



Institute for Financial Management and Research
Centre for Insurance and Risk Management

**Case Study: An Exploration - Community Based Livestock
Insurance Scheme, Vizianagaram**

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Summary

Livestock insurance products are generally expensive and their reach to the poor is negligible, except when linked to government schemes. Even after more than 30 years of government efforts, out of world's largest cattle pool, only 7% of cattle in India are covered under insurance. Of late, even though new insurers have entered the market, most are unwilling to offer livestock insurance due to its high risk perception.

The major challenge in the livestock insurance business is the incidence of moral hazard (fraud), and insurers estimate that more than 25% of the claims settled are fraudulent in nature. In this scenario, the Community Based Model (CBM) can make a difference. CBM helps to reduce moral hazard and transaction costs. CBM helps reduce false claims, documentation, and costs of insurance including transaction and time cost, and potential risks. One such example is the Loan Protection Scheme (LPS) by the Vizianagaram District Poverty Initiatives Project (DPIP) in Andhra Pradesh (AP), India. The Loan Protection Scheme for livestock is run by the community, which has an incidence rate of 2% compared to the country average of 4%.

The program involves the collaboration of different stakeholders such as the community, (for governance and management along with money pooling), government (the state government and the District Rural Development Agency for initial fund and implementation assistance), and technical assistance providers. It has helped to empower the rural poor by developing and strengthening grassroots organizations that function as self managed groups.

The scheme has been a huge success in the area with its outreach increasing from 3,000 cattle to 90,000 cattle within five years of operation. The most salient feature of the scheme is that it is managed by a federated Self Help Group (SHG) structure with close monitoring by the community, which having pooled the money, is the owner of funds. Processes are diluted due to a highly decentralised system for implementation. Though the implementation process is decentralized, the decision structure for final disbursement of claims is kept centralized.

The claims reported have reduced from 2.73% to 0.67% in five years (from 2003-04 to 2008-09), which is surprising since the general hypothesis is that claims reported will increase as the product cycle increases. The major reason for the decrease in claims reporting as cited by SHG members is community supervision and vigilance. This has been instrumental in reducing frauds due to moral hazard. Overall, the programme is a success and its impact in terms of cost is evident. The cost of overheads as well as running expenditure were kept at the minimum to ensure the sustainability of the scheme (Rs. 6 per head), and to make it replicable in other areas in India where initial infrastructure is available. Some of the largest insurers are now seeking to replicate this model throughout the country.

Glossary

AH: Animal Husbandry

AP: Andhra Pradesh

APM: Assistant Project Manager

BQ: Black Quarter

CBM: Community Based Model

CBO: Community Based Organisations

CC: Community Co-ordinators

CRP: Community Resource Person

DPIP: District Poverty Initiatives Project

DPMU: District Project Monitoring Unit

DRDA: District Rural Development Agency

FMD: Foot and Mouth Disease

HS: Hemorrhagic Septicaemia

IRDP: Integrated Rural Development Programme

LIS: Livestock Insurance Scheme

LPS: Loan Protections Scheme

MACS: Mutually-aided Co-operative Societies

MS: Mandal Samakhya

NREGA: National Rural Employment Guarantee Act

PRI: Panchayati Raj Institutions

SBLP: SHG-Bank Linkage Programme

SERP: Society for Elimination of Rural Poverty

SFDA: Small Farmers Development Agency

SHG: Self Help Group

VO: Village Organisation

ZS: Zila Samakhya

1. Livestock and Risks

1.1 Introduction

Livestock is a source of good insurance to their owners, protecting against many odds and helping them ride through financially difficult times when agriculture fails. But eventualities like death, disease, accident, and theft of animals lead to significant losses for households. Many households are pushed to dire straits once they lose their livestock to disease, scarcity of water and fodder, or to sheer poverty which forces them to sell their animals, making it impossible for them to rebuild their stock.

Broadly, these risks can be classified into two categories. They are

- Production risk:
 - Non-availability of inputs such as dry and green fodder for animals.
 - Morbidity (a single animal or several in the case of an epidemic) - Cattle disease is considered to be one of the main contributing factors to reduction or stoppage of milk production. Diseases like mastitis, Foot and Mouth Disease (FMD), and Hemorrhagic Septicaemia (HS) are the most common.
 - Cattle mortality - Loss of asset is the biggest challenge for a cattle owner as it leads to a drastic fall in income
 - Natural calamities - like tsunamis, earthquakes and drought.
- Price Risk:
 - Fluctuations in the costs - This could affect the price of cattle, as well as its produce, For example, during disease outbreaks market losses happen due to reduced demand. This exposes farmers to income losses.

These risks lead to financial losses and problems are compounded if the animal was bought on credit. As per reports, the proceeds of the SHG - Bank Linkage Programme² (SBLP) are largely invested in buying animals. It is here that big risks arise for farmers, and to help them tackle such risks, the government provides livestock insurance through various schemes.

