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## Microinsurance, Poverty & Vulnerability: A Concept Paper

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**Institute of Microfinance (InM)**



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### **Abstract**

The preponderance of risk and vulnerability facing the poor is well recorded. In spite of advances in microcredit, effective coping mechanisms remain limited and costly, and consequently, poverty cycles trap many poor households indefinitely. Prevalent rural institutions are found to be typically of a self-insurance nature, and thus there is a necessity for dealing with idiosyncratic risks within a region as well as risks at the level of regions. The present study attempts to conceptually explore how the important risks that matter for life and death events facing the poor may be insured at an affordable cost both to the insured and the insurer using where possible experience and data drawn from South Asia.

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# Microinsurance, Poverty & Vulnerability: A Concept Paper<sup>1</sup>

*“About 3% of India’s population is cast into poverty each year because they lack insurance”  
(Allianz website)*

## 1. What is Microinsurance?

The preponderance of risk and vulnerability facing the poor is well recorded. Can microinsurance be an answer in society’s attempt to reduce or eventually eliminate the risk of vulnerability to poverty? Before we can deliberate on this question, which is the central focus of the paper, we face the elementary task of defining the concept at stake here. The discussion in the literature points to the following key elements as characterizing the idea. Microinsurance products are (a) targeted at low-net worth households, (b) designed to reflect pooling of risk faced by the insured, and (c) priced in keeping with the willingness to pay criterion as well as being proportional to the likelihood and costs of the risks involved (Churchill, 2006), (d) that all phases of the product be developed in close collaboration with the communities they are supposed to benefit (MIA, 2006), and (e) the products must be of substantive value to the poor in terms addressing the issue of vulnerability to poverty (Ahsan, 2009).

In essence, therefore, *microinsurance services are those risk-shifting devices offered by insurers that are especially suited to the needs of low-income households and are affordable.* This paper therefore argues that microinsurance has to be viewed in the context of poverty and vulnerability. Just as standard insurance for life or home coverage are typically framed where the sum assured is related to the average annual earnings of the insured or the replacement value of the home, microinsurance products must be similarly seen in the social and economic environment that the poor is confronted with. Extremely poor households (e.g., those struggling to feed themselves) will have little demand for insurance, which is a contract to make a small sacrifice now in exchange for a reward in the event of a future contingency, as they are likely to discount the future rather heavily.

While most formal microinsurance arrangements prevalent in the developing world may not each fulfill all the elements cited above, the key requirement of any insurance product is that it must be of value to the potential insured, without which demand would simply not be there. Judged by this criterion, there should not be much demand for many of the credit risk type of protection offered by micro lenders, which offers a small protection to the insured, and are in general poorly understood by them. Often there is no

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attempt on the part of the insurer to communicate fully what is being sold, though the coverage is very important to them. Fortunately the premium being small in absolute terms, most borrowers sign on as asked.<sup>2</sup> At the other end of the spectrum, many registered insurers often attempt to sell life policies targeted to the poor, where the sum assured is even less than the *average* annual micro loan (typically between USD150-200 in the South Asian context), let alone the annual income of the average borrower, and at exorbitant premium rates. The high rates essentially arise both due to inadequate risk pooling (due to poor uptake on their products) and high administrative costs (as they are not equipped to sell policies door to door in rural areas in a low-cost fashion). Low demand emanates from the fact that these type of products do not offer the insured families any real chance to overcome the loss and improve the chances of not falling back into poverty on account of being insured. Hence in order for the insurance products to have value to the poor, these must offer benefits that have the potential to make the insured less vulnerable to poverty.

It is implicit so far that the poor, by themselves, are incapable of dealing with the various idiosyncratic shocks (and, *a fortiori*, aggregate shocks) that confront them either by means of self insurance (e.g., by drawing down savings) or by participation in extant community/village level risk mitigation devices such as informal credit and risk-dissipation institutions. This indeed happens to be the subject of a vast and modern literature, and a brief review is offered in section 2 of the paper, which concludes that market provision of insurance would be a most useful innovation in the lives of the poor.

The central focus of the paper then is to outline the informational and design requirements of plausible models of microinsurance for the common type of risks that most concern the poor (e.g., health, livestock, crop/weather etc). The design elements have to deal with the standard issues of moral hazard and asymmetric informational externalities that typically plague insurance markets in general, and microinsurance cannot be immune to these. Given that for any product to be financially sustainable in the long run, it must be affordable to the poor, which may call for a subsidy. Thus a suitable subsidy design that respects the relevant incentive problems would appear to be a key factor guarding against market failure.

Additional help may come from innovation as to the mode of delivery, which is central to the development of a cost efficient product. In terms of public policy, many of these concerns with market failure (e.g., subsidy design, delivery mechanism, legal cover for the insurer and reinsurance) may be addressed by crafting a set of effective regulatory directives. The latter may serve as an important public intervention measure promoting contract enforcement and thus contribute to the emergence of a sustainable market in microinsurance.

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<sup>2</sup> Though, even the small premium may well be too high in view of the risk involved as seen below.

With these preliminaries dealt with by the introduction, the remainder of the paper proceeds as follows. Section 2 emphasizes the scope of microinsurance in the context of inadequate idiosyncratic risk-pooling accomplished by informal community devices in most contexts. In section 3, a short review of the methodology of microinsurance is provided focusing on agricultural (e.g., rainfall vs. crop, livestock), health, life-cum-credit (or just life) risks, and social insurance such as public pensions. The data requirement issues are reviewed in section 4, while section 5 deals with the demand for microinsurance and related issues of public education and public participation. Critical aspects of the organization of the insurance market and the scope of regulation are discussed in section 6, while the issue of re-insurance is taken up in section 7. Section 8 concludes the paper and points to areas of further research priorities. References are made to regional case studies where relevant.

## **2. Why Microinsurance?**

In this section we review the analysis of rural risk shifting modalities and comment on the adequacy thereof. It is argued that in spite of some evidence that rural institutions offer a limited extent of insurance, this is wholly inadequate, especially for the poor and near poor, namely the group that is most vulnerable to poverty in the face of various idiosyncratic shocks that affect their economic wellbeing.

There is long-held evidence that the poor are more risk averse than the rest of society (e.g., Young, 1979 and Townsend, 1994), and thus the tendency among them to seek insurance-type arrangements would be rather high. A wealthy farmer may store grains in good years so as to support him in bad ones, or he may diversify farming among plots in different locations or go for different crops. However these risk shifting devices across time and space are unavailable to the poor and landless (Ahsan, 1985). Rural poor, instead, have over the years developed other varieties of *self* or *mutual* insurance devices to shift risks, e.g., share-cropping, joint family system, choice of technology, transactions in kind instead of cash, voluntary gifts and transfers and so on. Traditionally these arrangements are believed to have been characterized by rather high implicit premium for the benefits that they entail and the associated risk-shifting falling short of the social optimum (e.g., Ahsan, 1985 and Binswanger, 1980). Moreover, the implicit nature of the contract leaves room for discord and possible breakdown of the arrangement itself.

However, formal econometric analysis of risk shifting embodied in these traditional devices has only been attempted rather recently. Deaton (1992) examined a panel dataset of living standards from Côte d'Ivoire to test the permanent income hypothesis (PIH). While saving appears to rise in the face of anticipated decline in future income, the tests do not reveal that PIH explains observed saving behaviour. Current income still matters for current consumption even when village level effects are controlled for. It would appear that if the only recourse is to save from own resources, as this model assumes, the

scope of such "self insurance" would be rather limited, and be of relevance only to the relatively better off farmers.

