

# Risks faced by the Rural Poor in India and Risk Mitigation Measures

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# 1 Introduction

## 1.1 Risk Mitigation versus Risk Management

Poverty is incremental in nature and one dimension of vulnerability adds to the other. Though in the Indian context the poverty line was assessed earlier by the average monthly income a household received, of late the indicators of vulnerability are also taken into consideration while assessing the poverty of a family.

The poverty reduction program focus on raising the level of access to economic opportunities of the poor through various poverty reduction schemes of government of India, health schemes educational and welfare schemes. Though these schemes had improved the lives of many they fall back into poverty trap due to the vulnerable situations they live. The rural poor households become vulnerable due to failure in steady income, failure in the employability due to various external factors and internal factors, heavy spending during special occasion in the family due to death, birth, marriage, ceremonies at home, festivals etc. The environmental conditions of the house, occupation also is associated with risks/vulnerability

Risk transfer instruments such as insurance, community funds, pension schemes etc. can be blended with other preventive and loss reduction programmes, sponsored by the govt. to evolve a holistic risk management programme, which can reduce the vulnerability of rural poor to certain risks. Such programmes can improve success rates of the on going poverty reduction programmes.

## 1.2 Objectives of this paper:

- Assess risk to household income, consumption, children's education, and health due to vulnerability to economic and physical downturns especially in the absence of affordable risk mitigation services.
- Assess the affordability of low-income and poor households for participating in fee based risk mitigation programs.
- Review the existing risk mitigation policy, service and products, institutional arrangements for the rural poor and low-income households.
- Recommend necessary social protection measures related to risk mitigation and products that are appropriate for the poor and low-income for rural households.

The paper is based on the interactions with the NGOs, MFI, Insurance Company officials, Group discussions with women groups, field visits and documentary and Internet references. An earlier version of this was paper was written for the Asian Development Bank as part of the Rural Financial Sector Restructuring Project, 2004.

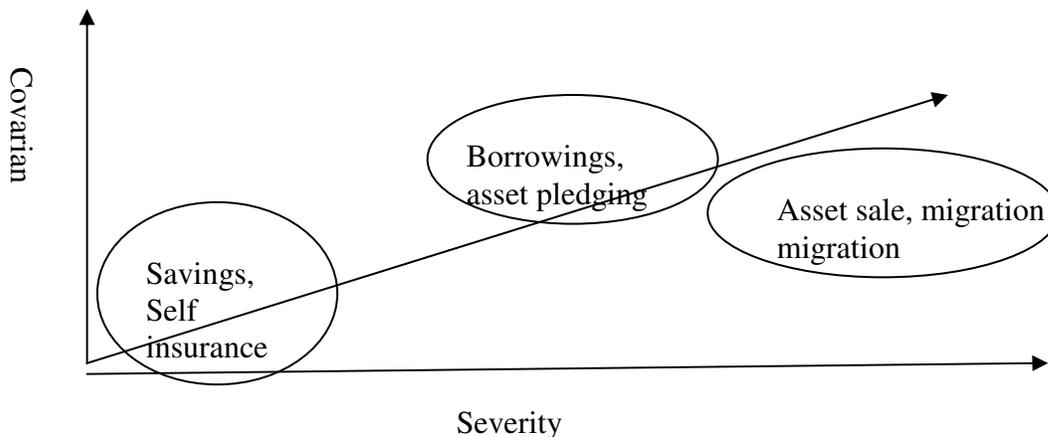
## 2 Profile of Risk Mitigation Needs

### 2.1 Nature & Impact of risks faced by the rural poor

Poverty could result from transient phenomena and sudden shocks such as crop failure, untimely death etc. The impact of such shocks can be transient in the event of the household being able to sell assets or borrow or generate income from alternative employment opportunities that enable it to wait for income from the next harvest. However, if the household has no assets to sell or no access to credit, or is able to borrow at exploitative rates of interest and gets into a debt trap, shocks can have long duration ramifications in terms of pushing households below the poverty line.

Baulch and Hoddinott (2000) distinguish between idiosyncratic and covariant shocks. Covariant shocks could affect all households in this locality while an idiosyncratic shock may be restricted to only a given household. They point out that the “absence of detailed studies on the cumulative impact of shocks represents a particularly serious lacuna in our knowledge of processes of economic mobility” that there are a “myriad ways in which both positive and negative shocks – including pure bad luck, thefts loss of employment, and the cumulative effects of droughts – lead to impoverishment” and that households with greater endowments and greater returns will tend to be less vulnerable to shocks. Also children, women and the elderly are more vulnerable. Vulnerability also has caste and geographical dimensions.