1.2 Livestock insurance initiatives

Livestock insurance is expensive and its reach to the poor is negligible except when linked to government schemes. The Indian government pioneered the effort and provided credit linked livestock insurance products through the Small Farmers' Development Agency (SFDA) in 1970s and later under the Integrated Rural Development Programme (IRDP). After more than 30 years

² Micro finance movement in India could be traced to the self-help group (SHG) - bank linkage programme (SBLP) started as a pilot project in 1992 by National Bank for Agricultural and Rural Development (NABARD). This programme not only proved to be very successful, but has also emerged as the most popular model of micro finance in India. (Source- Reserve Bank of India)

of effort, data available up to the year 2004 shows that only 7% of the total cattle population is covered under insurance.

At present, the Indian government is operating the Livestock Insurance Scheme in 100 selected districts under which 50% subsidy is provided on the premium. Though the scheme has many benefits, the following conditions in the scheme will hamper its scaling up:

- The scheme covers animals with more than 1,500 litres of milk, thus excluding many animals with low productivity. This can directly impact low income households.
- The scheme is being operated in 100 districts only, which leaves much to be done.
- The premium is decided by bidding at state levels, and is therefore very much underpriced, making the product unviable in the long run.
- Veterinary infrastructure is underdeveloped in rural areas and therefore the transaction costs of livestock insurance remain very high. This will again impact the programme in the long run.
- The cover provided under the LIS is only death cover. This leaves much scope to improve the product as per the needs of livestock owners.

Consequently, despite huge efforts by the Government of India to cover the masses against odds faced by cattle deaths, some lacunae still exists.

1.3 Different approaches

Like other insurance products, livestock insurance is mostly distributed through direct sales and partner-agent models by insurers. Community based insurance models are rare in India. Each of these models has their own pros and cons as described below.

Table 1: Comparing Different Models for Insurance Delivery

	Partner-agent model	Direct sales	Community-based
Key Features	<ul style="list-style-type: none"> • Insurer is the risk carrier and sales are done through MFIs/Co-ops/Banks which take a commission on sales. • Under IRDP scheme/other government schemes 	<ul style="list-style-type: none"> • Insurers appoint their own staff for marketing as well as sales. • For non-scheme animals, individual retail is done. 	<ul style="list-style-type: none"> • Community bears the risk by pooling premiums • Done in one or two places in India. Still in an experimental phase.
Current Outreach	Approximately 90% of total insured animals	Approx 10% of total insured animals	Not done on a very high (<0.01%) scale due to inherent problems of risk bearing capacity of community.
Benefits	<ul style="list-style-type: none"> • Increases outreach and helps in easy origination, distribution and sales • Increases capacity for claims management 	<ul style="list-style-type: none"> • Insurance company is well aware of its profits and put as many agents as it want to increase the business 	<ul style="list-style-type: none"> • As community owns the programme and there is very close monitoring, chances of frauds reduce. • Transaction cost are lower
Challenges	<ul style="list-style-type: none"> • High dependency on intermediary • There is higher incidence of <i>adverse selection</i> among banks and MFIs, and they become reluctant to undertake proper due diligence of claimants (as cattle insurance is not their regular business). • Possibility of collusion between banks/MFIs and farmers due to incentive alignment 	<ul style="list-style-type: none"> • Huge transaction costs which make product less profitable • Agents also work as per their incentive structure and try to capture the business which can provide him more commission. 	<ul style="list-style-type: none"> • No underwriters so community owns risk • If the characteristics of the community is not homogenous, there can be problems due to misunderstandings • There is a possibility of politicisation if bylaws are not properly framed.

Insurers estimate that the livestock insurance business runs into losses due to the high incidence of frauds - more than 25% of the claims settled estimated to be fraud cases. Community based insurance models (CBM) can be very effective in this scenario. CBM helps in the reduction of false claims, documentation, and the cost of insurance including transaction/time cost and potential risk, while at the same time increasing insurance cover of loan-financed livestock assets. One such example is the Loan Protection Scheme (LPS) in Vizianagaram (a district in

Andhra Pradesh, India) by the Vizianagaram District Poverty Initiatives Project (DPIP)³. The Government of Andhra Pradesh has created institutions for the implementation of poverty alleviation programmes, and LPS is a scheme run by the community with monitoring support from the state government.

2. Vizianagaram terrain and dependency on livestock

The economy of Vizianagaram is agriculture based, and more than 68% of workers depend on cultivation and animal husbandry, including dairy farming. Due to the lack of proper irrigation facilities, about 80 % of the cultivation takes place under rain-fed conditions. Even the irrigated area is mostly dependent on rainfall which is estimated to be more than 1,100 mm annually. However the rainfall is not harvested adequately to benefit the people as tank irrigation facilities are not available in all villages. The majority of the cultivation comprises of dry crops. Paddy is cultivated mainly during the *Kharif* (summer monsoon crop) season and the irrigation is done using tanks which depend on rainfall. Farmers grow paddy, *mesta* (a variety of jute), groundnut, sugarcane and pulses. The average crop yields are low.