Townsend (1994) by contrast formulates a general equilibrium framework where informal networks, gifts and transfers among family and friends, transactions in assets (e.g., land and bullocks), diversification over crops and cultivable plots, storage of grains, long-term credit relationships, and other as yet unobserved institutional arrangements may be variously used by some or all villagers in efforts to achieve the Pareto optimum, namely the full insurance hypothesis. The idea was to allow all of these possibilities, though not all need be functional for all at any point in time, to produce the final outcome on consumption smoothing. The author analyzes the well known ICRISAT data (1975-84) for three villages in Southern India. Somewhat surprisingly Townsend finds that various idiosyncratic shocks (e.g., sickness or unemployment) do not matter as much; while full insurance does not hold, the overall effect of income on consumption is not large (p.584).<sup>3</sup>

The impact of the above finding, taken literally, is rather stark; public policy need not concern itself with the functioning of rural risk or credit markets. Instead, as Morduch puts it, "policymakers can turn attention fully to "aggregate" covariant risks that villages as entities cannot deal well with on their own" (2003, p5). Townsend's original paper, however, contained some disclaimers. *Landless* appear more risk averse across all villages, and they are much less well insured against income shocks than *farmers* in all three villages (p579).

The above findings, which would seem to detract from the scope of public intervention in rural markets, have been a source of much discussion, and the same data has been subjected to further analysis by a number of authors.<sup>4</sup> In a subsequent piece, Lim and Townsend (1998) deepened the analysis further by, among other, formally examining the channels by which risk shifting did occur in village economies. While in the 1994 paper he had suggested that credit markets and gifts may have accomplished the smoothing, it is now seen that risk sharing apparent in monthly and annual data is accomplished mostly by cash and crop inventory, and, to an extent, by community credit and insurance devices, but not at all by transactions in land or livestock.<sup>5</sup> There was again some evidence of the landless and poor to be less connected to credit and insurance devices than others. Overall, the authors believe that "village economies need to be understood as models of imperfect markets and institutions" (1998, p114).

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<sup>3</sup> While time series tests appear to provide evidence in support of insurance against idiosyncratic income shocks, panel estimates (Table VIII) indicate that income does matter for consumption.

<sup>4</sup> See the references cited in Lim and Townsend (1998) and Morduch (2006).

<sup>5</sup> "An initial rough check on this in Aurepalle reveals that gifts and loans are not small as a fraction of the level of consumption and sometimes exceed it (in absolute value)" (Townsend, 1994, p587).

The limited scope of informal community-based insurance in the above framework, coupled with the observed role of grain inventory (in-kind saving) leads Morduch (2006) to suggest that the primary mechanism here is self-insurance. Morduch (2003) himself found weaker evidence of insurance, using a somewhat different statistical formulation but using the same data. He finds that idiosyncratic components in consumption are a shade lower than that in income, thus indicating only a limited degree of consumption smoothing. These results do not change materially either in the analysis at the village level or within groups defined by caste and farm size. Consequently, he finds substantial scope for public action targeted at those least able to cope with aggregate and idiosyncratic shocks.

Thus it would seem that in spite of advances in microcredit, effective coping mechanisms remain limited for the landless and small farmers, and one needs to pay attention to idiosyncratic risk along with region-wide risk. Absent adequate risk shifting, there is likely to be widespread market failure in many dimensions of risks facing the poor and near-poor with the consequence that poverty cycles trap many households indefinitely. The claim of tens millions in India falling back into poverty due to the lack of insurance as claimed in the Allianz website quoted at the start of the paper, even if only half true, is a sobering one. Persistent poverty may thus be widespread among those who are least able to benefit from self-insurance.

How should public policy address the incomplete rural risk bearing institutions? It ought to be clarified at the outset that while insurance is generally believed to be the most efficient risk-shifting device, it need not always be the case necessarily; some events (e.g., natural disasters) may be best addressed by alternative coping mechanisms. However, typical life, health, livestock and property risks that we have in mind here need not necessarily result from natural disasters like flooding, and hence would fall outside the scope of direct public action. Lacking a functioning safety net program, microinsurance would appear to be the only realistic alternative. Below a sketch is made of how an exploratory (e.g., pilot) design of microinsurance focussing on important risks that matter for life and death events facing the poor may proceed.

### **3. Design of Major Products**

The fact that formal markets (beyond the various community based pilot stage programs typically with MFI-NGO intermediation) do not exist in microinsurance in the developing world is symptomatic of market failure. Hence design of insurance products targeted at the low-income people must identify and overcome the sources of such failure. However, this paper is not focused on the technical dimensions of market failure *per se*; instead it attempts to analyze the broad informational and design requirements of plausible microinsurance devices that are likely to overcome market failure. In this section we review the principal categories of risk and where possible, relate the

discussion of viable insurance design to functioning schemes in the developing world, and explore the contours of the "best practice" model if any.

**(a) Agricultural Risks:** Of all risks, agricultural risks (e.g., crop failure, inadequate rainfall and loss of livestock) are the most pervasive and inflict longer-term consequence on household consumption fluctuations. This is also an area where microinsurance products have made the least progress, especially in South Asia. High transactions costs (in dealing with a diverse group of small landholders), moral hazard, adverse selection, credit constraints, low education levels of clients, and weak law and regulatory enforcement mechanisms prove formidable obstacles in the design of viable contracts.

Analytically, the problems created by asymmetric information between buyers and sellers have been extensively analyzed by economists, where the seminal contribution in the insurance field is due to Rothschild and Stiglitz (1976), hereafter R-S. The latter authors develop a simple competitive model of insurance, where the object of insurance is a fixed quantity (say of money as in life insurance or wealth as in the real-estate case), i.e., the insurer offers a fixed amount that can be insured and at a fixed price. The potential buyers are of two risk classes, high and low. R-S show that in this context, a *pooling equilibrium* fails to obtain, since the low-risk types may prefer an alternative but cost-effective contract.<sup>6</sup> If an equilibrium exists, it must be of the *separating* type; (here the high risk type buy complete insurance, i.e., equal wealth in each state of nature). But the low-risk are given a contract where the indifference curves of the two types intersect each other so that the high-risk cannot gain by choosing the latter. However, may be no equilibrium at all (R-S, Figure III, p636).

One rationale for the framework chosen by R-S is moral hazard, which may lead insurers not to allow individuals to purchase unlimited amount of (say, life) insurance. However, such a framework is not very suitable for events like crop or health insurance, where the amount of insurance would typically be chosen by the insured in response to the contract without huge moral hazard concerns. Ahsan et al (1982) has shown that the endogeneity of the amount of insurance cover may add a further element in the determinateness to the insurance model, which is otherwise similar to that analyzed by R-S. In contrast to R-S, it is even conceivable that a pooling equilibrium exists after all, and Ahsan et al go on to establish the properties of separating equilibrium.<sup>7</sup> The latter are however similar in structure as in the R-S formulation, namely that imperfect information may lead to market failure. Hence the viable operation of a separating equilibrium is contingent on

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<sup>6</sup> The graphical argument is easy; a pooling contract is one that satisfies the budget and also serves as a point of intersection of the indifference curves of the two types of clients. However, it follows that there may exist an alternative allocation, arbitrarily close to the original position, but below the indifference curve of the high-risk type, who will not be interested in such an offer. But the low-risk types prefer it and the insurer will also make money here (R-S, Figure II, p635).

<sup>7</sup> The pooling equilibrium can be explored in their model only by explicit closed form solution of the model which requires parametric specification of both insurance contract as well as the utility function.

the ability of insurance companies to costlessly identify the risk class each belongs to. This would lead one to dwell on how to induce the insured to reveal their type. Alternatively one can seek regulatory or other public interventions such as state provided insurance (e.g., as in automobile or health in some advanced countries) which mandate compulsory enrolment.

