

eMFp/University Meets Microfinance
2012:
How can microfinance contribute to
fight energy poverty?

Green micro-finance: research issues and policy challenges

Bernd Balkenhol
University of Geneva
Bernd.Balkenhol@unige.ch

«Household-enterprise»

Life cycle events

Emergencies

Opportunities

Micro-finance: consequences of the «double bottom line»

«Social»
performance

Millenium
Development Goals

Micro-finance
«adjacencies»

Impact investing

Microfinance and the Millennium Development Goals (MDGs)

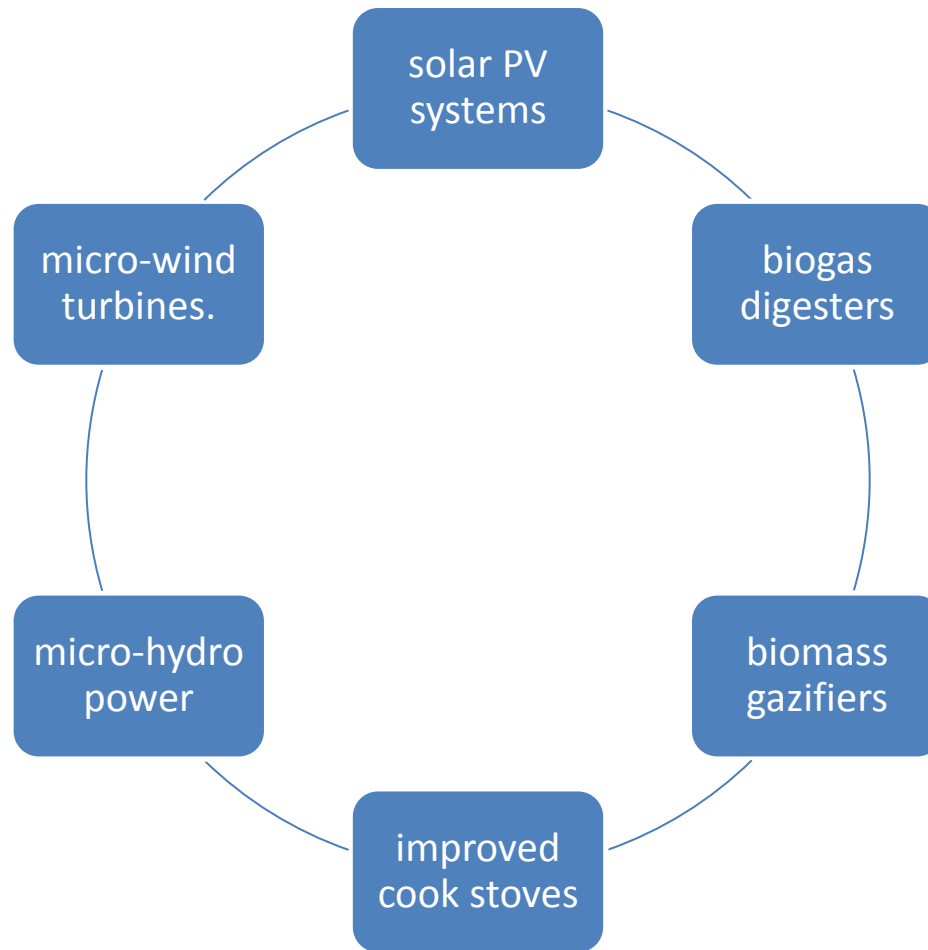
MDG “Eradicate extreme poverty and hunger”: micro-loans to reduce vulnerability in case of emergencies, to seize opportunities and manage life cycle events.

MDG “Achieve universal education”: finance to manage the expenses related to life cycle events.

MDG “Promote gender equality and women’s empowerment”: micro-finance enhances women’s contribution to household income, the value of their assets, and control over financial decisions.

