted Access Sustainable Energy in Rwanda, C-2007/195-

975

Location: Rwanda

Overall Objective: 1) Improve access to modern and affordable energy services and sources for poor rural and peri-urban households in Southern Rwanda while ensuring environmental sustainability; and 2) improve the social and economic well being of the target groups by providing them with opportunity to engage in income-generating

activities related to affordable energy services. Specific Objective: Reduce by 50% the gap between biomass energy supply and demand for 24,000 poor rural and periurban households in the districts of Nyamagabe, Nyaruguru, Gisagara and Huye by the year 2010.



The financial scheme used combines Voluntary Saving and Loans Groups (VSLGs) with microcredit provision through MFIs. In this model, linkage is created to MFIs so they can fund Income Generating Activities as well as project proposals. However, realisation of the fact that MFIs have become commercial banks, small loans are also obtained through the VSLGs by its members. In these cases a group bank loan is taken and the group distributes it to members based on their requests.

Lessons Learnt and Recommendations

On the basis of the experiences reported by the projects it is evident that a knowledge gap exists between MFIs and loan takers that could be addressed through capacity building and piloting of new credit products and models for energy lending. As microcredit loans are most often provided directly through MFIs key is to bring awareness to the MFIs on modern energy technologies so they have basic knowledge of modern energy technologies and better understand its potential and can adapt the credit products accordingly. Building awareness of loan takers should also be a key consideration so they get an understanding of conditions and procedures and demand affordable loans. Only this way can MFIs provide financial services which are flexible and recognize the varying requirements of poor.

Projects must play a part in initiating and facilitating this process. Experiences of the projects under the ACP-EU Energy Facility Programme indicate that it is not enough simply to establish contact to MFI and create a link to potential loan takers. The findings from the submitted questionnaires suggest that while the projects pay close attention to awareness raising of potential loan takers, training and awareness raising of MFIs is typically ad hoc and no systematic approach is used.

Possible ways of improving the process could be to establish a hotline that MFIs can contact if they need additional technical information; or engage a facilitator (individual or NGO) to train, inform and advise MFIs, potential loan takers as well as Energy Supply Companies to bridge the knowledge gap between stakeholders. To ensure the sustainability of the structure the responsibility should, in time, be taken over by an Energy Supply Company which can provide the necessary technical advice.

Table 2 - Conditions to be considered – microcredit as a tool to improve access to modern energy

Conditions	Concept	Project applications
Access	Credit should be available to all members of the target group	Identify MFIs that propose loans suited for energy technologies
Affordability	Access to microcredit should be affordable to the target group – interest rates, repayments and payback period	A key consideration should be that services do not increase the expenses of the households or become a burden due to rigid conditions. Some projects, thus, support with subsidies, offer loan guarantees or create Voluntary Saving and Loans Groups
Awareness/ Understanding	Sufficient awareness raising of loan officers/loan takers provides the platform for credit solutions suited to modern energy technologies	Awareness raising activities should be included in the project design as this is the basis for establishing self-driven supply and demand
Proper Training	Proper training of loan officers/ loan takers improves the potential for sustainability	Specific budget lines for training of officers (adapt credit models, identify potential loan takers) as well as loan takers (conditions & business plans) should be included
Productive Use	Information on the productive use of energy can be an important plus for an energy microcredit programme	Inform loan takers and MFIs of the positive benefits of lending for energy purposes that are used for income generating activities: Loan takers can secure finances not only from energy savings but also from income generation and MFIs have better security for repayment.
Suited Credit Models	Credit models suited to modern energy technologies are required to ensure an uptake in acquisition and profitability.	Train MFIs personnel and assist with development of credit schemes to ensure there is access to suitable financing*
Well Informed Demand	Loan Takers should be able to make well informed demands for credit products	Loan takers' understanding of terms and conditions must be a key consideration so they understand the risk and potential of loan taking and can demand better terms

^{*} To facilitate the process of adapting credit models for modern energy technologies, it is advisable to create a Tool Box, which can be used as training material for MFIs. The Tool Box should contain different parameters to be considered by the MFIs as well as examples of adaption, e.g. eligibility of loan takers, loan approval, credit size, loan processing time, cash transfer or handover of technology, interest rates, repayment period and loan collection. As introduction for discussions the Tool Box should also include examples of various credit packages suited for different energy technologies.

Useful links

- 1. Introduction to the European Commission's approach to microcredit http://ec.europa.eu/europeaid/what/economicsupport/microfinance/index en.htm
- 2. Information on ACP-EU Microfinance Programme http://ec.europa.eu/europeaid/where/acp/regionalcooperation/microfinance/index en.htm
- 3. A comprehensive portal on microcredit with lists of publications, events and much more
 - http://www.microfinancegateway.org
- 4. Research on energy and development http://www.worldenergyoutlook.org/development.asp
- 5. Website on the Microcredit Summit Campaign
- 6. http://www.microcreditsummit.org/ and a short introduction to microcredit:
- 7. www.microcreditsummit.org/about/what is microcredit
- 8. End-user finance: A guide for sustainable energy enterprises and NGOs http://www.ashdenawards.org/files/pdfs/reports/Enduser finance guide.pdf
- 9. Report on Sustainable Energy Finance http://www.uneptie.org/energy/finance/documents/pdf/EnergyFinanceBrochur e.pdf

Thematic Fiche No. 3: "Microcredit - a tool to improve access to modern energy"

European Union Energy Initiative (EUEI)

http://www.euei.net

ACP-EU Energy Facility

E-mail: EuropeAid-Energy-facility@ec.europa.eu http://ec.europa.eu/europeaid/energy-facility

Monitoring of the ACP-EU Energy Facility - 1st Call for Proposals

http://www.energyfacilitymonitoring.eu

E-mail: acp eu energy facility@danishmanagement.dk

Use of part of or all the text is authorised provided the source is mentioned. Neither the European Commission nor any person acting on behalf of the European Commission is responsible for the use which may be made of the enclosed information.

Legal Disclaimer:

This publication has been produced with the assistance of the European Union. The contents of this publication are the sole responsibility of Danish energy Management and can in no way be taken to reflect the views of the European Union..

Technical assistance by



잆 Danish Energy Management



