

Design of Microinsurance Products



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April 27, 2010

Design of Microinsurance Products

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 - (b) Mortality,
 - (c) Livestock
- 2. Micro Health Insurance (MHI) Products
- 3. 'Life' Products
- 4. Livestock Products
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1. Introduction: Risk & Vulnerability

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- The poor face a wide range of shocks (illness, injury, mortality, death of livestock, harvest failure, flood, cyclones, drought and so on).
- When faced, these shocks can have an adverse effect on *consumption* which in turn increases *vulnerability*.
- Vulnerability » *the likelihood of a non-poor household falling into poverty or the poor getting poorer in the near future.*
- In order to address vulnerability, it is necessary to shift focus from merely *alleviating* poverty (e.g., via credit) to *preventing* or even *eliminating* it (via insurance).
- This would interrupt the transmission of poverty from one generation to another.

Risk & Vulnerability...

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(a) Health Shocks

- Self insurance (savings, sale of assets, loans from money lenders) is not sufficient to allow the poor to cope with health shocks that compromise the capacity to perform *activities of daily living* (ADL).
- Gertler & Gruber (2002) found that self insurance could only meet 38% of the cost of dealing with serious illness
- Health shocks can force vulnerable households into poverty and trap them indefinitely in poverty cycles (Dercon & Hoddinott, 2004), Jalan & Ravallion, 2004).

Risk & Vulnerability...

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- *How widespread are health shocks?*
 - ICRISAT data (75-84): About 40 % (a little higher for the poorer) of families reported a loss of working days due to illness annually.
 - InM Data (2009): The 4011 households reported **1325** health shocks over 2 years, i.e., about 16.5% of hh per annum (3.3 % per capita), while the average per hh coping cost stood at close to BDT 12K annually.
 - Over a 12 mo. Period, the respondents reported 1542 cases of illnesses where workdays were lost (N= 19,835). A total of 893 cases missed up to 14 days & the remainder (649) missed 15 or more days. Implications on earnings.
 - While health events are fairly uniformly distributed across professions, 'transport workers', 'wage employees', and 'day labourers' appear more affected than others (Ahsan et al, 2010).
 - REOPA Beneficiaries: Exhibit a roughly similar pattern as the larger sample.

Risk & Vulnerability...

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- **Means of Coping with Health Shocks**

- Surprisingly, in spite of 25 percent of the sample (precisely 979 hh) being covered by Grameen Kalyan (GK) health plan, none reported having benefitted from this in terms of meeting health shocks, primarily not being able to identify the coverage as an Insurance product.
- Though on a closer scrutiny, it is seen that out of 1703 episodes of illnesses requiring treatment reported by GK members over the preceding 12 mo., only 165 (i.e., below 10%) sought GK care as first choice; 38 % went to village quacks instead.
- Returning to the whole sample, the largest group (about 30%) attempt to meet the expenses from regular income.
- Another 21% percent run down their savings, while about 28% incur additional debt from a variety of sources.
- A small percentage (7-8%), which is far from negligible, sell/ mortgage permanent assets (e.g., land, livestock etc).

Risk & Vulnerability...

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- Thus in a clear majority of cases (about 56%), the victim's choice of coping mechanism exposes them to further vulnerability, which is in principle preventable by well designed microinsurance products.
- **(b) Mortality Risks**
- While death risks materialized for about 2.0% of the hhs annually (i.e., 0.4 percent per capita; again on the high side), the consequences are even more grave vis-à-vis the typical illness episode.
- The average 'cost' per incident (direct and coping costs), at about BDT 23K, is more than double that for health events.
- In the current sample, out of 157 reported deaths, only one was covered by some form of insurance.
- Nearly 48-49 % of hh used up past savings or regular income to deal with the loss, but the rest do not have this option. About 25 % borrow from a variety of sources, another 8-9 % sell/mortgage permanent assets (e.g., land, livestock etc), but many have simply no means of accommodation at their disposal.
- Many of these latter measures expose the affected households (which added up to about 55% of the sample) to future poverty.

Risk & Vulnerability...