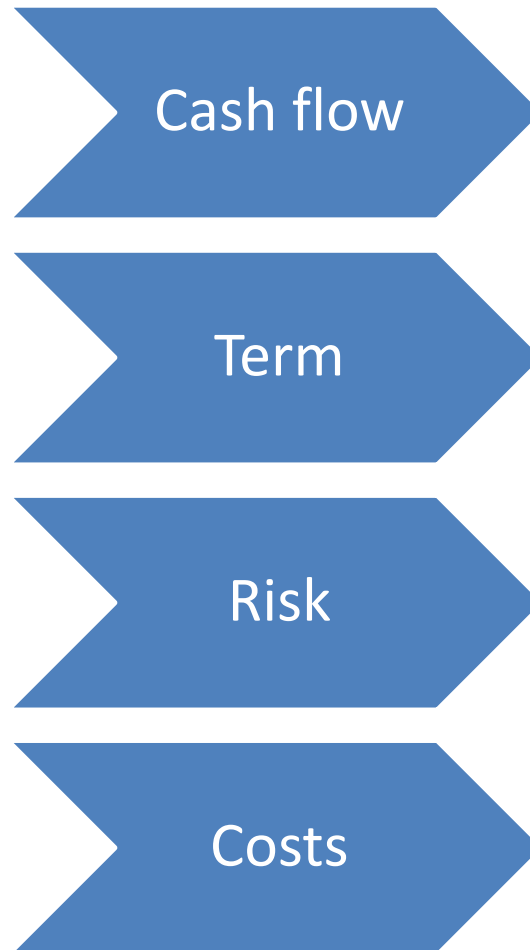
MDG “Reduce child mortality, improve maternal health, and combat disease”: emergency loans

Green micro-loans



RE Sources	RE Technologies/ Devices	HH	Community	Industry
Biomass	livestock biodigester	✓	✓	✓
	HH biodigester	✓		
	other waste biodigester		✓	✓
	improved cook stove	✓		
	biomass gasifier		✓	✓
Hydro	micro-hydro power		✓	✓
	pico-hydro power	✓		
Solar	solar pv lantern	✓		
	solar home system	✓		
	solar heating system	✓		
	solar irrigation pump		✓	
	solar dryer,cold storage		✓	✓
Wind	Micro-wind turbine		✓	✓