The poor adopt a mix of strategy depending on the severity and co-variability of the shocks.(see fig below).



The self insurance strategies include a) reduced consumption of food grains b) taking children out of school c) temporary migration d) diversification of income sources. It may be noted that some of the above strategies reduce human productivity.

### 2.1.1 Untimely Death

Untimely death is one of the major risks faced by rural poor. The mortality rates for the rural working population (aged between 15 – 50) is given below.

Age Specific Mortality Rates (Rural) in India /'000		Rates fig. in
Age (Years)	Groups	1998
15-19		2
20-24		2.8
25-29		2.8
30-34		3.2
35-39		3.9
40-44		5.1
45-49		6.8
50-54		11.7
55-59		17

Source: Health Information of India, 1999, Ministry of Health and Family Welfare, Govt. of India

The main causes of deaths in India as per the World Development Report (1993), are communicable & infectious diseases (accounting for 43.3% deaths), non communicable diseases (50.2%), and injuries (including those out of calamities, riots etc.)(6.5%). In rural India, communicable diseases and accidents account for larger no. of untimely deaths than urban India.

Untimely death of the bread winner (usually the working male) has major financial implications and can bring down the household income to 25-50% of the original level. Thus families marginally above the poverty line may also be pushed below it. The impact gets compounded if death occurs after prolonged illness since in that situation family also incurs expenditure on treatment. The affected families borrow or sell assets to take care of contingencies, burial/funeral expenses, rituals etc.

Though untimely death of children, women and elderly may not cause high impact on the household income, consequences of high infant mortality rates and high no. of maternal deaths, on overall social productivity cannot be neglected.

### 2.1.1 Health & Accident Risks

For most people living in rural areas, illness represents a permanent threat to their income earning capacity. Beside the direct costs for treatment and drugs, indirect costs for the missing labour force of the ill and the occupying person have to be shouldered by the household.

Almost 80 per cent of the diseases are water borne or are caused by water bodies – cholera, diarrhoea, typhoid, hepatitis A, malaria and filaria. Communicable diseases still dominate in rural India.

The per capita expenditure on non-hospitalised illness and for hospitalised illness in the rural household is Rs 90.48 and Rs 1044.49 respectively. More than 85 % of the health care spending is done by individuals. This results in a high burden of costs for rural poor.

#### Average Expenditure on Health Among Various Income Groups

Household income group (Rs./annum)	Average annual household income (Rs./annum)	Average annual household health expenditure (Rs.)	Expenditure as a % of income	Per capita annual expenditure on health (Rs.)
Rural	18716	988.4	5.28	183.87
<18000	10946	855.84	7.82	167.81
18000-54000	29033	1195.44	4.12	206.36
> 54000	76039	1722.33	2.27	246.10

*Source : Household survey of healthcare utilisation and expenditure, NCAER 1995*

Rural poor have inadequate access to health care services. The average no. of hospital beds per 100,000 of rural population ranges between 4 (for states like Bihar, Madhya Pradesh ) to 198 (State of Kerala). The average no. of doctors per 100,000 of rural population ranges between 3 (for states like Bihar, Madhya Pradesh ) and 76(Punjab). The average distance traveled for seeking any type of outpatient treatment is 5.9 kms. As a result, a substantial portion of the health expenditure is incurred on incidental expenses such as transportation and attendant costs, which do not directly contribute to any health gains.

#### Breakdown of Health Care Expenditure, Rural Households Per Episode

	Fees and medicine	Surgery	Hospitalisation	Clinical tests	Diet	Rituals	Transport	Misc. exp.	Total expenses
Non-hospitalised illness									
Rural (Rs.)	64.51			3.95	7.34	0.80	13.10	0.77	90.48

Rural (%)	71.3			4.4	8.1	0.9	14.5	0.9	100.0
Hospitalised illness									
Rural (Rs.)	539.97	89.73	43.49	152.85	79.4	1.11	125.93	12.02	1044.49
Rural (%)	51.7	8.6	4.2	14.6	7.6	0.1	12.1	1.2	100.0

Source : Household survey of healthcare utilisation and expenditure, NCAER 1995

### 2.1.2 Crop Risks

The enterprise of agriculture is subject to great many uncertainties like calamities (see section 2.1.5), pest attacks, untimely rains, price fluctuation etc. The land-owning rural poor are marginal land owners and income from farming activities constitute about 25-30% of their annual income. To that extent crop losses may have less impact on their overall income levels. However, it may be noted that the largest chunk of rural poor are landless laborers, whose income is indirectly affected by crop failures. Inadequate income from farm labour leads to temporary migration, borrowings etc.

