

# Microinsurance as a Tool to Reduce Vulnerability due to Costs of Ill-Health<sup>1</sup>

*Ralf Radermacher, Siddharth Srivastava, Atanu Majumdar, Jacqueline Roberts Singh, Iddo Dror*

Micro Insurance Academy  
246 Sant Nagar, East of Kailash  
New Delhi 110065  
India  
Phone: +91 11 4379 9100  
Fax: +91 11 4379 9117  
[www.microinsuranceacademy.org](http://www.microinsuranceacademy.org)

## **Abstract**

The need for risk-management solutions is undisputed by policy makers, who are aware that poor families can lose - in a matter of hours - assets that took years to accumulate, due to a sudden sickness or accident. The policy to provide free primary care and to a certain degree secondary care is positive step and could effectively help to reduce financial exposure of Nepal's poor when the policy is implemented and functional on large scale. But even if this would succeed, only a part of the vulnerability is reduced: the poor still have to pay for services not covered under this policy, such as certain hospitalization cases, the transportation to health care providers, wage-loss – to name a few. The poor households currently need to finance huge amounts of health expenses (out of pocket expenditure) which are over and above their current income(s) and savings. They therefore need to resort to multiple sources of financing, of which a major source is borrowing (in 53% of the hospitalization episodes). Even such a source exposes large scale vulnerability of poor households as they have to borrow under unfavorable conditions due to their circumstance. There is a simple and proven tool to reduce the vulnerability to the financial consequences of ill health: insurance. Unlike the burden of financing huge health expenses from current income or through borrowing, insurance uses a solidarity mechanism and spreads the costs of illness over many households. It thus reduces the burden on the effected household. Furthermore, insurance converts unpredictable health expenses into predictable costs in form of health insurance premiums. This makes financial planning for households much easier and reduces the need to borrow money in an emergency situation at unfavorable rates. This paper discusses the financial vulnerability which poor households in Nepal need to face with respect to costs incurred due to ill health. It then goes on to explain how Microinsurance can act as a tool to reduce this vulnerability.

---

<sup>1</sup> The paper is submitted as a resource paper to the Nepal Microfinance Summit 2010 (Kathmandu 14-16 February 2010); the work is related to a pilot project in microinsurance, which is implemented jointly with Save the Children, Nirdhan Utthan Bank and DEPROSC, as well as the Centre for Microfinance. Field work for the survey reported in this paper was carried out by Blitz Media and DMI. The valuable contributions of all partners are gratefully acknowledged; mistakes in this article are in the sole responsibility of the authors.

## **Introduction**

The need for risk-management solutions is undisputed by policy makers, who are aware that poor families can lose - in a matter of hours - assets that took years to accumulate, due to a sudden sickness or accident. The main reason for this extreme vulnerability is that in many low-income countries, the poor, the rural population and people in the informal economy with unstable income flows must pay for healthcare out-of-pocket. This vulnerability, afflicting hundreds of millions in the developing world, does not diminish even if they can access microfinance. The lack of access to health financing mechanisms, and notably microinsurance, requires solutions that have not yet been tried on a large scale.

The government of Nepal has taken steps to reduce such vulnerability caused by health events. The policy to provide free primary care and to a certain degree secondary care is such a step and could effectively help to reduce financial exposure of Nepal's poor when the policy is implemented and functional on large scale. But even if this would succeed, only a part of the vulnerability is reduced: the poor still have to pay for services not covered under this policy, such as certain hospitalization cases, the transportation to health care providers, wage-loss – to name a few.

Some of this vulnerability can be reduced with access to microfinancial services, such as loans and building up of savings. However, utilization of loans and savings for health care related expenses leaves the burden on the sick household. Furthermore, as health incidents happen unexpectedly, the household has to arrange money in an emergency situation, often for less favorable conditions. Households are thus still exposed to a high degree of vulnerability; a vulnerability which can easily be reduced by turning unexpected health costs incurred at the time of sickness into a predictable pre-payment mechanism, which leverages the solidarity existing in local communities.

This article presents some snapshots of evidence on the vulnerability of households due to illness, and discusses how the financial tool of microinsurance can help in reducing this vulnerability. It then goes on to reviewing the challenges in microinsurance and presents hints on how they can be overcome.

## **Vulnerability in Nepal**

The following section is based on the findings of a household survey conducted in Nepal (Dhading and Banke districts)<sup>2</sup> with 2008 households.