Farmers revealed that they harvest approximately 1,200 to 1,600 kg of rice per acre (this is much less than the state average of more than 2,900 kg in the last 4-5 years). Millet provides them Rs. 750 to 800 (approximately 15 USD)⁴ per 80 kg bag. The farmer gets Rs. 16,000 (320 USD) for 6 months of hard work. Of this, more than Rs. 5,000 (100 USD) is input cost of cultivation, which leaves him with a slim cash balance of Rs. 11,000 (220 USD) for the whole year. In some areas where irrigation facility is not available, the farmers grow black and green pulses. In areas where irrigation is available, sugarcane and banana - which provides better returns – are grown.



Figure 1: Subsistence Agriculture at Vizianagaram

³ DPIP is a state-sponsored programme and undertook community managed livestock insurance scheme with the co-operation and support of the SHGs.

⁴ Conversion rate: 1USD = Rs. 50.

Since the poor and unpredictable agriculture economy doubles the efforts required to earn a livelihood, farmers rely on livestock (dairying) as a secondary source of income.

Livestock rearing is central to the livelihood and survival of thousands of small and marginal farmers, and landless agricultural labourers in the dry regions of Vizianagaram. Animals are raised as part of mixed farming systems. The mixed farming system is sustainable because of complementarities between crop and livestock production. However, water scarcity plays an important role in their choice of livestock. Cattle owners have a distinct preference for cows over buffaloes since they require less water and can survive without wallowing in ponds during the hot summer season. Due to this factor, more than 80% of animals in the Vizianagaram region are cows.

Given the locals' dependency on cattle, it is important to create institutions which can help de-risk low income households. As a substantial portion of the proceeds of SBLP loans are invested in animal husbandry, the Government of Andhra Pradesh initiated the Loan Protection Scheme (LPS) to cover livestock. As this scheme uses an rare model of livestock insurance delivery i.e. Mutual Model, it is important to monitor and study the performance of the scheme so that it can possibly be replicated in other regions. Details of the program are discussed further in the paper.

3. Society for Elimination of Rural Poverty (SERP)

3.1. Introduction

The Government of Andhra Pradesh has historically assisted projects that are aimed to reduce poverty, and one such initiative was the implementation of a project titled 'Society for the Elimination of Rural Poverty' (SERP). This project was started in January 2000 to coordinate the Rural Poverty Reduction Programme of the state, popularly known as *Velugu* (Eternal Light). In this programme, the focus was:

- i. To expand the asset base and create other economic opportunities for poor communities
- ii. To reduce, mitigate, and manage their risks

SERP was started to enable the rural poor, particularly the poorest sections, in Vizianagaram to improve their livelihood and quality of life. In order to fulfil this mandate, institutional arrangements to facilitate the process of group formation and to address sustainability concerns were initiated. The District Rural Development Agency (DRDA) was incorporated to manage the anti-poverty programmes and to provide an effective link between the Ministry of Rural Development and the district administration. The DRDA helped decentralize and maintain a healthy relationship, and liaise and report between the ministry and the community regarding the implementation of the programme.

The main attribute of the programme is the collaboration of different stakeholders such as the community (for governance, management and pooling of money), government (the state government and DRDA for initial fund and implementation assistance) and the World Bank (for technical knowledge). It has helped empower the rural poor by developing and strengthening self-managed grassroots organisations such as the SHGs.



Figure 2: SHG meeting at Village Level

The programme provides access to technical and financial resources and methods to mitigate risks faced by the rural poor. This has led to decentralisation, including fiscal decentralisation to Panchayati Raj Institutions⁵ (PRIs) and the municipal government. It also ensures peoples' participation and the downward accountability of local governments.

3.2 Organisation Structure

SHGs were formed with 12-20 women members in each. These SHGs were linked with local banks under the SHG-Bank Linkage Programme. As SHGs increased in number and gained experience, they were federated to form self-managed Village Organisations (VOs) further as Mandal Samakhya (MS) at cluster level. About 10 and 30 SHGs federate to form a VO, and 20 to 30 VOs federate as an MS. The Zilla Samakhya (ZS) operates at district level and is above all these smaller units. A ZS constitutes of 7 members including the President, Vice-President, Treasurer and other members. The VOs were to be registered under the state's Mutually Aided Cooperative Societies (MACS) Act as symbols of the collective strength of the poor.

⁵ Panchayati Raj Institutions are tool of self-government for the rural areas in India. With decentralization in 1992 and 73rd Amendment in Indian Constitution PRIs were introduced at village level.

There are 34 Mandals in Vizianagaram. Of these Mandals, 26 function under the DRDA and 8 under the Tribal Development Department. Here we only refer to Mandals that come under the DRDA.