### 2.1.3 Livestock

The distribution of livestock asset value is more equitable than land. In numbers, marginal and small landholders (<2.0 ha) comprise 63% of rural households but account for only 34% of the arable land. In contrast, they account for 67% of the bovines, 65% of the ovines, 70% of the pigs, and 75% of the poultry. Livestock in such households not only serves the purpose of augmenting income, employment, and food security, but also acts as a storehouse of capital and an insurance against crop shocks. It is estimated that income from livestock constitutes 20-30% of the total income of an average rural poor.

Diseases such as Foot and mouth disease (FMD), hemorrhagic septicemia, black quarter, etc., occur frequently among livestock. The study conducted by Perry *et al.* in India (in 2002) found that the top four diseases perceived by the experts to be of importance to the poor were Foot and Mouth Disease, reproductive disorders, *Toxicara vitulorum* and *Brucella abortus* whereas the top four diseases perceived by livestock keepers to be of greatest importance were Foot and Mouth Disease (43%), diarrhoea from non-specific causes (14%) followed by fever (12%) and Hemorrhagic Septicaemia (8%).

The impact of losses due to above diseases and accidental deaths, on rural poor is significant (up to 15-20% of annual income may be lost – see appendix -). The poor may become more vulnerable if his investment in livestock was on credit. (Further, these have aggregate effects that limit economically important herd-management decisions regarding animal selection and optimal longevity. For example, an important loss associated with

animal diseases is the cost of non-investment in production inputs and adoption of less profitable risk-management strategies (Swallow, 2000)). It is seen that farmers may reduce livestock numbers to avoid disease impacts. Other indirect losses include reduced crop production through decreased nutrient cycling, draught power and loss of products such as fuel and transport.

#### **2.1.4 Calamities and disasters**

The Indian sub continent is highly prone to natural disasters. Floods, droughts, cyclones and earthquakes are a recurrent phenomenon in India. Among the 35 States/ Union Territories, 25 are disaster prone. About 8041 km of the Coast line is exposed to tropical cyclones. About 40 million hectare of land area is prone to floods. Further, Landslides, hailstorm and avalanches are common. Around 56% of the total area is prone to seismic activities. 68 % area of the country is prone to drought in varying degrees. Susceptibility to disasters is compounded by frequent occurrences of manmade disasters such as fire, epidemics etc.

Between 1988 and 1997, disasters killed 5,116 people and affected 2.36 million households on an average every year. The number of death and injured reported in the Gujarat earth quake of 2001 were 17122 and 166836 respectively. More than Rs.2500 crore loss was reported to the productive sector. The total direct damages and the total reconstruction cost as per preliminary estimate were Rs.15308 crore and Rs.11499 crore respectively. Magnitude of losses due to drought can be understood by the fact that the drought relief expenditures incurred by Gujarat Government in the year 2000 was more than Rs.150.11 crore on account of wages, cattle subsidies etc. and Rs. 342.4 crores on emergency water supply.

Disasters have a huge impact on the lives of poor households. Disasters cause loss of human lives, livestock, crops and other assets etc. Further the impact of disasters is covariate and severe. As a result the normal risk management strategies of the poor (inter family borrowings, sale of assets etc) are not adequate. This results in the poor resorting to extreme strategies such as external borrowings, migration etc.

#### **2.1.5 Fire, theft, machinery failure etc.**

The poor own assets such as huts, primitive tools, livestock, carts etc. Poor artisans may own work related machinery. These assets are susceptible to idiosyncratic contingencies such as fire, theft, breakdown etc, which may affect income levels.

Many of these assets are low priced and easily repairable/replacable; thereby reducing possible impact. However, untimely occurrence of these events may substantially impact the poor's income. Impact of these events on borrowed assets is more severe.

#### **2.1.6 Others**

Risks are also associated from factors such as, policy changes like the withdrawal of state support, technological change and global competition changing market demand and

rendering traditional skills redundant, development related displacement, ecological factors, etc. “Governments themselves are often a source of shocks to households. This comes about through the way governments influence the economic, legal and political settings within which the household is embedded.” (Baulch and Hoddinott, 2000). Policy changes such as globalisation can also be sources of shock.