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(c) Livestock

- The 4,011 hhs in the InM sample reported owning 4,287 cattle heads, of which 489 had died over the preceding two years, i.e., about 5.7 % per annum – very much on the high side possibly due to the relatively small size of the sample.
- National level data in India reveals a rate of about 3.5% mortality annually.
- Besides a majority not being insured, the cattle were probably were not looked after properly (e.g., timely vaccination etc), thus increasing the risk of illness or death.
- Total coping & direct costs came just below 10K per event annually.
- While the amount at stake was not huge, the victims appeared to have no recourse to make up for the loss; only about 30 % were able to rely on coping means of self-insurance nature.
- A vast majority (close to 70%) claimed to be incapable of coping with the shock.
- Hence the scope of insurance would appear paramount in this case.

2. Micro Health Products

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- ***Definition***: Microinsurance services are those risk-shifting devices offered by insurers that are of substantive value to low-income households and are affordable (Ahsan, 2009).
- ***Value to the Poor***: The products must have the scope of minimizing vulnerability to poverty.
- ***Affordability***: See remarks on willingness to pay below.
- ***Scale***: Unless the pool of insured is large, effective risk-pooling cannot be accomplished rendering the program cost-inefficient. This would also prevent engaging quality providers.
- ****Scope of credit linkage***: Health line if credit on easier terms, even if utilized to pay the co-insurance & deductible may go along way in boosting demand. *

Micro Health Insurance Product Descriptions (2008)

	Insurance Product Name	Premium Rate (BDT)		Discounts			
		Member	Non Member	Consultations	Medicine	Pathology	Referral Benefits (BDT)
BRAC	General Package	150	250	50%	10%	50%	500-1000
	Prepaid Pregnancy	100	150	Included	Free Iron Tablets	n/a	200-500
	Equity Package	0	0	Free	80%	80%	500-1000
Dushtha Shasthya Kendra	Micro Health Insurance	2.5% of loan amount	n/a	25%	50%	25%	n/a
Gono-Shasthya Kendra (Rural/Urban)	Destitute	5 /15		2 /Free	Free/ 77%	n/a	n/a
	Ultra Poor	6 /20		3 /Free	Free /33%	n/a	n/a
	Poor	10/40		5 /Free	25%	n/a	n/a
	Middle Class	50 /70-200		10 /15-25	MRP/ 20%-MRP	n/a	n/a
	Rich	80 /400		12/ 30	MRP	n/a	n/a
Grameen Kalyan	Micro Health Insurance	200	300	60%	10%	30-50%	50%
SAJIDA Foundation	Health Card	n/a	600	50%	n/a	50%	20%
	HELP *	250	n/a	Free	30%	10%	10%
* Note: HELP Program includes: Loan & Life Insurance, Health Insurance, Disaster Insurance, Education Scholarships & Legal Support)							

Micro Health Products...

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- *Product Development*
- Some experts argue that ‘product development’ has to proceed in steps to ensure that the product that reaches the market is delivered effectively and meets the needs of the target client group:
 - Understand demand and supply
 - Prototype development and testing
 - Partner selection and preparation
 - Product finalizing and process design
 - Pilot testing and analysis
 - Rollout

Micro Health Products...

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- *Willingness to Pay*: Preliminary analysis of survey data on the topic indicates that approx 55% of respondents would be willing to join a health plan (when shown 2 options).
 - However, only 24% and 15% of all respondents were willing to pay initial proposed rates, namely BDT 250 – package 1 [slight improvement over GK benefits], BDT 500 – package 2 [essentially 50:50 co-payment for a wider range of services.]
 - 32% and 39% of people asked were willing to join each scheme respectively but not willing to pay anything close to the minimum bid.
 - Need to lower costs or to convince members of reliable & quality service.
- Below we present a few prototype models (all group based) for further analysis and experimentation.

Micro Health Products...

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Product_ 1	A Hospitalization Plan
Premium cost	BDT 750-900 per family (5 members) for Lists_ 1 & 2 BDT 500 per family for List_2 procedures
Coverage	BDT 30k annually for a family of 5 – additional members get 6k per member. In patient service over 24 hours covered (List_2) plus approved day services (List_1)
Eligibility & Group Identification	Membership of an eligible MFI (including savings members)/NGO/Other (VGD card holders in a village). Family unit includes spouse and up to 3 dependent children under 18. Up to 2 adult children and/or blood relatives living in same household may be added.
Term	1 year from date of commencement with 15 days grace period
Cashless Claims	Each family issued with a SMART card – includes member details and coverage level. To be updated at hospital as per utilization – transactions will be cashless.
Benefits	No claim bonus – one year or more no claims rewarded with credit

Micro Health Products...