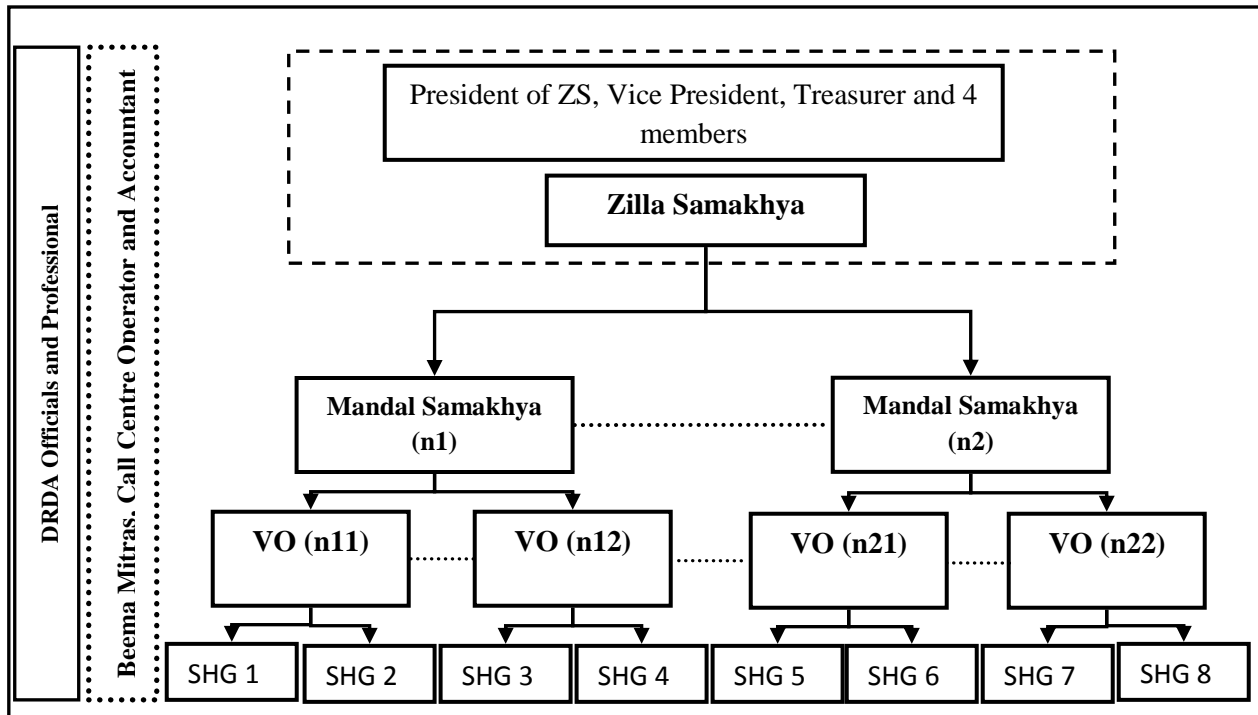


Figure 3: Organisation Structure

Care was taken to ensure that every position holder at the VO level, MS level or ZS level had to be an SHG member of the backward community. To protect the programme from being politicised, it was made mandatory that any member who wanted to get into national or state politics had to resign from their post related to this programme.

This structure was used to extend various services like:

- a. Life insurance
- b. Pensions (there were two types of schemes - one for the elderly which is implemented by the State government, and two for disabled people and widows) and
- c. Loan Protection Scheme (LPS) to provide a cushion against animal deaths due to any cause.

In some insurance schemes such as life, pension, etc., the whole federated structure acts as an agent for registration of members and to collect premiums. But in the LPS, members pool their own money and are risk carriers. This means that the same platform is used to channelize many insurance products which helped reduce the transaction cost to just Rs. 6 per policy. In other traditional products the costs are very steep, making livestock insurance a loss making business.

4. Loan Protection Scheme

4.1 Genesis of LPS

The Loan Protection Scheme (LPS) was started in 2003 as a part of a comprehensive system of social risk management.

Villagers insured their livestock with a public insurer, but there were high loan defaults. Also, the beneficiaries were often vexed with the Claim Settlement Officers and veterinarians employed by the insurers. They were losing about 30% of the value of their insured stock in the settlement process. In addition to this, due to the lack of community involvement, false claims are also made. Therefore, the Vizianagaram District Programme Management Unit (DPMU) and the ZS conceptualized the LPS. The main objective of this scheme is to protect the loan financed assets by assuring compensation to the farmer for the dead animal by providing insurance cover to livestock assets purchased by them.

This insurance scheme is the first of its kind ever implemented by an organisation of poor people. It empowered and enabled them to manage their own assets and to mitigate their risk. However, as livestock insurance is a transaction heavy product and usually runs into losses, the cost continues to be a major factor in the successful implementation of this model. Therefore, cost-effectiveness and product delivery efficiency of the distribution channel was crucial to ensure the success of the LPS. The real test of the programme was for it to enable ‘increased access to credit and insurance services and reduced indebtedness.’ This criterion was used to gauge the effectiveness of the programme.