## **2.2 Ability and willingness to pay for risk mitigation**

Expense on insurance as a percentage of the total household financial savings is around 11% (2001-02), indicating the average urban willingness to pay for insurance. For a rural poor having annual income in the order of Rs.10, 000-20,000, savings, assumed at the liberal rate of 10%, would be in the range of Rs.1000-2000. Assuming the urban willingness to pay for insurance at 11%, a rural poor can be expected to spend a maximum of Rs.100-200 annually on insurance. Even this estimate is liberal, considering

- That a major portion of his irregular income is spent towards repayment of borrowings
- Lower literacy and awareness levels

The above may apply to pensions schemes and other “external” risk transfer instruments such as commodity futures etc.

It may be inferred from the above, that the poor would prefer using savings in the form of physical assets, gold or bank deposits, for risk mitigation. This hypothesis is supported by the general perception among agencies dealing with rural poor.

## **3 Scope and Limitations of Existing Risk Mitigation Services**

Risk mitigation instruments such as insurance, community funds, pension schemes etc. can serve as a promising response to such client needs. Further these risk mitigation services can serve the following additional purposes:

1. Credit agencies may reduce the rate of interest since the part of credit risk relating to death, illness or property losses can be taken care by risk mitigation instruments.
2. Robust risk mitigation services can create a conducive environment for private sector entry into rural markets
3. Govt. and international agencies can pass on part of the subsidies / relief measures to rural poor through these services.

Keeping the above in mind, the government has initiated multiple risk mitigation schemes/mechanisms for the rural poor from time to time. These include the crop insurance scheme(s), health insurance scheme (s), pension funds, price interventions, disaster relief mechanisms etc. The above schemes/mechanisms have evolved over a period of time through meaningful contribution from govt. bodies, public and private entities, international agencies and non government organizations.

## **4 Limitations of the Existing Risk Mitigation Services**

### **4.1 Life Insurance**

#### **4.1.1 Product Design and Distribution Strategy are not pro poor**

Over 7% of Indian population is covered under life insurance. However, Life insurance penetration in India is low as compared to some of the other developing and developed countries. Life Insurance premiums form just 2.27% of the India's GDP. Even per capita premium of 12 USD is among the lowest. Penetration level in rural India (less than 1%) is lower than that in Urban India. (Insert Table)

### **4.2 Health and Accident insurance**

#### **4.2.1 Low outreach**

The Universal Health Insurance Scheme (UHS) now in operation is skewed in favour of the non-poor. As a result, only a very small number of families below the poverty line (BPL) – actually 11,408 till May, 2004 – have been covered. Although the premiums are low, BPL families seem to avoid the scheme due to their inability to pay the premium. In its present design, the scheme may not be sustainable. Finance Minister (FM), therefore, proposed in his budget speech to redesign the scheme and make it exclusive for persons and families below the poverty line. The revised premium would be Rs 165 for individuals, Rs 248 for a family of five and Rs 330 for a family of seven, without any reduction in benefits.

In addition to the above, he proposed to introduce a new Group Health Insurance Scheme through public sector non-life insurance companies. The insured will be members of Self-Help Groups (SHGs) and other credit linked groups (CLGs) who avail of loans from banks or cooperative institutions. Under the group health insurance scheme, the premium will be Rs 120 per person, but the insurance cover would be for a sum of Rs 10,000.

Private health insurance in India has very low penetration with only about 3 million policies. Social insurance schemes available in India, such as the Employee State insurance Scheme (ESIS) and Central Government Health Scheme (CGHS) have restricted coverage to a very small segment of the population, around 3%.

The main reasons behind the lack of popularity of health insurance especially among the rural poor are as follows

#### **4.2.2 Low Sustainability**

Health is a high frequency high impact risk and. insurance is not the best way resulting in inadequate benefits vis-a-vis premium, leading to reduced demand, reduced prices to accommodate, high claims and

- Low income levels inhibit natural demand for insurance: At low income levels consumption preferred over any form of savings
  - Inefficiencies in the existing distribution mechanism
    - Lack of enough incentives for rural agents
  - Lack of adequate infrastructure results in higher distribution cost
  - Insurance follows availability of healthcare facilities. Lack of the latter prevents spread of the former
  - High administration costs translate into higher premiums or higher subsidies, hindering the sustainability of the health insurance schemes
  - Lengthy claims procedure hinders marketability and repeat purchase
  - Defective product design leads to higher claims ratio; discouraging the insurers to market “health insurance” among rural poor
- Lack of enough rural initiatives; need to create demand among rural masses

### **4.3 Crop Insurance**

Under NAIS also, the maximum amount of indemnity claims (about 53%) have gone to State of Gujarat followed by Maharashtra, Andhra Pradesh, Madhya Pradesh and Orissa. Among the perils, drought has remained consistently the main cause for crop-loss. About 770 crore of indemnities received by Gujarat alone in kharif 2000, are on account of drought. Crop-wise analysis of claims paid shows that still the highest amount of claims have gone to groundnut crop (45%).