The analytical insights cited above have been further utilized by Ahsan (1985) and Ahsan and Rashid (1983) while developing the outline of a likely feasible crop insurance contract. These contracts exploit the idea of *a priori* identifiable homogeneous agro-climatic zones thus overcoming the informational asymmetry), and are thus contingent upon wide participation representative of the agro-climatic variations obtaining in the region/county.<sup>8</sup> In such a scheme the indemnity is triggered by the zonal crop outcome, and not the individual experience, which mitigates to a large extent the issue of moral hazard, but adverse selection would still remain a major concern. Hence for any scheme to be viable would require, beyond widespread participation within each climatic zone, that there be a sufficient number climatic zones. Otherwise, the aggregate risk will not be well spread. The latter typically calls for a national coverage in order to maximize the climatic variations; however, in some contexts, even a nation-wide scheme may fail to permit adequate risk-pooling for the insurance principles to be effective.

In spite of general inadequacy of standard (i.e., not weather-indexed type) crop insurance in less developed countries, an ambitious National Agriculture Insurance Scheme (NAIS) was launched in India about 8 year ago. NAIS also embraced the area approach that has been cited above, which has faltered badly. Arbitrarily setting premiums below the expected loss, allowing limited variation in premium structure in spite of significant spread within the risk classes of the insured, adverse selection (both at the state level, i.e., states opting out, as well as allowing non-loanees to voluntarily seek coverage within a state), and above all, public sector management are cited to be the key reasons for the poor performance (Ifft, 2001). The list of potential culprits being too long, it would be of interest to review the contribution of each toward the weak performance, but not enough evidence appears to be there to make the call. Even then critics have come out against the

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<sup>8</sup> Using Bangladesh data (at the *upazilla* level) for a 6-year period (1974-80), Ahsan (1985) has explored area-wise schemes for most major crops, which based on available information at the time, appeared to be financially viable subject to the provision of a modest subsidy, typically for carrying abnormal risks, which is the domain of reinsurance. The required annual subsidy was shown to be lower than average annual spending by the government on *ad-hoc* measures such as relief and loan write-offs. However this was for general farming, and not designed for small landholders who may possess land of marginal quality. Hence in developing a new pilot scheme, more recent data would be relevant that relate well to the situation facing small agriculturists who would be the target group of micro-insureds. Indeed prior identification of the target group would by itself be a non-trivial task.

area approach, while the true spoiler may have been the inadequate implementation of the plan.<sup>9</sup>

The area approach, even though it eliminates moral hazard greatly, appears to leave farmers unsatisfied as variability within the agro-climatic zone and can be rather substantial. Thus as a consequence, though the zone may do alright on terms of the historical pattern, many insured may nevertheless suffer large uninsured losses, thereby fomenting protests. Many view the performance of the NAIS scheme as unsatisfactory as was the case with its predecessor, the Comprehensive Crop Insurance Scheme (CCIS), 1985-1999, both of which had followed the area approach. Only 16 states (as opposed to 22 under CCIS) are participating in NAIS with both Punjab and Haryana being conspicuously absent, which is symptomatic of adverse selection at the state/regional level. This is classic design failure; low-risk states/regions should face a commensurately low premium. However, if the insurance administrator, being politically correct wants an equitable premium structure without adequate rate differentiation, the logic of the area approach gets seriously compromised.<sup>10</sup>

**Insuring weather risk** has major advantages over crop risks (even of the homogenous agro-climatic variety as proposed above) in that informational asymmetries between the insurer and the insured are greatly minimized, and the occurrence of the insured event (e.g., rainfall) is easily verifiable.<sup>11</sup> An even greater benefit is that it would be of relevance to non-agriculturists (e.g., day-labourers), whose livelihoods are also dependent on climate whether engaged in agriculture or beyond (Morduch, 2001). However, the difficulty that remains in crop cultivation is that the soil quality and cropping pattern may also differ within a homogeneous climatic zone, which would not be relevant in the event of rainfall insurance, a clear advantage.<sup>12</sup> Here too one would require participation of all climatic zones and wide participation for the aggregate risks to fall to manageable proportions, and hence as above, only national/regional insurers may viably offer coverage. The necessity of MFI/NGO intermediation remains just as important as it was deemed to be the case for crop insurance analyzed above, the absence of which in the Indian schemes such as CCIS and NAIS may have contributed to their weaknesses.

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<sup>9</sup> The alternative of individual approach to crop insurance may be thought to be nonstarters (Ahsan, 1981 and 1983).

<sup>10</sup> It would be of research interest to examine the within-state yield variability for major crops (e.g., wheat and corn) for both Punjab and Haryana in recent years (say post-2000). These states had pioneered the Green Revolution in India by heavily investing in the irrigation infrastructure and in the process benefitting greatly from the central government's decision to hold the line on administered energy prices in spite of movements in the international market. Indian energy prices have since been liberalized to an extent, though both diesel, which matters for irrigation, and rural electricity are still offered at high subsidy. In any event, if the yield variability is indeed low, there may well be low demand for insurance in these cases.

<sup>11</sup> There does exist good rainfall data on a fairly disaggregate level in Bangladesh over a very long period of time, which can be used to delineate different climatic zones rather neatly as was utilized in the design of area-wise crop insurance analyzed by Ahsan (1985).

<sup>12</sup> Though participation, if entirely voluntary, may only attract those with greater presumed dependence on rainfall, and hence adverse selection may be a potential threat.

Access to re-insurance would also emerge as a priority concern in these types of situations where covariant risk can be a dominant theme.

There is a further re-distributional element to consider in the case of both rainfall (weather) and crop insurance. As Morduch (2006) has aptly pointed out, there arises an asymmetry between the welfare of the insured and the non-insured in the event of indemnity payments and their impact on local market prices, which would not be relevant in the absence of any crop/climate insurance. In particular, cash indemnity payout is likely to lead to an increase in the price level (at least for grains), which can be partly mitigated by distribution in kind. The latter is however not feasible in many situations. *A priori*, it would seem that the number of potential beneficiaries is more numerous under weather insurance than under crop insurance. However in view of the worsening of welfare on the part of the non-insured net consumers, the distributional issues would require careful evaluation in the particular context.

There are several well-known pilot schemes underway on weather, particularly rainfall, insurance. In 2003 ICICI Lombard (backed up by Swiss Re) launched an ambitious scheme targeted at low-income farmers in Andhra Pradesh, India, which is sold through BASIX, an MFI. To date 200,000 farmers in 130 locations have been covered. The scheme insures against deficit, excess and unseasonal rainfall, high relative humidity, excessively high and low temperatures, prolonged dry spell, as well as a combination of these risks. The indemnity structure is based on relevant indexes, where different indexes represent various estimated losses. A preliminary observation would still be that these locations, all within one state, may not allow adequate shifting of rainfall/temperature /humidity risks.

Preliminary analysis of weather insurance by means of a 2004 survey carried out by ICRISAT and World Bank has been done by Gine, et al (2007). The above study reveals that insurance uptake is high among the wealthier farmers, and, low among those credit-constrained, which fits the authors' analytical set-up and is suggestive of the role of credit in promoting insurance, even though the premiums were rather low at about \$5-6 per member. However the authors were at a loss to explain why more risk-averse farmers were more reluctant to purchase insurance, with the tentative conclusion being the unfamiliarity with the product itself and also a lack of trust (i.e., not being in prior contact with the MFI in question). However in view of the potential, an urgent research task would be to further analyze the performance of such policies and explore replicability with suitable re-engineering in different contexts.