### *Incidence of illness*

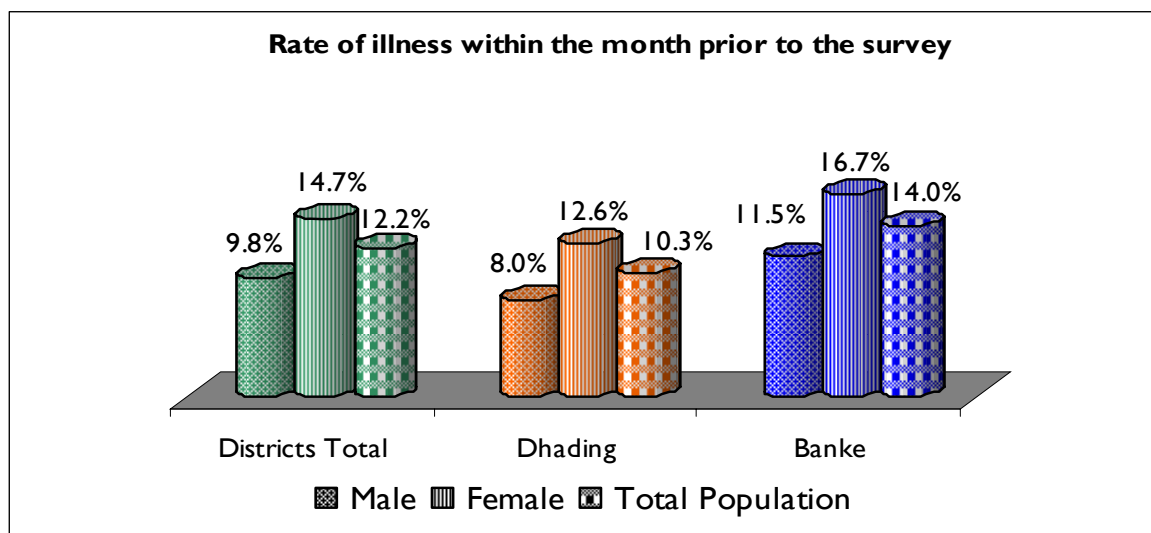
The estimated monthly rate of illness in the population is 10.27% in Dhading, 14.04% in Banke and 12.24% for the two districts combined (Fig. 1). The female population is

---

<sup>2</sup> Conducted by the Micro Insurance Academy and Save the Children in partnership with Nirdhan and DEPROSC in March and April 2009.

generally more vulnerable to illness as also seen in the two districts combined, the rate of illness being 14.70% amongst females and 9.84% amongst males. With a balanced gender ratio (50% males to 50% females) for the two districts combined, females would comparatively add a higher burden to the health expenses pocket of the population.

**Figure 1: Rate of illness within the month prior to the survey**



The gender-age analysis of the population says that females are more prone to illness in almost all age groups. In addition infants (<6 yrs) and older age groups are also more prone to illnesses. These groups again add to the vulnerability of the population in Nepal with regard to health expenses, as 43% of the households have at least 1 infant (<6 yrs) and 26% have at least one elderly person (>=60 yrs).

Illness not only generates a direct cost for a family, but also has many other implications, the most important of which is absence from work. The number of days a person could not perform his/her normal duties because of illness varies from 0 days to 365 days, with a mean of 8.8 days for Dhading, 6.6 days for Banke and 7.5 days for the two districts combined, regardless of gender and age. Amongst the sick individuals 40% of those who can not perform their normal duties because of their illness are economically productive members of their respective households. This would mean that such households are more vulnerable as they bear a higher financial burden than just the sick individual's treatment expense (in form of wage-loss of the sick individual).