4.2 Product

Product	Insurance to cover livestock mortality
Purpose	To provide a safety net for the SHG members against death of animals due to any reason. Insurance is also a protection to community based organisations/SHGs where clients avail of loans for dairy farming
Eligible people	All SHG members in Vizianagaram
Animal insurance criteria	First 3 lactations are insured
Sum Assured	Value of cattle
Premium	4% annually (it is reduced to 2% for the year 2009)
Policy Benefits	Cattle Death Benefits – 100% Sum assured on death
Requirements	Member number, photograph of dead animal with identification no. of member which must be clearly visible.
Age proof	Not needed

Proof of death at the time of claim	No post mortem but death certificate from VO and Bima Mitra ⁶
Enrolment time	Closed enrolment- once in a year

4.3 Process of Insurance

In the conventional process of enrolment, premium collection and claim settlement, the cost of insurance increases as the transaction and time costs are very high. As the agent/insurance company has to travel from towns/cities to the villages for process implementation and documentation, livestock insurance becomes a transaction heavy business. To make the process easy to implement and reduce transaction costs, the LPS take the help of Bima Mitras.

Enrolment:

- Every household that intends to join the scheme has to submit a written application to the ZS through the MS and VO.
- The VO and MS need to recommend the application.
- Bima Mitras will photograph the animal using a digital camera (DRDA handles 26 Mandals in Vizianagaram and each Mandal has one Bima Mitra).

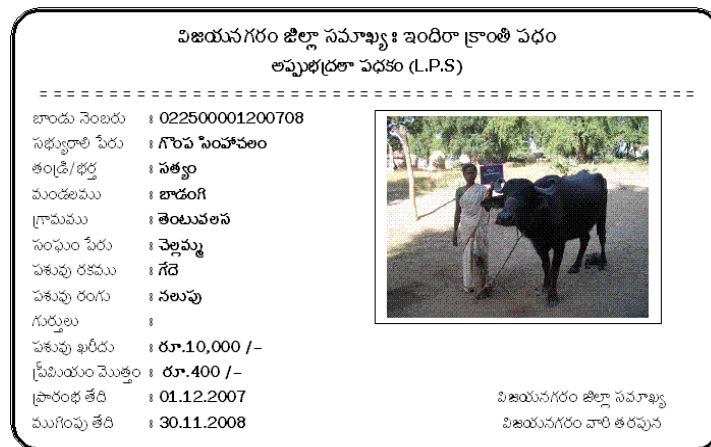


Figure 4: Animal Enrolment Card

Premium Payment:

- Applications are taken along with an amount equivalent to 2% of the estimated value of the animal.
- The ZS will estimate the cost of the animal with help of the Animal Husbandry (AH) Department.
- The premium is accepted only in the form of a Cheque or a Bank Draft.

⁶ Bima Mitra- She is a trained agent from the community who helps the SHG members to understand the insurance products and extends help in insurance process and claim settlement.

- The premium once paid for milch cattle (cows & buffalos) will not be returned, nor is it transferable
- The ZS approves the insurance and issues policy bonds.
- Once the bond is provided to the member, it is understood that the animal is insured.

Claim Settlement Process:

- Upon the death of the insured animal, the information is provided to nearest data processing centre (9701115588 & 9491031113) by the member, or the VO, or another villager.



Figure 5: Data Processing Centre at Zilla Samakhya

- The call centre directs the Bima Mitra to visit the village.
- The Bima Mitra verifies the claim on visiting the village.
- The Bima Mitra, along with the VO conducts a local enquiry, takes photographs and submits the documents to the LPS sub-committee.
- After discussion, the LPS sub-committee will either settle or reject the claim as per the recommendations of the Bima Mitra and VO.
- The settled claim amount is disbursed through a cheque to the VO.
- The VO will then settle the claim with the member, through cash or cheque as decided by member/SHG.

Through this process, the transaction costs are maintained at extremely low levels, while transparency is maintained to the highest level with the settlements happening within a week of the claims being reported. The simple process helps build faith and encourages renewals.

4.4 Functioning with transparency

Two meetings a month are mandatory at the VO, MS and ZS levels. There are two bodies overseeing the functioning of the scheme. They are:

1. Representative General Body consisting of a President and Secretary for each VO collectively. This body meets once a month.
2. Executive Body - one member from each VO is elected as a representative in Executive body.