**Conclusion:** While the agro-climatically homogeneous area approach is conceptually superior to the individual approach in designing crop/weather insurance, adverse selection has continued to plague the implementation. Then there is the further *ex-post* equity issue in that dissimilar benefits are enjoyed by the insured in the event of a loss (especially for crop than weather insurance). Ifft (2001) suggests that if subsidies were

offered to private companies they would feel encouraged to enter crop/weather insurance, which would allow a more professional and profit-driven approach. That would at least allow one to sort out if the program weakness emanated from faulty design or from faulty implementation. However to reap full benefits of reforms, she suggests dismantling the distortions due to government control over both input and output prices.<sup>13</sup>

**(b) Health Risks:** Health is a critical factor in determining long-term living standards by maintaining and augmenting labour productivity, and thus the economic cost of illness is two-fold; the cost of medical care and the loss in income associated with reduced labour supply and productivity. In the absence of significant savings or public pension schemes, the poor are often forced into deeper poverty (and the low-income non-poor into poverty) by their limited ability to cope with the events. Short-run self insurance mechanisms such as the depletion of savings, selling of assets, loan from money lenders and exhausting current income flows may typically allow them to ride out smaller events, but not health events that compromise the capacity to perform activities of daily living (ADL). In an Indonesian sample, Gertler & Gruber (2002) found that even though many families were able to insure minor illness, they were unable to maintain their living standards in the case of major illnesses. The close relationship between health shocks and poverty has also been recorded in the Bangladesh context. A Grameen Bank study revealed that of the 42 percent of its borrowers, who failed to improve their socio-economic condition, 60 percent had experienced a serious illness in the family and attendant income losses and/or health expenditure (Ahmed, et al, 2005). The provision of meaningful health coverage would thus be seen as an important risk-mitigation element in the lives of the poor.

The necessity of micro health insurance (MHI) is further predicated by the fact that in most developing countries access to public health care is limited and generally of low quality. At the same time workers of the informal sector and rural areas account for a majority of the workforce who lack access to quality health care. Some authors point out that even from a public sector perspective, subsidizing micro-health insurance systems would appear to offer an interesting alternative to addressing the problem of financing of health care in general. We return to the subsidy issue later in this section.

In spite of the presumed demand, a review of the existing systems in many countries of Asia and Africa suggests a low uptake of health insurance by the poor. Demand may not be the true bottleneck as Dror et al (2007) found that even the very poor were willing to pay between one and two percent (median being Rs. 560, i.e., about USD 11.50) of annual household income in premium, rather high figures in view of actual rates in force in typical contracts. *The most common reason for nonparticipation as cited by field-level*

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<sup>13</sup>She also proposes that another alternative to insurance would be to leave farmers to manage own risk, while the state invests in infrastructure and research, and if necessary offer lump-sum transfers to farmers which are unrelated to the crop grown or the acreage under cultivation. However, as seen in section 2 above, self insurance has significant shortcomings in a typical rural environment.

*workers is that the products are ill designed to be of appeal to the poor.* Most writers on the topic agree that a workable insurance scheme in the health context (i) must encourage primary preventive care (covering doctor's fees, tests and prescribed drugs), (ii) in the therapeutic area, it may cover only major risks (i.e., thus minimizing moral hazard), (iii) make provision for an emergency fund to deal with occasional premium delinquency due to identifiable aggravated incidents on the part of the insured, (iv) secure re-insurance, (v) must provide health education, and (vi) it must be affordable. Microinsurance Academy (MIA) also suggests adding two more criteria: (vii) extend coverage to communities rather than individuals, which achieves within group risk-pooling, and guards against adverse selection; (viii) the plan (i.e., the benefits & premium) be tailored to meet the needs of the community in question (e.g., using MIA's decision tool, Choosing Health Plans Altogether, CHAT).<sup>14</sup>

This is one area where a suitable regulatory framework specifying which elements of coverage an insurer may offer would be an important point of departure. In effect the product design and its inherent flexibility would still be up to the insurer to devise, but each has to respect the guidelines as those set out, for example, in the Indian context by IRDA, though the latter is not without shortcomings (Dror, 2007 and Ahsan, Barua, and Tax, 2009]. Absent binding regulatory guidance, private insurers may only offer coverage that is *a priori* profitable and does not achieve much socially necessary risk-shifting (i.e., 'cherry picking').<sup>15</sup>

There are many pilot type micro health insurance schemes in operation all around the world, and where India offers a large variety of experiments, but few are judged to be offering high quality coverage or are deemed to be of long-term viability unaided (e.g., Dror, 2007). *Grameen Kalyan* (GK), in Bangladesh, launched micro health insurance in 1997 and presently is the largest MHI in Bangladesh. Its premium is BDT 200 for Grameen Bank (GB) members and 300 for non-members per year, and it operates 39 clinics (Health Centres) in ten districts of Bangladesh, and plays both the roles of an insurer and of direct service provider. It uses a strategy of serving the community at large and of charging higher rates non-GB borrowers, who are presumably less poor. In 2008, the number of member patients served under the health plan rose to 323,495, of which about 80,000 were non-member patients. The premium income is seen to have covered 83% of the direct operational cost of the health program in 2008, a performance that has slipped a bit of late. However, the program is still in the early stages with a limited geographic coverage, a limited range of products, and does not have external linkage for re-insurance. A major challenge in providing meaningful health policies in rural Bangladesh appears to be the shortage of qualified personnel, and the consequent risk of

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<sup>14</sup> Elsewhere Ahsan and Barua (2009) discuss in greater detail the major challenges in offering viable micro health insurance plan in a developing country context.

<sup>15</sup> The regulatory issues for microinsurance are dealt with more fully by Ahsan, Barua and Tax (2009).

discontinuity of service provision. In any case, a full evaluation of its performance and the scope of replicability would be a high priority.<sup>16</sup>

Returning to the issue of subsidy, note that most analysts believe that even if the product design and delivery channel are optimally determined, thereby ensuring lowest possible unit cost, such cost may still be unaffordable to many of the poor and the very poor, which is a classic case of market failure. However, given the positive externality effects on society of, say, being able to meet health shocks and thus prevent a relapse into poverty on the part of many, a subsidized micro health insurance (MHI) program may be a net welfare enhancing intervention. This raises the issue of whether a suitably designed subsidy may be one way of overcoming the odds. While there is no consensus on the design, many analysts favour the subsidy route.

As Dror puts it “the core issue is, however, not whether subsidies could play a role, but what use of public funds would deliver acceptable, effective, efficient and equitable results for the poor” (2007, p11). The Micro Insurance Academy (MIA) rightly argues that demand (e.g., premium subsidy) and supply (e.g., underwrite provider costs) based incentives are not sustainable. Hence it proposes arrangements to subsidize the reinsurance costs and improving the capacity of the service provider, which would ultimately lower the costs of provision. Elsewhere the present author has proposed a key criterion that any subsidy regime must respect the condition that the provider fully retain the incentive to minimize the cost of service delivery to better match the affordability of the poor, which rules out any provision for direct premium subsidy for an indefinite period.

Further the author suggests that the idea of a capital subsidy (e.g., provision of hospital infrastructure and equipment) be examined for the sustainability of MHI. However, for such a scheme to work, it would be necessary to monitor that these (donor or public) funds are utilized for true capital costs only and not for administrative overhead and the like (Ahsan, Barua and Tax, 2009).