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- ***Delivery Modality***: While the primary design would be of the *principal-agent* variety, for larger organizations (> 1 million members), a *provider* set up is also feasible.
- ***Insurer***: The first step is to secure a negotiated agreement on the product specification between the insurer, namely a dedicated risk carrier, and the NGO-MFI in question, the first mover in the present scenario.
- ***Service Provider***: The authors believe that none of the NGO-MFIs have facilities in place that meet the minimum criteria for an eligible hospital (List_3). This calls for reliance on independent providers (typically private), the search task for which can be left to the insurer
- As a matter of fact, a spot survey by the study team reveals that most union-level facilities cannot even carry out the day treatment procedures (List_2), but the situation can change as demand grows.
- A list of approved hospitals should be made for each district, and each insured will have access to any of these facilities, and nowhere else.

Micro Health Products...

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Product _2	Complete Health Plan
Premium cost	BDT 750 – 900 per family (5 members)
Coverage	Full range of out patient services combined with full hospitalization (as in Product_1) – with co-insurance of 20% on all services.
Term	1 year from commencement with 15 day grace period
Claim Method	24 hour access to 'health life credit' (BDT 5k) – to be drawn down to pay premium and other co-payments via SMART card system.
Additional Benefits	Free annual check up
Other conditions	Similar to Product_1 (group eligibility, bonus on no hospitalization in 12 months by anyone in hh, cashless transactions etc)

Micro Health Products...

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- **Referrals:** On recommendation of a treating physician to any hospital in network.
- **Reinsurance:** Required
- **Survey of health Infrastructure:** Assess the supply constraints & demand response

Micro Health Products...

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Product_ 3	Hospitalization, Accident & Disability Benefits
Premium cost	BDT 300 – 350 per family
Coverage	Client & spouse only (18 – 54). No treatment – cash provided when hospitalized: a) Cash benefit – up to 5 days (yearly), BDT 500 per day b) Hospital expenses in case of accident – up to BDT 30k c) Permanent total disability – BDT60k
Term	1 year from commencement with 15 day grace period
Claim Method	Field staff verify receipt of treatment before payment is made. No list of hospitals provided – must be registered and have some minimal facilities (list 3)

3. Life Products

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Review of available products

- MFIs – insurance products mainly minimize lenders’ risks rather than clients’ (i.e., credit related products).
- No products are available where the sum assured represents ‘value of lost earnings due to death’
- Commercial insurers (CI) – 17/18 insurers in Bangladesh offer rural or microinsurance products
- Majority of policies are ‘endowment’ in contrast to India where the majority are ‘term’ which are more easily to be affordable
- *Sum Assured*: Many CI products have high maximum SAs indicating that they are not exclusively designed for the poor. High coverage may also require many documents for both application and claims – increasing cost to the client.

Life Products

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- **Health status & eligibility:** In general, target customers are under the age of 50. Most insurers do not require a health check as standard – this keeps costs down for both parties
- **Premium structure:** There is little difference between age categories in terms of microinsurance premiums – the majority have a standard rate for all. Rates are on the high side – most being BDT100 or more per '000 assured for retail products:

Term (Retail)	Bangladesh	India
Lowest policy premium/per '000	BDT 116	INR 11.6

- **Claim settlement:** Tends to be demanding, cumbersome and unnecessary.
- A poor friendly system should be less paper orientated (keeping costs down) and executed as quickly as possible

Delta Life

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A. Delta Life

- Largest commercial insurer in Bangladesh
- One of the first to introduce microinsurance policies to the Bangladeshi market
- Pricing and product design appear to be widely followed by other providers in the market
- Delta offers 4 microinsurance products, the savings plan being the most popular (all retail products)

Delta Life...

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Policy Name	Savings Insurance plan	Anticipated endowment plan – 5 payments	Anticipated endowment plan – Biennial payments	Single payment plan
Policy Code	401	403	404	405
Term length	10 & 15 years	15 years	10 years	12 years
Eligibility	Age 18-45, No medical required			
Benefits	Basic SA plus bonuses paid on maturity	15% of basic SA paid at the end of every 3 years. Remaining amount plus bonuses paid on maturity	20% of basic SA paid at the end of every 2 years. Remaining amount plus bonuses paid on maturity	200% of sum assured paid on death or maturity

Delta Life...