These bodies help to maintain the required links between the community and the management of the scheme so that information can be passed between the levels efficiently and the programme can be run with transparency. To ensure efficiency, necessary records and books of accounts are maintained at the various levels. Reporting at the VO level involves the following records:

- Resolution and Minutes register (separately for the VO and health meetings)
- Repayment register (separately for loan and health)
- Books of Accounts
- Loan Ledger
- Receipt Book
- Cash Book

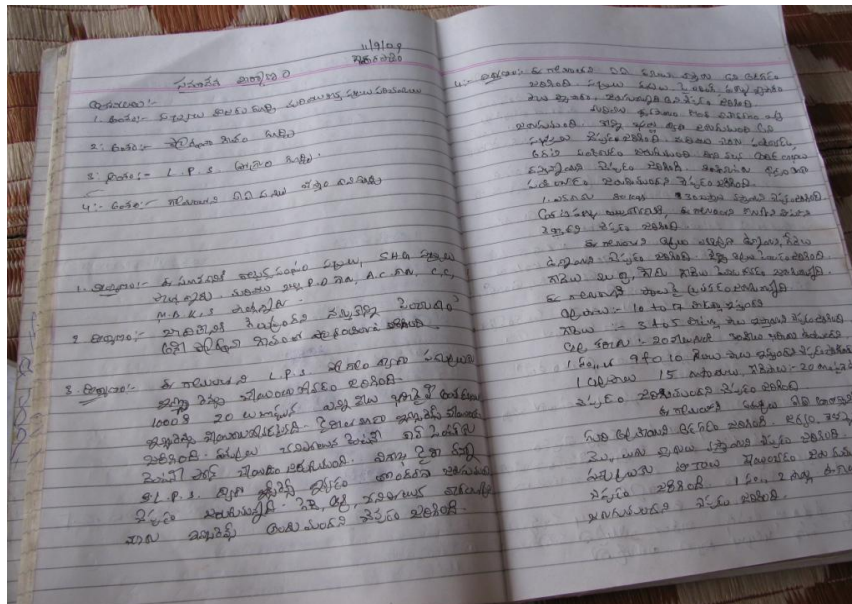


Figure 6: Resolution and Minutes Register at Vizianagaram

Apart from the reporting that happens at the various administrative levels, there are several functional committees that take a total account of the functioning of the federation. This includes the Social Audit Committee, Social Action Committee, Recovery Committee, Bank Linkage Committee and Health Committee among others.

This programme follows a bottom-up approach with SHG members discussing important issues, passing on information and demands to the VO, who take them up at VO meetings and involves the ZS to make final decisions. As ZS office bearers are SHG members, the members rely on their decisions.

4.5 Insurance Literacy

During the ZS, MS, VO and SHG meetings, the members are briefed about the functioning of the scheme, moralities, enrolment, and claim settlement. The ZS informs members about new policies and products at these meetings. Pamphlets and flip charts are also used as communication aids to appraise the members.

4.6 Training

Field staff, i.e., Assistant project managers (APMs), community co-ordinators (CCs) and the community members including community resource persons (CRPs), Village Organisation (VO) office bearers and in addition to Bima Mitras are trained to conduct the full programme. They are given detailed information about the concept of the scheme, eligibility criteria and enrolment procedures, and the roles and responsibilities of various entities like staff members, Bima Mitras, the call centre, etc. Community Coordinators (CCs) at the Mandal Samakhyas are trained in book-keeping and accounting procedures. Bima Mitras are specially trained to operate ATMs, complete the claim forms, and compile annexure that are required to be filed with the claim forms. These documents include the death certificate, post-mortem certificate in case of accidental death, photograph of the dead animal in the presence of the beneficiary and VO members, a resolution from the VO, etc. The processes highlight the transparency, social audit and self accountability features of the programme.

4.7 Funds Flow

The programme has received funds from various sources. Most of the financial resources are from SHG members who pool the money. Some grants and aids were also received from the government and World Bank when the programme was initiated. Thereafter it has been able to meet its expenses and commitments from its revenues and remain self sustained (Table 1). However, the 189 professionals working as community co-ordinators are paid by the DRDA which subsidises the programme.

Table 2: Common Staff for Vizianagaram Scheme

Designation	Number	Salary/month
Call centre operators	2	Rs. 6000
Accountant	1	Rs. 3500
Bima Mitras (1 per mandal)	26	Rs. 150/- per day towards wage compensation + travel charge actuals)

Pooling money by SHG members:**Contingency plans:****Figure 7: Funds Flow at LPS**

It will be difficult to predict how the programme would have functioned had it been an initiative from the people themselves without any external help. However the programme has flourished, and has enlightened people about the benefits of collective effort and coordination in fulfilling their needs.

5. Appraising the Product and Scheme

5.1 Comparison with traditional insurance product and process

The Government of India effectively launched the first livestock insurance scheme in the 1970s for the purpose of building assets at the bottom of the pyramid, and, thus pioneered the role of a market maker. The Integrated Rural Development Programme (IRDP) was the primary programme under which insurance was offered as a compulsory product with bank credit for dairying activities till 2003. Even today, more than 90% of livestock insurance is compulsorily credit linked (sold using the partner-agent model), with less than 10% (sold through direct sales) being voluntary products.