**(c) Life or ‘life & credit’ Risks:** Life policies (or their variants) are conceptually easier to design among rural insurance products. Given the absence of moral hazard, and the presumed demand for it, actuarially fair contracts should be the norm given a degree of competition. Indeed some form of life insurance, typically bundled with microcredit, is generally available in most countries. The challenge however is to widen the access to non-borrowers, and to set the level of indemnity payment on death to a meaningful level under local conditions. *A priori*, it would seem that the relatively small amount of money involved (both for premium and maximum indemnity) would entail significant

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<sup>16</sup> Sajida Foundation, another major provider of health insurance in semi-urban Bangladesh with nearly 72,000 families as members also provides the service directly. In the first 6 months of 2008, it served nearly 86,000 individuals. Per family premium is about USD 9 annually for a fairly exhaustive list of services offered on a co-insurance basis. The same organization also offers life and accident coverage.

administrative expense if not mediated through a microfinance institution (MFI) or a local NGO, i.e., by adopting the partner-agent model.<sup>17</sup>

The existing case studies offer a mixed picture, which suggests that greater care is needed in the delivery and design of the contract, financing, and re-insurance aspects even in the case of life or life-cum-credit policies, originally believed to be easier to practice than crop or health insurance. In the Philippines, for example, the Centre for Agricultural Research and Development (CARD), after some initial setbacks (due to lack of actuarial services), has formed a separate entity, called a mutual benefit association (MBA) in 1999, which offers a life insurance product which covers the member (usually female), her spouse and three dependent children under the age of 21 (or if she is single, the member and her parents). This program insures about 606,000 member households, i.e., about 3.2 million individuals. The premium rate is 15 Philippine pesos (PhP) per week.<sup>18</sup> The indemnity on death depends on the duration of insurance coverage and whether death is due to illness or accident, the latter being double that under illness. There is also a benefit for the legal dependents. After 1 year of membership (less than 2) the rates are 10 and 20 thousand pesos (5K for dependents), respectively, which rise to 50K and 100K after 3 years. The dependent claim attains a maximum of PhP10,000 after two years of continuous coverage.

Tata-AIG Life Insurance Company Ltd, which operates in 11 Indian states, insures 184,000 people. It offers life insurance with five-year term and double indemnity accidental death benefit, as well as 15-year term with return of premium on maturity. Its premium ranges from US \$1.7-15 per annum. Tata-AIG faces challenges such as lack of data, and also finds the market too heterogeneous for group contracts to serve the clients' needs appropriately. It mainly sells its products on an individual basis since, in a market like that of Tata-AIG, group plans usually tend to exclude people.

In Bangladesh, while about half of all MFIs offer some form of insurance, the typical life policies are of the credit protection type, thus offering limited protection to the insured borrowers in their struggles to escape poverty (Khalily et al, 2008). Most *life-cum-credit* schemes in Bangladesh do not cover long-term disability, or death/disability of the borrower's spouse or other earning members of the family. The victims' families therefore have little prospect of escaping poverty. Another common feature of the prevalent schemes is the ad-hoc setting of premium and indemnity structure, which frequently leads to borrower ambivalence as to the value of the products, and at the same time, poses significant challenge especially to the smaller MFIs in the financial viability of their plans. The 2008 survey cited above also notes that most insurers use the premium

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<sup>17</sup> Organizational aspects of microinsurance delivery are however discussed in section 6 below.

<sup>18</sup> It also has other products like loan insurance, accident coverage and pensions.

revenue as a sort of revolving loanable fund rather than investing it prudently for dedicated use and in building plan sustainability.

Delta Life, a commercial insurer is a bit of an exception to the rule. While it experimented with the Grameen Bank in jointly offering a saving-cum-life policy for Grameen borrowers, it is now offering its own insurance policies to both rural and urban poor with its own delivery channels, which were fashioned in light of the ties with the Grameen Bank in late 80s/early 90s. It offers about 37% of all *life plus* policies in the country. Another critical feature of Delta's scheme is that it offers a relatively long-term coverage (10 to 15 years) while the typical MFI plan lasts only the tenure of the loan, which can itself be a source of volatility. Available studies indicate that Delta's financial viability is more stable than it has been in the past (McCord and Churchill, 2005).

*Yasiru*, in Sri Lanka, started off by insuring 9,000 people. It offers a mixed bag of life, accident and funeral insurance, and its premium range is USD 1.20-18.00 per year. Though it first started as an in-house insurance service in a federation of NGOs called ACCDC, today it has eight active partners with around 60,000 members. It has received funding, technical assistance and a reinsurance agreement from the Rabobank Group and its reinsurance company, N. V. Interpolis. It was agreed that donor support would cease from 2005 to encourage independence, but there is some concern that *Yasiru* might face problems in such an eventuality as the solvency issue is far from assured.

Aga Khan Development Network, in Pakistan, insures 130,000 lives and offers credit-cum-life, health and savings-cum-life insurance. Its premium range is USD 1-5 per person per annum. Before entering the market, Aga Khan Agency for Microfinance conducted a survey and found group policies are clearly more cost-effective. The Agency also believes that mandatory group products should provide the best value for money, but this requires that the insurance provider be sure that the products effectively target the members' needs. A full evaluation of its performance remains pending.

**Conclusion:** What can we say about the contours of a 'best-practice' model? To recapitulate some points raised above, we note the following:

- (i) The risks covered ought to include all events that seriously undermine *future earning potential*, namely, death and LT disability of the insured and spouse, and possibly that of other earning members of the insured's family.
- (ii) Coverage to be made available to borrowers and non-borrowers alike.
- (iii) The coverage, ideally an endowment type plan, ought to be subject to choice (but allowable range to include say up to 5 years' average earnings).
- (iv) Length of coverage to be decoupled from loan tenure, if relevant.
- (v) Actuarial calculus ought to be fully embraced in setting premiums.

(vi) If MFIs serve as insurer, *the insurance arm ought to be separated and placed under independent management.*

(vii) Multiple modalities to be explored: For example, direct provision by insurer (e.g., Delta & large MFIs) as well as partner-agent provision (not yet in evidence in Bangladesh) should both be explored.

(viii) Is there a role for an apex organization such as PKSf? It may be ideal for PKSf to team up with a commercial insurer and develop a micro life insurance model, which would then be retailed through its network of partners organizations (POs) and possibly other NGOs willing to implement the same. The above remark may apply to *non-life* products as well. The apex body (e.g., PKSf) may also liaise with international reinsurers and negotiate suitable reinsurance coverage for the insurance products mediated via POs.

**(d) Life-cycle Risks: Old-Age Security.** It is often recognized that savings is the most common object that one can resort to in times of crisis and calamity where the very poor do badly. Not only they have little to save, there are not many user-friendly saving instruments that would be of appeal to the poor. Whole life policies may address part of the answer, but typically these become attractive when started early in life and premium contribution goes on for a long time. None of the latter pre-conditions may necessarily apply to the typical poor we have in mind here.

The literature does suggest innovative projects underway in various parts of the world and the task here would be to put together these ideas and evaluate their scope and practicality, and develop a pilot scheme for experimentation and testing. The product should go beyond saving for the immediate future, but mainly for eventual retirement with a simple (and optional) annuity package built-in. It would be ideal to offer programs that are of appeal to the younger generation engaged in manufacturing such as the ready-made-garments (RMG) industry, weaving, leather industry, other urban and rural day-labourers, domestic help providers and the like. Unless the scale of activity is very large, maximum possible guaranteed return would not be available to these low-income savers, which would require vigilant regulatory and prudential oversight.

#### **4. Data Requirements**

In this section, our goal is to lay down some preliminary ideas on how to operationalize (i.e., replicate and scale-up as relevant) the best practice models cited in section 3 above with reliable data, which may then be adapted for pilot testing and implementation.