Green micro-loans as financial products



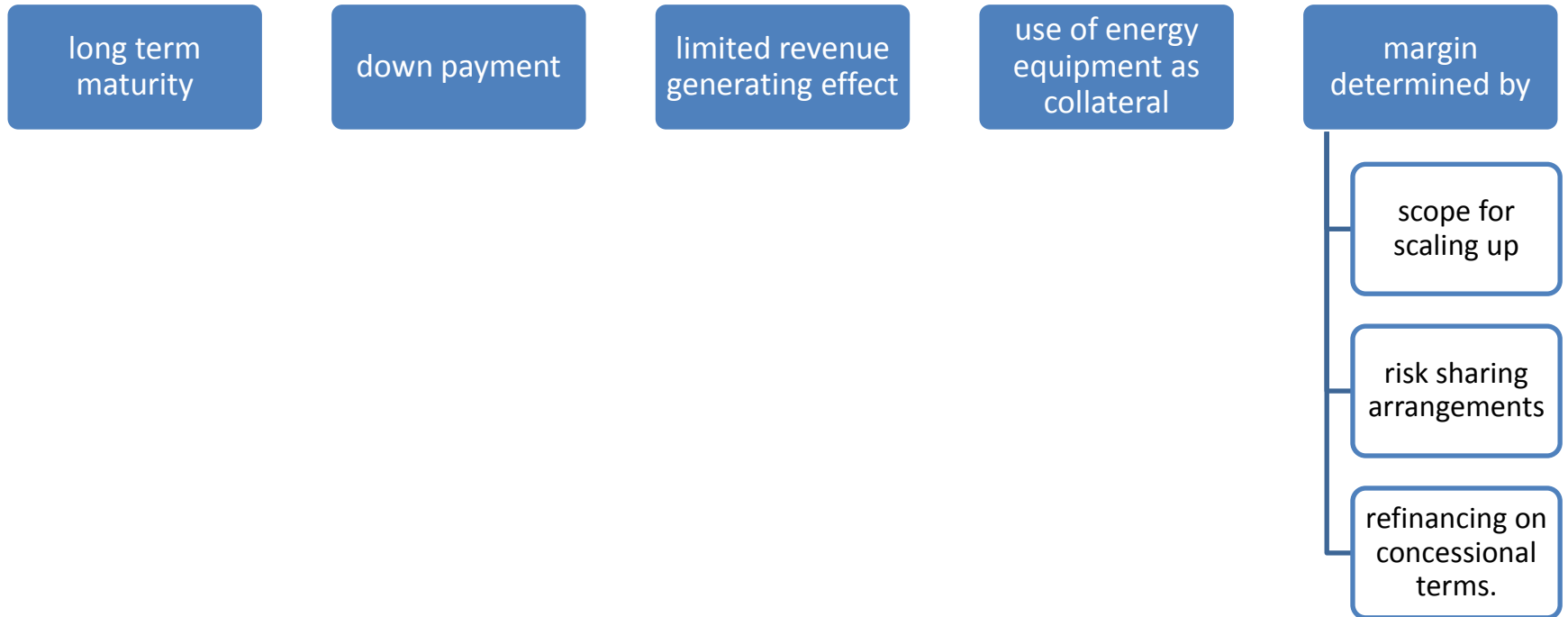
Green micro-loans: demand issues

Affordability

Third party risk

Relative prices of green and fuel

Green micro-loans: design issues



Grameen Shakti

- established in 1996 as a not for profit company.
- SHS are used by off-grid HHs and enterprises for lighting and power for small appliances, larger SHS can also run computers, refrigerators and pumps, mobile phone batteries.
- reaches nearly 3% of all Bangladeshi households and 6% of poor HHs.
- Since 2003 GS receives soft loans from IDCOL, a government fund receiving concessional credit lines from ADB, World Bank, DFID and other bilateral donors. This is topped up by a consumer subsidy.