Table 3: LPS Insurance Product Vis-a-Vs Traditional Livestock Insurance Product

Feature	LPS	Traditional Product	Remarks
Eligibility condition	All the SHG women members' milch cattle	Retail product for everyone	
Premium amount	2% and Rs. 10/- as entrance fee	4% (on an average though it is showing a decreasing trend)	In LPS, premium has decreased from 4% in 2003-04 to 2% in 2009-10 as ZS booked profit in LPS last year so the profits trickled down to SHG members in the form of reduced premium.
Sum insured	Market value	Market value	Market value in both the cases is more or less decided by the cattle owner
Age and health certificate issuance	Not required	By Veterinarian	Increases cost of traditional product, but helps to reduce moral hazard
Age covered	First three lactations	2-12 years (Whole productive age of animal is covered)	In LPS, comparatively younger population is covered and hence mortality rates will be much lower compared to mortality rates for product available in market.
Claim settlement	No post mortem. Only VO and Bima Mitra have to issue death certificate on the basis of physical verification	Post mortem required, ear tag is checked (previously cattle owner had to cut the ear tag and send it to the insurer for claim processing)	Transaction cost and time are lesser in the case of LPS. Also since VO and Bima Mitras are available in the village, cattle owner has fewer hassles when claims are processed
Population covered	>80% of SHG members in the area of operations	<7% of the cattle population in India	Willingness to pay is more evident in case of LPS where SHG members know the benefits of the scheme, and are willing to take up the product though mortality is low.

5.2 Evaluating LPS Vis-à-vis Livestock Insurance Scheme (LIS)

The LPS is a government backed effort with the community helping in the management of the programme. Some years ago, the government initiated the Integrated Rural Development Programme (IRDP) which emerged as one of the most extensive programmes in India by providing insurance cover to a large cattle population. IRDP stopped in 2003, the same year LPS started in Vizianagaram, Andhra Pradesh.

The LIS is currently run by the Government of India in 100 selected districts throughout the country. It started in 2005 as a pilot programme for 100 districts, and has been regularized during the 11th Five Year Plan in 100 new districts. Vizianagaram is not a part of this scheme although it is one of the backward districts in AP. However 8 other districts of state are covered under this scheme (E. Godavari, W. Godavari, Krishna, Guntur, Prakasam, Chittoor, Karimnagar and Nalgonda).

Since the LPS and LIS have different distribution channels and operational methodology, it will be worthwhile comparing and weighing their pros and cons though it is premature to pass a verdict on either's performance, both being just 3-4 years old. The activity can however feed into efforts to improve both programmes. The following table presents a comparison between LPS and LIS:

Table 4: LPS Vis-a-Vis Livestock Insurance Scheme

Features	LPS	Livestock Insurance Scheme (LIS)	Remarks
Eligibility condition	Any milch cattle owned by an SHG member in the district of Vizianagaram.	Crossbred and high yielding cattle (yielding more than 1,500 litres of milk per lactation)	LIS indicates the government's intention of emphasizing on farmers rearing high yielding cattle varieties, while LPS shows more concern for cushioning the cattle owners, whatever they own.
Premium amount	2% and Rs. 10/- as Entrance fee	Rate of premium should not exceed 4.5% for annual policies. An open bidding process is used to select the insurer. The premium is subsidized to the tune of 50%. The benefit of the subsidy is provided to a maximum of 2 animals per beneficiary for a policy of a maximum of three years.	LIS allows insurers to negotiate the premium with state governments and allows a competitive bidding with the upper cap being set by the government. In the LPS, the community makes the decisions based on revenues from the pooled fund.
Sum Insured	Market value	Maximum of current market value	
Age covered	First three lactations	Whole productive age of animal is covered	
Marketing Agency	Beema Mitras help in educating the SHG members. This helps in marketing the product as well.	Veterinarians help in marketing the product.	

LIS, like the IRDP provides for 50% subsidy, though there are two sides to it. Though the subsidy can help increase the uptake, it poses challenges in enhancing the product and the process. A robust mechanism to monitor the use of subsidies is also absent. As an outcome of this, there could be higher incidence of fraud.

6. Mapping Performance

6.1 At Institutional Level

The experience of the Vizianagaram ZS with the Loan Protection Scheme over three years has demonstrated that CBOs can successfully run livestock insurance schemes on a fairly large scale. Some of the key findings regarding the overall impact of the LPS programme are the following:

The ZS is now the largest agency with 90,035 animals covered, which is much more than the coverage of all other livestock insurance schemes in Vizianagaram combined. Further, it is able to provide coverage to many poor SHG members.

Table 5: Parameters of Performance for LPS

	2006-07	2007-08	2008-09*	2009-10
Enrolment	3,519	4,756	48,675	90,035
Claims received	96	120	327	
% age of claims	2.73	2.52	0.67	

(* Free renewals were provided from Dec '08 to June '09)

The programme was successful in reducing the incidence of frauds that arise due to moral hazard, primarily due to the community supervision and vigilance of the scheme. The programme is overall a success, and its management of costs - overheads as well as operating expenditure - make it a replicable model for other areas in India where initial infrastructure and support of state/centre governments is available.