**(a) Background:** Needless to say, the *probable loss pattern* ought to be identifiable from a relevant dataset in order to establish the parameters (the indemnity level and the premium) of an insurance contract. Thus formidable data issues have to be overcome in order to develop cost-effective and viable microinsurance products in the South Asian

context. The first point to make here is that the actual experience of various MFI-mediated microinsurance activities already underway in different contexts may not be the ideal point of departure. On the one hand, it would be hard to entice the MFIs (or, micro insurers, for that matter) to share the history of their program experiences with independent researchers. On the other hand, even if such data were made available, (e.g., data on the incidence of the insured event where an indemnity is to be payable), these are likely to suffer from possible moral hazard. However, detailed information on the financing of such schemes would still be useful to double-check the expected costs of the program, but here again available data may well be noisy. Casual observation would lead one to suspect that there is a significant extent of cross-subsidization among insurance costs with various program and non-program revenues that the insurer/MFI has access to. For these reasons, it is ideal to access a dataset that records the incidence of various risks in an environment not tainted by moral hazard and adverse or other selection biases.

Since new data collection will take time to yield a panel usable for insurance analysis, it is necessary that existing datasets (ideally obtained in a non-insurance context) be fully explored for their relevance in constructing benchmark models for possible pilot application, experimentation, testing and eventual adoption of microinsurance in developing countries. However, in some situations existing datasets may be far too outdated thus requiring a new survey. Salient elements of such a new survey are discussed later in this section.

**(b) Why Panel Data?** Many (indeed all covariant) risks are temporal in nature (e.g., agriculture and weather related events, even health). Though death and long-term disability risks may well be timeless in the main, climatic and natural events (e.g., susceptibility to exceptional cold, extreme events such as major floods or tidal surges) may also confound these risks so that a temporal outlook is a prudent one to adopt even in these cases. Hence the probable loss calculation ought to be carried out in the context of a panel dataset.

Statisticians would argue that a minimum of ten years experience would be required to model the risks and variability of a prospective insured event, thus calling for a longitudinal dataset of same households interviewed periodically over a 10-year period. This is a tall order in the present circumstances, and as suggested above, one should design pilot schemes based on multiple observations for experimentation and adaptation in light of the experience.<sup>19</sup>

**(c) Bangladesh Panel Data:** While any publicly accessible household survey for different countries may be explored for further analysis, at this time an excellent source

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<sup>19</sup> The well known ICRISAT data cited above (1975/6-83/4), though dated, and has been much analyzed in understanding the functioning of rural risk markets. While the author is not aware of any insurance study based on this data, it would seem that the sample size (essentially 120 household in 3 villages) is far too small to yield any meaningful risk projections.

of data would appear to be that has been sponsored by the *Palli Karma Shahayak Foundation* (PKSF) in Bangladesh.<sup>20</sup> PKSF is a wholesale microcredit provider for its partner organizations (POs), the latter being small to medium MFIs (though a few large MFIs are also members). The survey in question provides a panel dataset encompassing about 3000 households collected in four waves between 1998 and 2004. This sample has information on many economic variables for both (a) microcredit participants, and (b) non-participants in program villages. It has limited observations on control villages; apparently by 2004 very few of the control villages remained in that category as microcredit has been on an expansionary phase pretty much all over the country.

These surveys have *household-level* information on many elements that may serve as a basis for analyzing insurance possibilities to ameliorate vulnerability in many dimensions. For example, these provide the sources of income such as (i) crop production, (ii) livestock & fishery, (iii) wage income, (iv) income from self-employment (non-agricultural), (v) remittances, (vi) other transfers, (vii) rental income etc, which can be used to assess the overall income risks faced by respondents, and identify the key sources of such risks. The crop data may be focused on for an analysis of the potential for crop or weather insurance.

These surveys have also data on the allocation of employment hours between self-employment, wage employment, farming, non-farm agricultural activities and non-farm non-agricultural employment. The variability in these dimensions may be categorized along the land-ownership axis: (a) small landholders and (b) the strictly landless, and examine how the hours of employment in various activities depended on *local rainfall*, external source of data for which would be easily available. Thus this data set can serve as a potential sample for examining the scope and the terms of an adequate coverage of rainfall insurance in various occupations for both the landless and the small landholders.

Incidence of illness and related health issues are also covered in these surveys outlining the nature of illness, its length, the extent of work lost, cost of treatment (fees, medication and hospitalization, as relevant). These may form an initial basis on which to project the likely parameters of a meaningful health insurance scheme that the poor may find valuable.

**BRAC** (Bangladesh) has another panel data of household surveys carried out in 2002 and 2005 (just two waves). The BRAC data was obtained in the context of an intervention program known as CFPR (Challenging the Frontiers of Poverty Reduction) targeted at the poorest in society, typically those not reached under the usual microcredit programs operated by BRAC, or for that matter, by other MFIs. Given the nature of the intervention, here the two waves can be used to construct a valid panel only for the non-

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<sup>20</sup> The name may be translated as 'Village Employment Facilitating Foundation'. PKSF, over and above a playing a wholesaler's role, provides guidance, supervision and mentoring services to its POs, and has *de facto* been an informal regulator for the segment of the market it caters to.

participants. For the *participants* only if household outcomes surveyed in 2005 can be isolated into components that reflect random occurrence vs. post-intervention effects, these observations may also be usable. However such a decomposition is difficult, and certainly not reflected in the raw data, and hence these are likely to be of limited value in modelling insurance schemes.

Moreover, the BRAC surveys did not specify a formal ‘control’ group, another constraining aspect of the dataset. However ‘treatment’ and ‘non-treatment’ classifications was made according to who was selected for participation (SUP, *selected ultra poor*), and those not selected (NSUP, *non-selected ultra poor*). This division is not however what one would identify as standard ‘treatment’ and ‘control’ groups. The advantage of this dataset however is that it addresses the ultra poor, and secondly, it has fairly detailed *health* information, which may be used to discuss viable health insurance schemes targeted to the very poor.

**(d) Survey Design for New Panel Data:** If a new longitudinal random sample survey is to be launched, how should it be designed? The survey in question may either focus on an actual insurance scheme (say, health) in operation, or, it could primarily analyze the demand for various types of insurance, the willingness to pay for it, the likely delivery mode necessary to reach the scale economies and the like. If the respondents have access to insurance or other service, it would also be useful to gather information relevant to the quality of program utilization and its ability to address the vulnerability issue. Ideally the survey should continue for several years, with the first serving as the ‘baseline data’ and analysis ought to be carried out each time a new wave has come in.<sup>21</sup>

In the health context, for example, for the *program* group (both participant and non-participants), the focus would be on the response of the insured to the availability of insurance, and the extent to which insurance allows them to cope with health shocks. The survey analysis would point to the adequacy of the product, the affordability of the cost, and hence on the scope for replication/amplification.

Similarly, it would be necessary to ask the *control* households (in non-program villages) as well the non-participants (in the program villages) how they cope with health shocks in the absence of insurance. For example, they may adjust consumption pattern, offer additional labour in the market, run down savings, dispose of real assets, incur debt, postpone social expenditure, and withdraw children from school or vocational training.

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<sup>21</sup> It would be ideal if the baseline survey can be carried out just prior to the introduction of insurance. For example, if an insurer has a definite plan to extend its product to one or more new (randomly chosen) village(s) in 2010, such a village may be targeted to provide the baseline survey in 2009. And in this case, the next survey (say in 2011) would also be conducted in the same village to examine the effects of program placement on the behaviour of the both the participants, non-participants and the control group. However the above procedure may be difficult to implement as it has to meet a ‘double coincidence’ of the researcher’s interests and that of the program provider over an identical time path.