There are also concerns with respect to the administrative complexity of administering this scheme. While the implementing states are required to reduce the insurance unit to the level of Gram Panchayat (GP) in a period of three years, resources to conduct the requisite number of crop cutting experiments per unit area of insurance are not forthcoming. Another issue is the use of short time series in calculating yield guarantees. Currently, guaranteed yield is calculated on the basis of a moving average of 3 to 5 years. As a result, in areas, prone to regular calamities, guaranteed yield comes down drastically after a drought. This has led to arguments that yield data of longer duration need to be considered for the calculation of guaranteed/threshold yield. Similarly, for many insurable crops, level of indemnity comes down to 60% due to repeated calamities in the past. Some crops have reached a stage where only a major calamity would entitle claims due to the very low level of guaranteed yields at 60% indemnity level.

The need to protect farmers from agriculture variability has been a continuing concern of agriculture policy. According to the National Agriculture Policy (NAP) 2000, "Despite technological and economic advancements, the condition of farmers continues to be unstable due to natural calamities and price fluctuations." The impact of this variability is highlighted in drought years with news of farmer suicides in many parts of the country. In India crop insurance is one of the instruments for protecting farmers from agricultural variability. Other instruments include open market operations at minimum support prices (MSP) and Calamity Relief Funds.

Here the focus will be on the use of crop insurance schemes to protect farmers from agricultural variability. In India crop insurance has been subsidized by the central and state governments, managed by Agriculture Insurance Company of India limited (earlier by General Insurance Company of India limited) and delivered through rural financial institutions, usually tied to crop loans. Insurance policies so far have provided crop *yield* insurance. This year pilot programs are being launched to provide crop *income* insurance and weather index insurance.

### **Impact of Crop Insurance on Farmers**

The NAIS covers about 12% of farmers and about 10% of area. So at present, crop insurance is not a risk management tool for most farmers. Yet, even at the current levels of coverage, the government has lost more than Rs 3000 Crore in the two and half years (and six seasons) since the NAIS was launched in Rabi, 1999. Expanding the coverage of crop insurance would therefore increase government costs considerably. Unless the program is restructured carefully to make it viable, the prospect of its future expansion to include and impact more farmers is remote. On the demand side, most of the farmers who take up crop insurance are the loanee farmers even though participation in the NAIS is now open to all farmers. This suggests that non-loanee farmers are either not aware of crop insurance or do not reckon the benefits of crop insurance to be great enough to justify their participation. The prospects of Farm Income Insurance Scheme and Rainfall Insurance cannot be underestimated but yet they need to prove their worth.

### ***Uniform premium below actuarial level***

There were two rates under the CCIS and four rates under the NAIS, based on crop categories, but making no distinction for geographical areas. The schemes do make a distinction in the level of indemnity. There are three levels of indemnity – 90%/80%/70%, corresponding to low/medium/high risk areas for all crops, based on coefficient of variation in yield of past 10 years of data. These relatively uniform premium rates in the presence of significant differences in yield volatility across different regions and crops can be expected to give rise to the problem of adverse selection.

An additional advantage of actuarial rates is that it may facilitate timely payments of claims. Currently, the payments are delayed because of delays in payments by the State governments following claims. With actuarial rates the implementing agency will receive premium and subsidies up-front. Of course, the implementing agency will now have to maintain reserves and factor in the costs of managing such reserves.

## 4.4 Livestock

### 4.4.1 Limited reach

The outreach of livestock insurance has been poor (see table below).

Year	No. of animals Insured (million)	Low value animals insured (approx 25 per cent of total no. of animals Insured ) (million)	Other animals insured (million)	No. of animals Insured / Total Livestock	Low value animals Insured / Total Sheep & Goats	Other animals Insured / Total Bovine
1997-98	22.83	5.71	17.12	4.70%	3.17%	5.93%
1998-99	23.5	5.88	17.63	4.84%	3.26%	6.10%
1999-00	17.1	4.28	12.83	3.52%	2.37%	4.44%
2000-01	15.35	3.84	11.51	3.16%	2.13%	3.99%
2001-02	16.49	4.12	12.37	3.40%	2.29%	4.28%

The following table summarizes the premium collected and claim ratio being experienced by the insurance Industry.