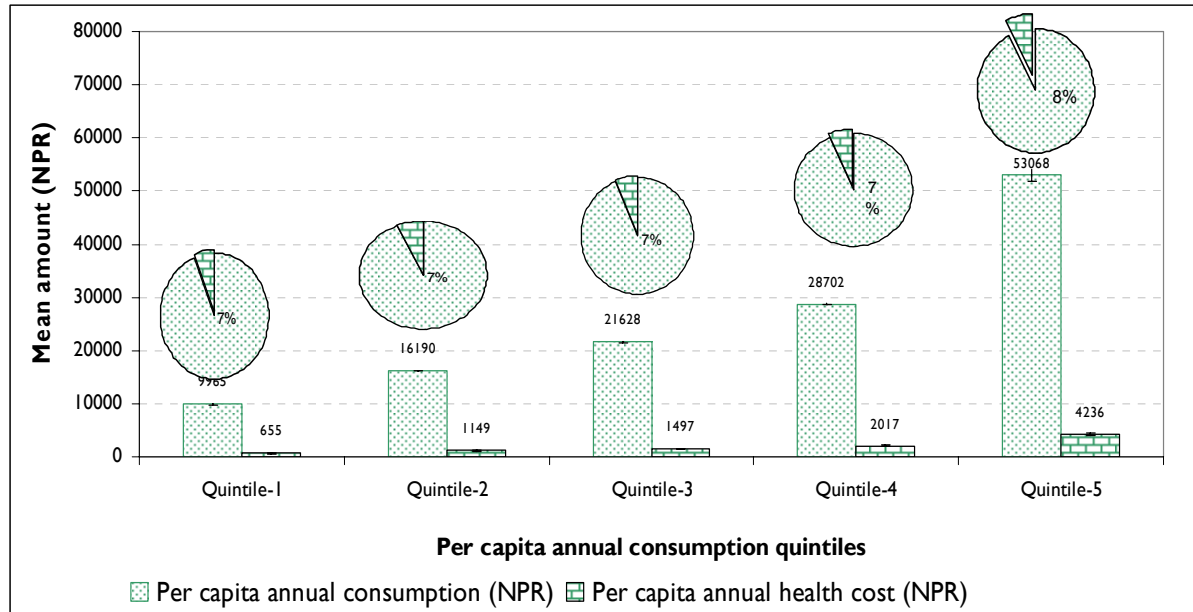
#### *Health costs*

97% of the households are to have some form of healthcare expenditure within a year. The self-estimated annual household expenditure on health care across the different income<sup>3</sup> groups shows a relatively gradual growth, with the exception of the richest group (mean expense of NPR 35,171) which shows a steep increase. Within the different income groups, the per-person annual healthcare expenditure as a share of the per-person annual income varies from 6.58% in the first income group to 7.98% in the

<sup>3</sup> Consumption was used a proxy for income.

last income group (Fig. 2). This means that the poor and the richer (relatively) population are shelling out an equal share of their income on health expenditures, but of course for the poorer group this share is a more significant strain on their small income compared to richer groups, increasing their vulnerability, while at the same time providing less access to services.

**Figure 2: Consumption measured against self-estimated health expenditure (Districts Total)**



Per capita healthcare expenditure within a household increases with per capita income, though mildly (Pearson product-moment:  $r = 0.221$ ).

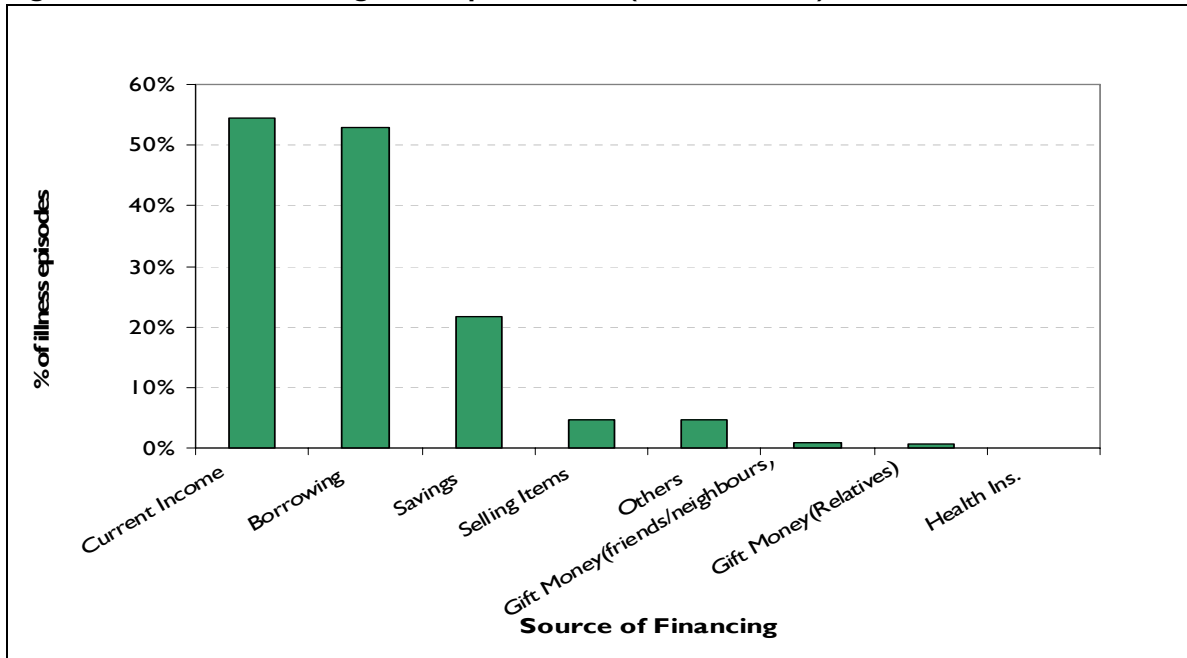
A household's medical health expense includes expenses for OPD consultations, medicines, tests and imaging, hospitalization, medicines purchased from outside during hospitalization, dental care, medical aid (glass, crutches, wheel chairs etc.), vaccination, preventive health check up and maternity. In addition there are associated costs like transportation costs for seeking OPD services, IPD care and maternity services. On average around NPR 223 per person per month in Dhading, NPR 266 in Banke and NPR 245 in two districts combined together is spent on health care expenses.