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Delta premium rate structure: Endowment Policies

Plan	401		403	404	405
Term (# yrs)	10	15	15	10	12
Rate per '000 BDT					
Yearly	97.20	63.30	82.80	114.50	-
Half-yearly	49.60	32.30	42.20	58.40	-
Quarterly	25.30	16.50	21.50	29.80	-
Monthly	8.70	5.70	7.50	10.30	-
Single	-	-	-	-	1000.00

Implicit cost of intermediation (cost of risk, delivery & admin costs, and profit) is 8.7% of gross premium (i.e., return on investment, 11.5%, less the yield typically being disbursed to the insured (about 2.8%).

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Delta Life ...

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- Policies are set at one rate (all ages) to simplify the product
- Delta recruits its own agents in rural areas – they receive a commission based on policies sold
- A liability is recognized after just 1 complete year of premium payments for microinsurance policies – even if the policy subsequently lapses
- In 2009 total premium income was 4.5 bn (35% microinsurance) with other (investment) income of 1.8bn. Expenditure on claims was 2bn and other expenses 1.5bn
- No current partnerships with NGOs/MFIs but they are open to discussions with a view to collaboration.

B. INAFI's MIME Program

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- In 2007 INAFI initiated a 4-yr pilot project entitled 'Microinsurance for Mutual Enabling (MIME)'
- Operates on a mutuality concept
- INAFI Bangladesh developed products based on a study of 3,000 observations assessing the demand for microinsurance by the poor
- Demand for life insurance was highest followed by health

INAFI ...

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Main features	STLI	TLIE
Risks Covered	Life	Life
Eligibility/Selection Criteria	<ul style="list-style-type: none"> ▪ Solely based on age limit. ▪ The age range: 18-60 years. ▪ No medical investigation. 	<ul style="list-style-type: none"> ▪ Solely based on age limit. ▪ The age range: 18-60 years. ▪ No medical investigation.
Maturity/Duration (Years)	<ul style="list-style-type: none"> ▪ Minimum term: 5 years 	<ul style="list-style-type: none"> ▪ Term: 5, 7, 10 or 12 years. ▪ Maturity: End of each term.
Benefit Package under the Scheme	<ul style="list-style-type: none"> ▪ Death benefits ▪ 5% bonus on premium after every five years 	<ul style="list-style-type: none"> ▪ Death benefits or insured amount ▪ Share of profits
Sum Insured (BDT)	1,800 – 18,000	2,780 – 76,300
Amount of Premium (BDT: Fixed), per month (see below)	5, 10, 15, and 20	50, 100, 150, 200, 300, and 500

INAFI ...

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- The level of coverage is at the other end of the spectrum to most other insurers observed.
- With a maximum of 18K, STLI may only be of interest to the ultra-poor
- MIME publishes monthly premium rates in absolute terms, as shown in the table above, to make it easier for its target clientele to comprehend in terms of affordability in view of liquidity constraints.
- For comparison, these translate to rates per '000 p.a. as follows...

INAFI ...

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STLI: Single vs Dual rate structure

Average Age	Single Rate per '000 per Annum	Average Age	Dual Rate per '000 per Annum
20	12.45	20	24.28
30	17.54	30	35.91
40	24.24	40	51.50

TLIE: 10 year term

Average Age	Rate per '000 per Annum	Insured sum Tk5 premium /month	Insured sum Tk150 premium/month
20	99.5	603	18,090
30	101.01	594	17,820
40	103.45	580	17,400

INAFI

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- Premium rate structure (especially given the group orientation) is quite steep
- Fro TLIE, the average annual premium is the return on investments in 10-year quality instruments.
- Rates are determined by reference to mortality tables unlike other microinsurance policies observed in Bangladesh
- *Progress:* 2,923 STLI and 24,396 TLIE policies sold by the end of 2008
- *Altogether a mere 0.066 percent of the combined sample of STLI & TLIE policy holders placed (death) claims in this period*
- All claims have been dealt with in a rapid manner.