In addition to standard questions on individual characteristics and the list of recent health events and a record of direct and indirect costs incurred as a consequence, the survey questionnaire must adequately deal with poverty and vulnerability issues. The key questions would relate to the (a) current stock of real and financial assets, (b) changes (and reason) in the asset position (e.g., disposal) over the past 12 months, (c) monthly food and non-food (including health) consumption and expenditure, (d) extent and reason for any major fluctuations in consumption and other expenditure in any of the past 12 months from the usual level, (e) borrowing-lending profile, extent of arrears and default (reason), and (f) schooling (vocational or otherwise) of children, and any changes in the past 12 months.

## **5. Insurance Demand, Public Participation and Public Education**

**(a) Demand:** Design of insurance products must keep the demand issues in mind. Even when the implicit risk premium associated with informal or self insurance can be exorbitant (indeed, infinite), the awareness of the high cost of non-market insurance, and the associated concepts of risk-pooling and risk-shifting are poorly conceived by many unless they are provoked to do so. It turns out that even when they are covered and generally claim to be informed about insurance, many turn out to be unfamiliar with the contingencies that are actually insured against and those are not, and there are also instances where the survey respondents mix up saving programs from those of insurance (Giesbert, 2008). Insurers thus have to overcome the communication challenge, especially so when dealing with the poorly educated. Successful diffusion among the public of the scope and usefulness of insurance products would require innovative methods and plain language. And, most of all, the products themselves ought to be inherently simple in structure and the claim procedure embedded in a transparent manner. In the health area, the quality of service provided by network facilities is also a critical factor in stimulating demand for insurance (Dercon and Kirchberger, 2008). Without these features the microinsurance market is unlikely to prove viable.

Affordability is another critical dimension in determining demand, and hence the cost-effective delivery mode (see below) ought to be explored with the greatest of care. Another common element cited by survey respondents is the level of trust in the insurer, and in this context many recommend intermediation by MFIs since they are generally trusted by the poor typically from credit relationships or general reputation in the local community. Premium collection pattern ought to be flexible and in line with client cash flows. Innovative games may be devised to elicit demand for the type of coverage and corresponding premium requirement preferred by the insured as has been tried out by MIA via its CHAT device noted already and further cited below.

It is a common perception on the field MHI staff that the policy subscribers tend to be baffled when they learn that the premium will not be refunded when no claims are made. It

may therefore be a good practice to start off with a standard rate of policy premium for each type of coverage, and progressive discounts given in the event of a no (or rather minimal) claim history. Thus low claim for one year may entitle the holder to a 5 percent discount that goes up to 15% for two consecutive years of low claims and 30% for the 3-year low claim experience. Such a pricing rule may induce greater interest in the product as the insured would find it a *quid pro quo* type arrangement in return for their good fortune.

**(b) Public Participation:** Involving the public via surveys and experiments may be an effective means of discovering the demand for insurance. Field studies in India further reveal that the poor are indeed capable of making intelligent choice among insurance products, particularly in health matters, which can in principle be quite involved. As Dror (2007) put it, "the results of this analysis demonstrate that respondents can participate actively in the design of their health insurance packages; that they make judicious choices even at their present level of literacy and numeracy" (p.895).

In another study Dror, et al. (2007b) found that poorer households are prepared to pay a higher percentage of their income than richer households for the same health insurance. About two thirds of the sample agreed to pay at least 1%, about half of the sample was willing to pay at least 1.35% and about 30% of the sample was willing to pay about 2.0% of annual household income as health insurance premium. It will be interesting to see if this pattern holds in other data from different countries. And if these figures are indeed the norms of the perceived value of health by the poor, these would then form the upper bound on the premium rates MHI programs may charge. Question then becomes how the cost can be brought down to this level and the extent of the required subsidy.

**(c) Public Education:** The fact that indemnity is payable only when a pre-specified contingency should occur, and that access to this sense of "security" is a commodity deserving of pecuniary sacrifice ought to be the central message that insurers and MFI/NGOs has to communicate to the poor. The challenge lies in communicating this message through easily comprehensible discussion, illustration, stage and video presentation for maximum awareness among the public. Brief documentary programs and advertisement may be placed over the radio and television for greater outreach, and broadcasters may be lobbied to carry such messages *pro bono* in public interest.

As Dercon and Kirchberger comment, "Clients' understanding of insurance products is key not only to take up of insurance, but also to use and appreciation of the policy as well as satisfaction with the insurance. The impact of microinsurance on the welfare of the poorest households strongly depends on whether households are aware of the benefits of the insurance, can therefore make full use of it, and continue to stay members of their insurance policy" (2008, p16).

## 6. Regulation and the Organizational Structure of the Microinsurance Industry

The organizational structure of the microinsurance industry is in an evolving mode. However, four popular delivery modes are (a) the partner-agent model, (b) the community-based model, (c) the full service model and (d) the provider model.

**(a) Partner-agent Model:** Here the registered insurer (e.g., a commercial entity) joins hands with a network of (generally, licensed) agents. MFIs or NGOs may however be engaged as agents even in an outsourced capacity. This model may well be efficient where MFI/Self Help Group (SHG) intermediation is deeply entrenched among the poor. Consequently, transaction costs in marketing the product can be minimized by reaping the twin comparative advantages, namely that of the insurer in developing and pricing policies in combination with the comparative advantage of the local agent with whom the potential insured are already in a relationship of trust (Dercon and Kirchberger, 2008).

**(b) Community Model:** CGAP: Typically the community model refers to non-profit association of mutual societies, where the policyholders or clients own and manage the operations typically liaising with external service providers (e.g., in health insurance). Numerically, the majority of microinsurance providers in the world are believed to be mutual institutions of one kind or another (Fischer & Qureshi, 2006). Organizationally, cooperatives may be of the (i) *stand-alone* variety, such as large mutual insurance companies not affiliated to a network of mutual institutions. CARD MBA in the Philippines and Yasiru Mutual Provident Fund in Sri Lanka are among the examples. Alternatively, (ii) a mutual insurance company can be the insurance arm of a *network of financial cooperatives* (savings and credit cooperatives or SACCOs), providing service to members of the network. Here examples include MUSCCO in Malawi and ServiPeru in Peru). A third variant (iii) is a network of mutual insurance associations, which is frequently referred to as the community-based approach. This differs from the preceding structure in that insurance here is the *raison d'être*; while for SACCOs, insurance is just an additional product, and may not even considered a core service. In the cooperative network model, the network engages a risk carrier, which creates and underwrites the insurance products, while the cooperatives (financial and/or non-financial) serve as the distribution network as well as the market (Fischer & Qureshi, 2006).

In the cooperative mode of service delivery while owned by the community members, once the company is established, service is often extended to non-members. Many believe that this model has inherent advantages over alternatives, in terms of containing the costs of administration and marketing of the insurance products to the poor on account of lower transaction costs. Surely the question of trust is there, and members being drawn from diverse occupations provide a good diversification as to their income, health and occupational hazards. However, the community based organizations also need to harness adequate managerial resources and sources of finance in building the reserve fund. Due to their structure and the regulatory framework, they may have difficulty in

obtaining a reinsurance partner thereby creating an obstacle in dealing with covariate risks. Further, unless the membership is large to reach the scale necessary to attain effective risk-pooling and the design of the insurance product is efficient and actuarially sound, the overall success may be compromised.