#### *Sources of health spending*

For poor households, high health expenses can often mean resorting to borrowing and selling of assets as the health expense might exceed the household's source(s) of income and savings. Poor households also need to resort to multiple sources of financing for their healthcare expenses. Amongst the sources for the out of pocket spending of the population on hospitalizations, which among healthcare expenses is expected to be a low-frequency but high-cost event, borrowing is a major source. A significant part of the population can not afford the total hospitalization expense that occurs in their household and have to resort to borrowing (in 53% of the hospitalization episodes). In

approximately 5% of the reported hospitalization episodes, the household also have to resort to selling items to help finance their expense.

**Figure 3: Source of Financing for Hospitalizations (Districts Total)**



When borrowing is required, majority of households (in around 94% of the borrowing cases) also need to borrow from more than one source to help finance their health expenses. Like with illness financing, relatives/friends/neighbors are the most approached lenders (75% of the borrowing instances for hospitalization episodes). For hospitalizations, as the cost of the hospitalization episodes go up, the amount of borrowed money used to finance the hospitalization episode expense (including transportation and medicines bought outside the hospitals) also go up. The average borrowed amount used to finance a hospitalization episode for the richest group of the population is around NPR 20,997. Borrowing and selling assets can deprive households severely.

### **Microinsurance**

There is a simple and proven tool to reduce the vulnerability to the financial consequences of ill health: insurance. Unlike the burden of financing huge health expenses from current income or through borrowing, insurance uses a solidarity mechanism and spreads the costs of illness over many households. It thus reduces the burden on the effected household. Furthermore, insurance converts unpredictable health expenses into predictable costs in form of health insurance premiums. This makes financial planning for households much easier and reduces the need to borrow money in an emergency situation at unfavorable rates. Health insurance can do more than only covering the medical costs: it can also provide coverage for the indirect costs, such as loss of income during hospitalization or the cost of transportation to the hospital. Health insurance can thus play an important role to reduce the vulnerability of the poor.

Having said this, currently health insurance is hardly available to the poor in Nepal. Commercial insurance providers have difficulties defining a profitable approach and civil society organizations lack the required expertise. This leads one to wonder - *Is health insurance at all made for poor clients?*

It is certainly worth mentioning here that health insurance has traditionally been a tool made for the poor and often administered by the poor themselves. Take Germany for example, about a century ago (the same would hold for the UK, Netherlands, Japan and other insurance markets, which today are called “developed”) the largest part of the population was covered in more than 20,000 sickness funds - community based health insurance schemes. The health insurance system of today’s Germany has its roots in such a system, i.e. transitioned from there to a more integrated health insurance system (see on the historical development Bärninghausen and Sauerborn, 2002). Therefore, if planned well, a similar but much faster transition can be replicated in today’s time. It is not only the state and the civil society which is required to play an important role in such a development now – the private sector can contribute as well, on a commercially viable proposition. The comparative advantages of different players have to be harvested though in order to overcome some of the challenges associated with the provision of microinsurance. But what are these challenges?<sup>4</sup>

To start with, a major challenge is reflected in a wide-spread misperception about the very nature of microinsurance. Too often the focus is on “what is offered, for how much” and the question of selling it, rather than the question of servicing the product. An insurance scheme which leaves doubt about the servicing question, might not be very attractive to potential customers. It is important that the process of servicing of insurance, including the provision of information on how to obtain benefits, is designed in a way which adjusts to the reality of the clients rather than making the client adjust to the insurance. Successful microinsurance is not about product redesign (alone), it is rather about process re-engineering. Adequate processes are thus the first challenge.