Proposed Life Products

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A 'credit plus' type product for MFI members

- Mandatory credit linked *group* life coverage for MFI members (to be partnered with a commercial risk carrier)
- Credit linkage is totally unnecessary for the design, so long as there is a group orientation and all in a group are to be insured to ward of adverse selection.
- Risk coverage in multiples of 10k – up to 3 times the basic loan amount (to the nearest 10k);
- Non-loanees to choose multiples of 10K
- This is a mandatory spousal plan for those eligible within the age range 18–50 at the pt. of purchase
- Beneficiaries of the borrowers would receive the insured sum less unpaid loan, if any.

Proposed Life Products

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'Credit Plus': Group Term policy with no benefit on maturity (Product_1)

Principal Sum Assured (Normal death: either spouse)	(BDT) 20,000	(BDT) 40,000
Sum Assured (Accidental death: either spouse)	40,000	80,000
Term length (years)	10	10
Annual premium (w/spouse)	150	300
Annual premium (no spouse)	75	200
Payment on maturity	Nil	Nil
Equivalent rate per '000	7.5 (w/spouse) 3.75(no spouse)	7.5 (w/spouse) 3.75(no spouse)

Proposed Life Products

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Standard Savings Type Life Models

- Retail/Group policies – provided in partnership between MFIs and commercial insurers to achieve the scale necessary to bring down costs.
- There is also a case for promoting these on a group basis
- Premium rates have been prepared in light of a review of actuarial practices of major South Asian insurers (Aviva, Tata-AIG, Bajaj-Allianz, LIC) and with regard to local capital market conditions
- Validation, refinements and updates will be required
- All premiums proposed here are for an individual around the age of 30 and for a term length of 10 years

Proposed Life Products

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Group Term policy with return of premium on maturity (Product_2)

Principal Sum Assured (Normal death: either spouse)	(BDT) 20,000	(BDT) 40,000
Sum Assured (Accidental death: either spouse)	40,000	80,000
Term length (years)	10	10
Annual premium	500	1,000
Total premium paid over term	5,000	10,000
Payment on maturity	5,000	10,000
Equivalent rate per '000	25	25

Proposed Life Products

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Endowment Policy

Principal Sum Assured (Normal death: either spouse)	(BDT) 20,000	(BDT) 40,000
Sum Assured (Accidental death: either spouse)	40,000	80,000
Term length (years)	10	10
Annual premium	1,228	2,456
Total premium paid over term	12,280	24,560
Payment on maturity	20,000	40,000
Equivalent rate per '000	61.4	61.4

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Proposed Life Products

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Underlying Statistical Basis

- In light of existing capital market conditions in Bangladesh, a 10-11% return on investment by commercial insurers is a fair estimate
- The cost of intermediation, exclusive of pure life risk, has been estimated at 3-4% of the gross premium per annum
- The insured receives a net return on investment of 5% compounded bi-annually; if a large number can be insured, this may be raised to 6-7% net.
- Additional benefits/optional extras may be added at a later date
- Premiums may also be adjusted for different age groups using further actuarial calculations

4. Livestock Insurance

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- Grameen Bank and Proshika are the two main MFIs in Bangladesh offering livestock coverage for their loanees.
- Grameen insures 50% of the loan amount at a premium of 2.5% with no addl. benefits and Proshika covers 100% of loan at 3% with the benefit of an equivalent cash loan to start afresh.
- It is unclear what actuarial calculations have been made for the premiums noted above but a review of major South Asian insurance providers shows that cost-effective provision of livestock insurance can only be offered if 100,000 animals can be covered.
- At that level, the death rate appears to be around 3-3.5% annually. With this in mind, the features of a proposed product are set out below.

Livestock Insurance

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Product: Livestock Insurance

Eligibility	Membership of MFI/NGO - for borrowers and non-borrowers alike
Group (100,000 heads)	Group insurance for MFI/NGO/Other with insurance provided through a commercial risk carrier
Sum assured (SA) & Co-payment	80% of the estimated market value of the animal regardless of loan size (if relevant)
Premium rate (% of SA)	4.5% for milching animals 3.5% for non-milching animals
Other requirements	Animals should be tagged, health status authenticated and every animal in the household must be insured

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5. The Way Forward

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- Survey of health infrastructure & further costing of hospitalization at union/upazila/district level facilities;
- Testing of the Models proposed above in discussion with partners (insurers, hospital chains, MFI/NGO /similar civil society groups)
- Refine the product specification in light of experience so gained
- Piloting
- Rollout

6. Conclusion

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- **Need to begin somewhere**