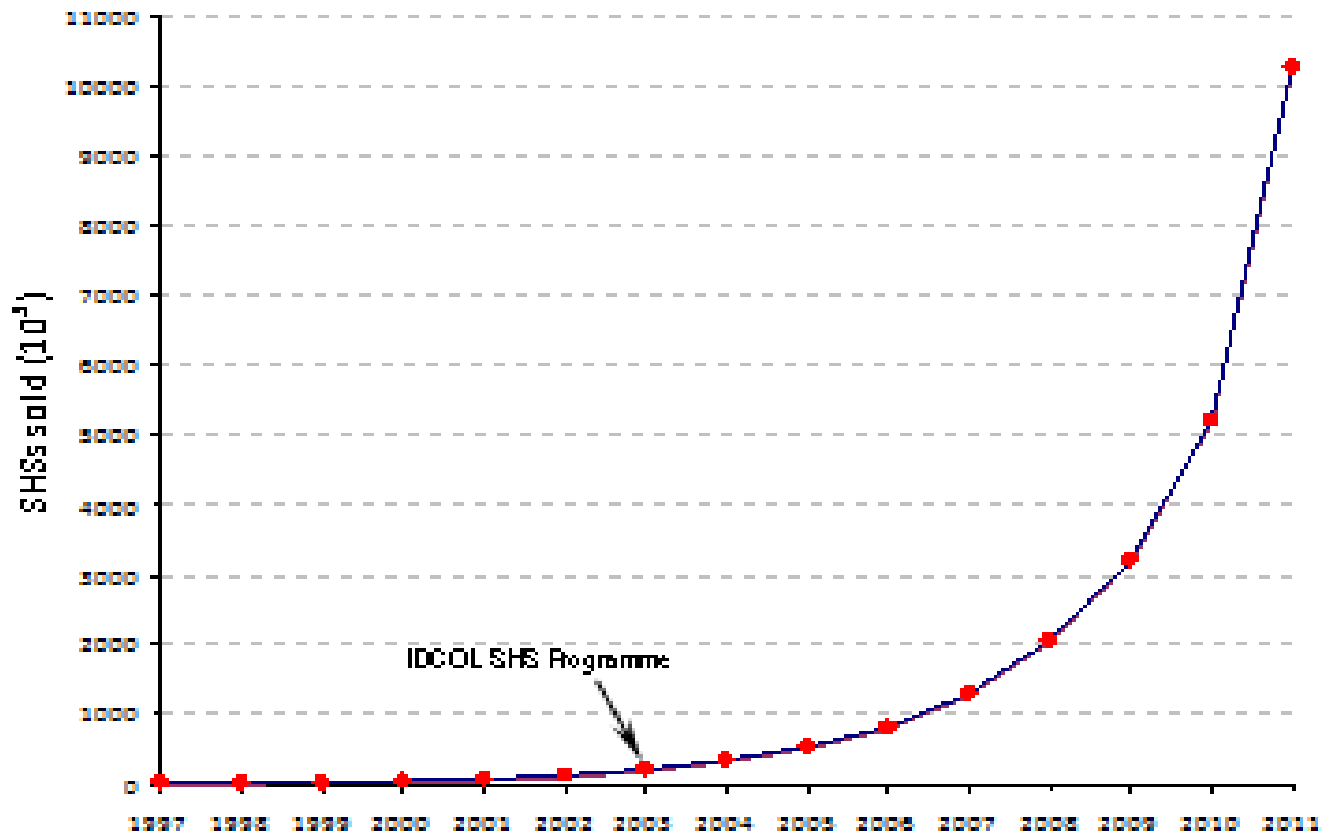


Figure 1. Cumulative SHS sales. IDCOL

Grameen Shakti Fact Sheet

- Emphasis on one RE device: Solar Home Systems (SHS)
- Range of SHS offered with varying capacities targeted at different HH income levels: 10, 20, 40, 50, 60, 65, 75, 85, 120, and 130 Wp.
- As of January 2011, the prices for SHS in rural areas range from Tk 8,800 (US\$ 105) for a 10 Wp to Tk 65,400 (US\$ 775) for a 130 Wp set-up.
- GS sells a package, i.e. installation, financing, maintenance, collection of monthly installments, repairs, training.
- Long term client patronage through warranties of 20 years for the solar panel, 5 years for the battery, 3 years for the charge controller and the possibility of a post warranty service for parts through an annual maintenance contract.
- Service guarantee for 3 years.
- Buy back option, if a buyer gets connected to the grid.
- Four financing options with varying down payments, from 10% to full cash payment and correspondingly larger or smaller price discounts.
- Down payment upfront of 15% of the total price (\$ 70 euro on average).
- Repayment period two to three years, with 8% service charge on 24 maturities and 12% on 36 months maturity. Special arrangements for very poor HHs, which pay 10% and pay installments in 42 months at no service charge.
- Monthly installments aligned to previously paid sums for kerosene etc.; affordable even if no income generating activity triggered by energy source substitution.

Business models in green microfinance

- «All in one»: installation, financing, repair, maintenance, training – all provided by Grameen Shakti.
- Partnership between a RE technology provider and a MFI
- Differences
 - Third party risk for client
 - Consumer choice
 - Transaction costs for provider
 - End price

«Success stories»

Success criteria: scale, adoption by poor households and a measure of sustainability

Grameen Shakti, Asian Biogas Program (GiZ/HIVOS/SNS), GERES improved cooking stove initiative

Common features

- concentration on one RE type
- robust design
- end user costs less than USD 500
- subsidy to either the technology provider or the client or both
- contractual after sales service.

Research questions

Impact of market concentration in domestic RE manufacturing on innovation

Coherence - or lack of it - between fiscal incentives

Are poor households well informed of energy substitution choices?

How constraining is the down-payment requirement for the access to green energy?

Scope for combining housing and energy loans

Policy issues

Incentives to develop viable domestic manufacturing base for green energy

In the absence of a business case for green technology providers and MFIs, but in view of social benefits, how should smart subsidies be shaped?

Social costs and benefits of fuel subsidies