Such process re-engineering also has to develop ways to handle potential fraud and moral hazard – both on the client as well as the health care provider side. Overcoming information asymmetry is the key challenge for both forms of moral hazard and fraud. To handle this issue on the client side, some insurance schemes require extensive paper work to be completed. The success of such measures is doubtful though, beyond its adverse affect on the increase of transaction costs. The challenge is to create an incentive for those in the social network of clients to share information which is available with them locally: gossip. Such incentive can be created if fraudulent claims would harm community members, e.g. reducing a surplus which might stay in the community (or even inflicting a loss). Community members are in such a case not indifferent to fraud or moral hazard, while they might not care if the loss is inflicted to an external party. Such a mechanism of social sanctions can unfold a disciplinary effect on insured members – provided the local community has a stake in profits and losses of

---

<sup>4</sup> Some of the challenges are discussed in more detail in Dror (2008).

the local scheme. Social penalties might be stronger than a potential threat an outside agency can construct for a microinsurance case. A local community based mutual scheme can thus unfold a design advantages here.

The control of fraud and moral hazard on the provider side is more difficult; the use of a sophisticated IT system might help reducing this as well as tight quality control on the affiliated providers. Uplift Health, a mutual health insurance scheme in Pune, for instance, has designed a 24/7 health hotline for their members, staffed by doctors who would guide insured patients to the adequate hospital and ensure the correct treatment. This hotline, according to Uplift Health, has a strong cost-controlling effect and is economically viable – while providing an added benefit to the insured members.

Affordability is another major challenge that any start-up microinsurance has to face, since the target population is by definition resource-limited individuals, with a reduced ability to pay. Because the goal of the wide majority of microinsurances is to improve the quality of life of the poorest and to eventually pull them out of poverty, making the product affordable is an important objective. One pitfall that a microinsurance should avoid though is cutting on benefits. Narrowing the scope of benefits can lead to a reduced number of illnesses covered, and to a lower cap (maximum amount covered). A microinsurance may also want to lower the price of the premium by excluding those among the clients who have the highest risk, that is those who are most likely to have frequent and severe illness episodes. This process is referred to as “Lemon dropping” in the literature. These are a bad means of containing the price of benefit, because the share of the population’s risk that is borne by the insurance gets smaller, thus increasing people’s probability of being faced with a catastrophic expense of falling back into poverty. Such limitation might make the price of insurance cheaper, but leaves the clients exposed to risk. It renders insurance meaningless: Affordable and cheap are not the same!

There exist some other ways of containing the premium price, though. For instance, the microinsurance can sign an agreement with local health care providers on charging a lower price for those insured. The microinsurance can also make efforts towards reducing its administrative and operating costs. Education of the insured can also help prevent over-utilization and limit the total annual claim amount.

Trust is another key element for a microinsurance. Poor people living in rural areas or urban slums do not trust big companies, which is why the cost of approaching this population for private insurer would be extremely high. Poor households have a very tight budget, so they will never buy an insurance policy unless they are convinced that this money is well spent.

That is why the microinsurer has to be trusted by the population who needs to be covered. He has to be credible to them in the start-up phase, and has to keep on strengthening this trust in order for the microinsurance to be sustainable. As a matter of fact, people can trust the microinsurer in the beginning, but they can decide not to renew their insurance policy if they realize that they do not get enough benefit for the premium they have paid, or if they think that someone is making money out of it.

The design of the product itself is another challenge for the microinsurer. The benefit package has to be chosen in accordance to the actual needs of the target population. As mentioned before, resource-poor people have many tight constraints on their budget. For most people, their income is insufficient to fulfill even their basic needs in terms of health, housing, education and nutrition. These people will only buy an insurance policy if they are sure that it will actually help fulfill these essential needs in a cost-efficient way, that is to say if they believe that they will benefit more from one rupee spent on insurance than from the same amount spent on buying food or healthcare services themselves.

One of the main pitfalls of a number of commercial insurance schemes for the poor is that they are usually based on pre-existing schemes which were designed to meet a much richer demand. People living in remote rural areas or in urban slums have very specific needs, because they have to cope with problems such as under-nutrition, poor sanitary conditions, diseases that exist mostly in poor areas, difficult access to healthcare facilities, and so on, that are very different from the problems wealthier people have to face. That is why a microinsurer should pay close attention to the benefits he is offering. The product s/he is marketing should respond as well as possible to the needs of the target population, under certain constraints, such as low cost and existing healthcare supply.