Year	No. of animals Insured (million)	Premium collected (Rs crore)	Claims (Rs crore)	Claims to premium ratio
1977-98	22.83	137.06	102.75	74.97
1998-99	23.50	145.47	105.69	72.65
1999-2000	17.10	131.19	125.26	95.48
2000-01	15.35	144.70	131.71	91.02
2001-02	16.49	135.38	107.70	79.55

Source : Ministry of Agriculture, Economic Survey 2002-03 page 168

### 4.4.2 Moral hazard co-exists with low coverage for the poor

## 4.5 Social security schemes: low effective outreach

The coverage under NSAP is limited due to resource constraints. For example, against the target of 8.71 million eligible beneficiaries for old-age pension in 1999-2000, only about 5 million beneficiaries were provided assistance from central funds. Many states implement the pension scheme from their own resources. However, in the states that do not have their own scheme, a central pension of Rs. 75 per month is clearly inadequate to provide relief to old, indigent persons. A redeeming feature of the scheme, though, is that

the benefits have indeed reached the poor and leakages under the scheme are low compared to many other government programmes.

During 2000-01, only 19,000 metric tonnes (mt) of food grains was lifted by ten states. As against an allocation of Rs. 99.05 crore in 2000-01, actual expenditure was only Rs. 17.44 crore. The performance in 2001-02 was equally unsatisfactory. Against a targeted coverage of 1.34 million persons, the actual coverage was only 203,000 —15 per cent of the target.

In India, Government health services follow a traditional model of health funding and provision. The Government is both the financier and the provider of the public health care facilities. The State Governments determine health allocations according to their policies and budgets. The states spend more than 80 % of the total expenditure on curative care. The Central Government spends more than 70% of the total expenditure on preventive and promotive health care. Government Spending on Health Care. The aggregate expenditure in the Health sector is 5.2 percent of the GDP. Out of this, about 17 percent of the aggregate expenditure is public health spending, the balance being out-of-pocket expenditure. The central budgetary allocation for health over this period, as a percentage of the total Central Budget, has been stagnant at 1.3 percent, while that in the States has declined from 7.0 percent to 5.5 percent. The current annual per capita public health expenditure in the country is no more than Rs 200. Given these statistics, it is no surprise that the reach and quality of public health services has been below the desirable standard.

For promoting employment and alleviating poverty in rural areas, the Indian government has initiated various special programs. These are employment generation programs, an employment assurance scheme, self-employment programs, programs to help the poor to acquire productive assets, and programs to give training to the unemployed. More than 20 such schemes have been introduced in India since its independence. Several such schemes have been listed in the annexure attached to this report.

Over the years, these programs have generated a significant amount of employment, but their cost-effectiveness has not been evaluated. It is also felt that many of these programs have become instruments of distribution of largesse to favored groups and the degree of misuse of resources is probably quite high. It is not clear whether the 'make work' approach underlying these programs is the best way of generating employment. The alternative of using these resources for accelerating growth in general may well have a greater and longer-lasting impact on employment generation and poverty alleviation.

## 5 Enhancing outreach and sustainability of Risk Mitigation Services

### 5.1 New RMS products

#### 5.1.1 Life & health Insurance

Group insurance products automatically mean a better spread of risk and less adverse selection against the insurance company; the higher the rate of participation by the members of the group (and a certain minimum rate of participation is usually required), the less expense is needed for underwriting. Very important from a social point of view, is that a significant number of risks that would be rejected by an insurer on an individual basis can be covered in group schemes. Access to insurance protection is thereby improved.

The main point, however, is that where little insurance exists and premium-paying resources are very scarce, group insurance products may be the best – and indeed only viable - way to proceed. An excellent group life insurance product could be : Family Group Life insurance which is designed to cover all the family members of the insured and the premium amount would also be low as compared to the sum of the premium amount required for all individual family members. The group floater products can be encouraged as low premium amount is required to pay to cover the same level of pure risk.

The insured should go for pure risk products instead of endowment products as insurance companies are not the best managers of savings. The insured should invest his surplus funds either in fixed income instruments like bank deposits or mutual funds/equities.

An insurance product covering both pure life risk and health risk can be explored. Health insurance product needs to be customized to the requirements of the rural poor. For e.g. it should cover treatment related transportation cost, attendant cost etc Health insurance needs to be blended with savings and preventive health care management to take care of the frequent and sometime severe health risks.