**(c) Full Service Model:** Here either a registered insurer, or an MFI or NGO runs its own insurance scheme for its clients and any profit or loss is absorbed by the same entity. The insurer here is in full control, but would typically engage a provider (e.g., another NGO or a commercial entity), for example, in health care. The provider has no claim on any residual profit or loss. Examples include Delta (a registered insurer) in Bangladesh and SPANDANA or SEWA in India.<sup>22</sup>

Evidently for this model to succeed, it would be necessary for the insurer to manage all aspects of the business most efficiently. The risks are of course proportionately much higher, but in the case of registered insurers, reinsurance is always a feasibility and, furthermore, if the insurer is publicly listed, access to shareholder capital is also there.

**(d) Provider Model:** Under this scenario, the service provider and the insurer are one and the same. Similar to the full-service model, the insurer is responsible for all operations, delivery, design, and service. Here the risks faced by an insurer are the same as in the full service model, but the responsibility of providing satisfactory service becomes a new element. In the preceding case, a provider may be switched if the performance is poor, but here the insurer/provider has to innovate continually and reengineer itself to meet the challenges. Most MHI programs in Bangladesh are effectively examples of the provider model run by MFI/NGOs. While in principle, some services may also be provided by externally linked clinics, in practice the use of such facilities is relatively rare at least in the case of the largest program run by Grameen Kalyan. But as cited elsewhere, most of these programs are small and still in the pilot phase, and the scale necessary for low-cost provision of service may be a long way off.

**(e) Regulation:** For any delivery mode to flourish it will be necessary to have regulatory directives that recognize the relevant practices, particularly when the insurer, other providers, and NGO-MFIs liaise with each other as partner-agents or in alternative delivery arrangements as described above. In this context, the stipulation by the Indian regulator, Insurance Regulatory and Development Authority (IRDA), that microinsurance be sold only by registered commercial insurers through their appointed (and duly registered) agents may be deemed as overly regimental. Even though this may well be an efficient modality, especially when the agents are MFI/NGOs, for IRDA to pre-judge the issue would appear to have exceeded the bounds of its competence and responsibility (Ahsan, Barua and Tax, 2009). Exclusive focus on a given arrangement would appear to severely limit the scope of widening the scope of microinsurance. Therefore many

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<sup>22</sup> However SEWA has recently teamed up with a registered risk carrier.

experts call for agnosticism in the organizational structure of the microinsurance industry to allow experimentation and offer a variety to clients (McCord, 2008).

Additionally, for the efficient provision of insurance, it will be necessary to have compliant friendly regulatory directives that address several key elements including the definition of eligible products, duration and scope of coverage, dichotomy of life vs. non-life products, separation of credit and insurance activities, capital adequacy and related prudential guidelines, design, accumulation and investment of the reserve fund, policy delinquency, audit and supervision. Regulatory directives may also require that for recognized insurance products to be offered, the insurer establish that the benchmark presumptions of the underlying statistical framework are sound and indeed that the relevant data is reliable. Needless to say, not all such guidelines need be binding on the fledgling industry at one go, but rather phased in a progressive manner as the market matures.<sup>23</sup>

## **7. Reinsurance**

As many writers have stressed microinsurance can only flourish when the risks carried by the national insurers (whatever the delivery modality) are shifted further via reinsurance to global firms engaged in the business. The silver lining here is that most major reinsurers are taking a keen interest in the field of microinsurance and are already engaged in various initiatives in many countries. However, for these initiatives to lead to full-fledged partnership between national insurers and international reinsurers, it will be necessary to have a functioning regulatory and supervisory authority in each case which would issue licences to recognized insurers (including MFIs) as appropriate.

Further, in order to attract reputable reinsurers into this market, it would be essential that the insurance contracts being offered to the public are financially sound, incorporate built-in flexibility to deal with periodic updates in light of new unbiased data of actuarial import, allow for reinsurance premium in its premium calculus, and provide wide (e.g., national) coverage for adequate risk shifting at the level of domestic insurers. Any donor/treasury participation in subsidizing the reinsurance account, alternative subsidy regimes (e.g., contribution toward capital expenses) or in the provision of a general contingency fund ought to be fully accounted for in the context of the long run sustainability of the market. In other words, the entry of reinsurers would be facilitated by institutionalizing total financial transparency as well as by the evidence that the national regulatory directives are sound and meet international standards.

## **8. Concluding Comments**

(a) *The Communication Gap*: Going forward, one may observe that over the long term the challenge is to bring microinsurance products within the reach of hundreds of

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<sup>23</sup> See (Ahsan, Barua and Tax, 2009) for additional details.

millions of poor in developing countries. In other words, there has to be a commensurate growth in the perceived demand for insurance. For that to happen, one has to overcome the bottlenecks that appear to plague the first generation schemes now in play. Consumer education about insurance, its fundamental risk shifting features, modalities of the premium-indemnity setting and the limitations (e.g., coinsurance) are poorly understood almost universally at this moment thus compromising its appeal and actual success on the ground. Timely disbursement of indemnity as well as prudent and transparent management of the premium revenue are essential in raising customer awareness and loyalty. While the lack of comprehension among the public is recognized by practitioners, no headway has been made to overcome the challenge. Policies and their terms must be simple and straightforward with no necessity of 'fine prints' and the myriad of 'exclusion' clauses. Harnessing appropriate technology and its prudent use in delivering information would allow access to remote areas at low cost. The communication gap therefore has to be overcome in order to make true progress.

(b) *Public-Private Sharing of Costs*: While large scale microinsurance ought to be a private enterprise in steady state, in the interim phase (which could be product and location specific) as microinsurance takes firm hold among the population, it is evident that in some cases (e.g., health) it would be necessary to secure a subsidy from public or donor sources (e.g., to finance capital expenditure or to subsidize the risk by underwriting re-insurance costs). Hence public sector budgeting ought to take this into account. More generally, it would be prudent to build up a contingency reserve fund in the event of uninsured, external shocks (e.g., natural hazards not covered by insurance) which may force the insured to miss some payments. However, it is to be kept in mind that there may well be situations where risk management may be best pursued outside of formal insurance set-up. However no solid research exists as of now to guide the design of a most effective subsidy regime and how this dependence may be overcome.

(c) *Product Design and Risk Pooling Threshold*: It is also clear that critical aspects of product design are far from being 'standard'. One needs to establish threshold for most efficient risk pooling (i.e., beyond which administrative expenses overtake the scale efficiency) for different types of insurance policies and coverages. Likewise, no clear sense is available from a literature review as to the ideal magnitude of coinsurance in various policies, the limits of and exclusions from maximum converge, if any, or indeed how best to deal with adverse selection (e.g., the extent 'compulsion' that may be exercised). In developing group products, questions such as how to conceptualise various groups (especially in rural than in urban context) largely meets a black box. These are some of the issues that need to be pinned down with greater precision in order for microinsurance to spread widely.

(d) *Regulation and Governance*: As cited above, one of the most powerful public policy tools appears to be the regulation and supervision of microinsurance. As identified above,

a sound regulatory and supervisory regime would instil trust on the part of the insureds as well as that of reinsures and other external partners. The literature also provides adequate guidance as to the necessity of acquiring and implementing appropriate MIS systems to help track clients and manage the business efficiently, as well as to significantly rely on skilled professionals in developing and managing microinsurance. In other words, a great deal of training and workshop experience need to be cultivated in being able to stay on top of the knowledge frontier in a fast-moving area. Efficient adoption of IT advances would also go hand-in-hand with expanding outreach and minimize administrative expenses. Here public initiatives in sponsoring research and training possibly with donor assistance would be helpful.

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