The first version of health insurance launched by VimoSEWA in 1994 provides a good example. At that time the insurance was bought from United India Insurance Company (UIIC). The contract stated that claim would only be paid if the healthcare facility had 10 beds or more, despite the fact that there existed small quality facilities near to the insured. The time to reimbursement was also extremely long, as it took 2 to 6 months to get one's money back. VimoSEWA had to start its own health insurance scheme 2 years later, since the product offered by the UIIC was unsuitable to the reality of people living near or below poverty line.

For the microinsurance to achieve its goal, it has to be sustainable. Sustainability implies having a control over all the aforementioned challenges. Sustainability means that on the long run, the claims the insurance has to pay to the insured and the total revenue of the insurance (mostly premium plus revenues from investment) are balanced. It also means that the microinsurance is protected against catastrophic expenses, either by a reinsurance scheme or by belonging to a network of microinsurance. In order to balance its revenue and its expenses, the microinsurer has to insure a pool that is large and stable enough for the total annual claim to be predictable. The only way to secure a large and stable pool of insured is by offering a scheme which is affordable and corresponds to the actual needs of the target population, and by building on trust between the different agents. Therefore involvement of the community can help limit adverse selection, moral hazard and fraud, and thus keep the cost of the product as low as possible.

### **How to overcome the challenges?**

Many of the challenges can be easily overcome when combining the best of several approaches: when trained properly, communities – like those organized in federations of

self-reliant groups – can form mutual insurance schemes, owned and managed by the members. The advantage of such local schemes is that they are tailored to the local needs, both in the benefits they cover as well as the processes they apply. They know the reality of their members and are thus adjusted to the living situation of the people they serve.

Because of the self-administration and the communities' stake in profits and losses, the design helps to reduce information asymmetry and provides community members with an incentive to use local information for the verification of claims. By doing so, the decision about claim payment is taken where the information is available.

However, small community-based insurance schemes are exposed to financial instability through fluctuations in the claims they cover. Such instability can either arise from few high-cost claims or from a larger than expected number of small claims. Both might jeopardize the small scheme. Reinsurance – insurance of the insurance – can provide a solution to this problem (see Dror, Preker 2002 for more details). Primary insurers could become quasi-reinsurers of such community-based insurance schemes, engaging in a business-to-business partnership, which also reduces the transaction costs for the commercial partner. This offers commercial players an interesting access to the market, on a revised and much more suitable business approach.

The government can play an important role in such an arrangement, apart from creating an enabling environment for community insurance: The Government of Nepal is taking active steps to reduce the vulnerability of its population by providing certain services for “free” (i.e. paid from taxes); we have shown though that such an arrangement would benefit from complementing community-based insurance schemes. The government could support access to such community-based schemes for all people regardless of their risk profile by establishing a risk-adjustment mechanism for Nepal. Such risk adjustment would contribute to the increased costs of a “bad risk” (a person expected to be more costly to insure) over the average risk to each scheme insuring such a risk. When designed well, insurance schemes would effectively be indifferent to insuring a healthy man of middle age or an elderly woman. Such an innovative mechanism could contribute to Nepal's financial inclusion strategy and complement the existing approaches in the health domain. When all stakeholders pull in the right direction, the vulnerability of Nepal's poor can be reduced in the best possible manner.

## References

Bärnighausen, T. and Sauerborn, R. (2002): One hundred and eighteen years of German health insurance system: are there any lessons for middle- and low-income countries?, *Social Science & Medicine*, 54:1559-1587.

Dror D. M., Radermacher, R. (Eds., 2009): Financial Inclusion Opportunities for Micro Health Insurance in Nepal: An Exploratory Analysis of Health Incidence, Costs and Willingness to Pay in Dhading and Banke Districts of Nepal, *Micro Insurance Academy Publication*. ISBN:978-81-909841-0-2

Dror, D.M., Preker, A. (Eds., 2002): Social Reinsurance: A New Approach to Sustainable Community Health Financing. World Bank and ILO.

Dror, I. H. (2008): Community Based Micro Health Insurance as an Enabler of Solidarity and Self-Help amongst Poor Communities. Microfinance Focus, Vol. 2, Iss. 8.