#### 5.1.2 Crop Insurance

- **Weather index based insurance products:** Weather insurance helps in setting up objective parameters to arrive at the yield losses on account of weather fluctuations, thereby facilitating fast claim settlements. Further, weather insurance is reinsurable in international markets, which in turn diversifies the country's covariate weather risk across diversified geographical areas.
- **Satellite Imagery based insurance products:** These refer to the use of satellite images to arrive at yield estimates, enabling faster and cheaper claim settlement.

- **Product for landless laborers:**
- **Farm Income insurance:** It refers to providing insurance cover against farm income fluctuations. These fluctuations may be on account of fluctuations in crop income or/and in income from other allied farm activities like livestock rearing.
- Possibilities can be explored to improve the existing NAIS schemes through measures like offering lower premium rates, no claim bonus for better managed farms, introducing high deductibles/co-payments for poorly managed farms.

### 5.1.3 Livestock Insurance

- Livestock insurance can be improved with the use of technology. The use of microchips instead of ear tags to track livestock can prevent false claims. This would also facilitate integrated herd health management and reduce operational costs.
- Livestock risks are frequent and severe (for loanee farmers). Stand alone insurance is not enough and an integrated risk management approach involving insurance, savings and use of better livestock management practices is required

### 5.1.4 Calamity/Disaster Relief

- Index based disaster relief programme shall be transparent and provide objectivity to the relief work
- Integrated approach: a three tier structure involving savings and insurance at the first level, topped up by govt. relief and international capital market instruments (such as cat bonds)

## 5.2 Improve/Develop Distribution channels

- Revamp cooperatives – refer cooperative component,
- Promote microinsurance through people's organization like NGOs, Panchayati Raj Institutions
- Post offices, churches and other societies, FMCG companies, network marketing

### 6.3 PPP Possibilities

The term public private partnership basically means an initiative undertaken between the public sector in conjunction with the private for-profit and not-for-profit sectors, These are also referred to as the government, business and civic sectors. Their aim, on the one-hand, is to fulfill the public sector’s mission of empowering the rural poor to overcome their condition of poverty, and on the other, to enable the private sector partner to achieve its own corporate goals.

A successful partnership is built on trust and transparency, and in which there are significant incremental financial and other benefits derived for both the Government’s target groups and the Private Partner, compared with the benefits which would be derived through other intervention options.”

Within these partnerships, each of the actors contributes resources (financial; human; technical; and intangible, such as information or political support) and participates in the decision-making process.”The partnership should be formally laid out under a contractual agreement between the public and private sector

#### PPP Possibilities – Health Insurance

A possible PPP within the health sector might include partnerships between Government (State and Federal) Private insurance and Healthcare Providers. Table xx provides a breakdown of the types of constraints that each partner currently has to address, what types of PPP might help to address such constraints if programmes were to be set up jointly and what advantages might be established from such partnerships

Table xx: Constraints/Intervention Analysis PPP Health

	<b>Current Constraints</b>	<b>Possible Intervention</b>	<b>Outcome</b>
<b>Government</b>	<ul style="list-style-type: none"> <li>• Inability to fulfill obligations to rural poor (healthcare)</li> <li>• Low/no ability to provide relevant insurance products</li> </ul>	<ul style="list-style-type: none"> <li>• Equity</li> <li>• Infrastructure,</li> <li>• Political acceptance/support</li> <li>• Premium subsidy enhancements</li> </ul>	<ul style="list-style-type: none"> <li>• Social objectives met in more efficient way</li> </ul>
<b>Healthcare provider</b>	<ul style="list-style-type: none"> <li>• Lack of infrastructure in rural areas????</li> </ul>	<ul style="list-style-type: none"> <li>• Equity</li> <li>• Knowledge</li> </ul>	
<b>Private Insurer</b>	<ul style="list-style-type: none"> <li>• Lack of knowledge of</li> </ul>	<ul style="list-style-type: none"> <li>• Insurance products,</li> </ul>	<ul style="list-style-type: none"> <li>• Access to untapped</li> </ul>

	rural poor's needs	<ul style="list-style-type: none"> <li>• Equity</li> </ul>	markets <ul style="list-style-type: none"> <li>• Brand equity recognition</li> <li>• New revenue streams</li> </ul>
<b>NGO and/or Cooperative?</b>	<ul style="list-style-type: none"> <li>• Inability to upscale “micro” projects in to sustainable healthcare programs</li> </ul>	<ul style="list-style-type: none"> <li>• Local knowledge,</li> <li>• Customization of products,</li> <li>• Marketing channels</li> </ul>	<ul style="list-style-type: none"> <li>• New/relevant products available to members</li> <li>• Replicable model to extend to other areas</li> </ul>

The Government in its intention of establishing a PPP for health will not only need to be aware of the difficulties and risks of cooperation with private sector actors, but also identify its own expectations for such a project. Why might it be preferable to work together with the private sector? Therefore, as noted above, it will be important to get a clear picture of the individual objectives and reasonable outcome of the PPP, Clearly for such a programme it will need to be addressed at an early stage whether the project is sufficiently profitable for the private sector (through a financial analysis), and whether it is attractive from a societal point of view (through a socio-economic analysis)

However, it is essential to remember that the primary objective of private insurance and healthcare providers (??) will remain profit making. Thus, private money will only be invested when the project provides a reasonable profit and the cost-benefit-analysis justifies investment. Nonetheless, public-private cooperation remains a suitable possibility to healthcare development and health insurance projects, since it can alleviate pressure on public budgets both directly and indirectly.

**PPP Possibilities - Agriculture:**

Models of PPP in agricultural insurance can be defined by the extent of risk sharing by the partners. At one extreme is where the public entity (the Implementing Agency) bears no risk, earns no return and is only reimbursed the administrative charges. This leads invariably to low coverage and monitoring and control of moral hazard and adverse selection because of a lack of incentive.

At the other end of the spectrum is a model where the private insurance company takes all the risk. Such a model requires significant reinsurance to make the programme sustainable due to the systemic risk element. Premiums are invariably high requiring subsidies from the government.

Therefore there are possibilities for models that lie in between these two extremes where both the public and private partners take on risk sharing. In these cases the government is

likely to be at an informational disadvantage and so risk sharing agreements will have to be designed that reduce problems of moral hazard and adverse selection. Also, and more importantly in the context of this programme, the agreement must provide adequate measures to address the natural incentive of private insurers to target larger, wealthier farmers.

In this context, therefore, PPP possibilities might focus on partnerships between Government (State and Federal) Private insurance and NGOs. Table xx provides a breakdown of constraints and possible intervention activities by individual partners in potential partnerships.

Table xx: Constraints/Intervention Analysis PPP Agriculture

	<b>Current Constraints</b>	<b>Possible Intervention</b>	<b>Outcome</b>
<b>Government</b>	<ul style="list-style-type: none"> <li>• Inability to provide relevant and timely agricultural risk insurance schemes</li> </ul>	<ul style="list-style-type: none"> <li>• Equity,</li> <li>• Political support,</li> <li>• Premium subsidy enhancement</li> </ul>	<ul style="list-style-type: none"> <li>• Social objectives met in more efficient way</li> </ul>
<b>Private Insurer</b>	<ul style="list-style-type: none"> <li>• Lack of knowledge of rural poor's needs</li> <li>• Lack of infrastructure</li> <li>• Few channels to market</li> </ul>	<ul style="list-style-type: none"> <li>• Insurance products</li> <li>• Equity</li> <li>• Effective management</li> <li>• Access to reinsurance markets</li> </ul>	<ul style="list-style-type: none"> <li>• Access to untapped markets</li> <li>• Brand equity recognition,</li> <li>• New revenue streams</li> </ul>
<b>NGO and/or Cooperative and/or RRBs?</b>	<ul style="list-style-type: none"> <li>• Inability to upscale "micro" projects in to sustainable healthcare programs</li> <li>• Lack of knowledge of new insurance products</li> </ul>	<ul style="list-style-type: none"> <li>• Local knowledge</li> <li>• Customization of products</li> <li>• Marketing</li> <li>• Delivery channels</li> </ul>	<ul style="list-style-type: none"> <li>• Wider availability of affordable insurance products for members</li> <li>• Lower ag. risk profile of members (enhancement of credit/lending opportunities</li> <li>• Replicable model to extend to other areas</li> </ul>

Such PPPs might include the leasing of public sector infrastructure in rural areas to private sector insurance companies. This would help insurers to open up new rural delivery channels through the close participation with local banks and cooperatives. From partnerships developed in other countries (such as Spain and the US), there are a number of reasons supporting a partnership approach in agricultural insurance. These include:

- Partnerships bring new resources to poverty-reduction initiatives
- Possibility for synergies through different social actors working together in a complementary fashion
- Increase in productivity with the available resources
- Potential to generate self-sustaining patterns of change, thus the whole can be greater than the sum of the parts