Apart from its economic benefits, the LPS has helped in the social upliftment of women in society. The Bima Mitras feel empowered and better placed to deal with difficult times. The program has also had an impact on men. Male family members now respond positively, and are ready to help their female counterparts, especially the Bima Mitras, in running the scheme.

Benefits of the LPS

This community based livestock insurance scheme is perhaps the first of its kind in the country. LPS is a direct response of the community towards fulfilling its needs. The product is designed to benefit SHG members whose livelihoods depend on livestock as source of income. We can broadly classify the benefits of LPS in the following manner:

1. **Simplicity:** The whole process is simplified to a great extent, enabling SHG members to work without problems. This has been due to the strong back-end operations by the DRDA officials. The process has reduced the role of veterinarians, thereby reducing costs and time.

2. ***Value proposition for cattle owner:*** LPS provides an opportunity for the poorest of the poor to hedge their risks. In an unorganized livestock market with poor veterinary infrastructure, it is very difficult to offer an insurance product at a low premium. Community based insurance seems to provide a possible solution, and LPS has demonstrated this effectively.
3. ***Reduction of moral hazard:*** As the community is collectively responsible for pooling money as well as to settle claims, each claim is properly scrutinised so that false claims can be completely avoided. Since it is a transparent scheme, it is very easy for other SHG members to monitor and check cases of fraud as the communities are closely knit groups. There were very few claim rejections in past 5 years of LPSs' history.
4. ***Reduction in turnaround time:*** The data processing centres help to reduce the turnaround time. To make a claim, the cattle owner can directly call and inform the head office, which in turn will inform the Bima Mitra. The process of claim approval starts immediately without any time lag. The claim settlement process is very simple and time bound, and has led to fast claim settlements. It has been advantageous to bypass post-mortem, which has reduced the lengthy claims settlement process. At the time of a claim, the cattle owner only needs to get the death certificate from the VO. A digital photograph of the animal is taken by the Bima Mitra and sent to the head office for verification. The cattle owner gets money within a week to buy new cattle to replace the dead one, and livelihood is not hampered due to the asset loss.
5. ***Negligible cost in administration of LPS:*** As the Bima Mitras, and VO, MS and ZS members are all from SHG groups and located within the community, the transaction cost of accessing and managing a customer has reduced considerably. Almost no cost is incurred for marketing and creating product awareness. The Bima Mitra gets Rs. 150 per day as a fee when they travel for the registration of the animal, or to verify a claim. Overall, the cost per head of the entire process is Rs. 6 as estimated by the DRDA officials. This is because all community based programmes like life insurance, pension scheme, NREGA and LPS work from the same platform and consequently the overall cost is reduced due to the pooling of activities. In terms of administration, the programme operates with the help of three government officials and 189 professionals who act as Community Coordinators (CCs).
6. ***Incentive system for risk reduction:*** There is an in-built system for risk reduction as members are aware that it is their own money. Therefore they make sure that the animal is properly cared for in order to reduce the mortality rate. With the number of insured animals increasing and lesser deaths being recorded the members have benefited by way of a reduction in premium. In 2009-10, the premium has reduced from 4% to 2% as the aim of the Zilla Samakhya is not to earn money, but to mitigate risk.
7. ***Data management:*** LPS has recorded all data related to the number of animals insured, premium collected, deaths, cause of death of each animal, the number of claims, and the

amounts paid for each claim. This data is available for the previous years (2003-2009), and can be used for better pricing of the product.

8. **Replicability and operational feasibility:** This model is replicable in areas where there is a homogenous community and there is sufficient trust between the members.

The model is working well in Vizianagaram, but its expansion and replicability is a major concern for the DRDA and the World Bank without technological intervention. This was evident from the words of Mr. Vasudevan, Project Director from DRDA, Vizianagaram, and Mr. Vijay Kalvakonda (World Bank): *“Though it is going good till now, we need to develop better processes as it is going to attain a huge number by next year and we should be prepared for that.”*

Issues and Challenges

1. The community bears a big risk and this may lead to huge losses if the mortality is higher than the average mortality rate.
2. At present the programme covers animals for the first three lactations while people face problems during later lactations too. Although milk production is at its peak between the fourth and sixth lactations, this is not covered under the scheme.
3. The present enrolment process is lengthy as it takes time to photograph all the animals to be enrolled during policy initiation.
4. The whole process is people dependent, and it is left to the Bima Mitra to implement effectively. Though it is a very good example of community participation, once the programme expands its scope and scale, it will be difficult to manage the programme as it operates presently. The process of automation will help reduce the burden of Bima Mitras and enhance their efficiency.
5. Enrolment for the programme happens only once a year. Therefore many people who buy new animals and want to get them insured are left with no choice except to buy the animals at the time of enrolment.

6.2 Community Experience

“It gives us immense pleasure to be of help to one amongst us in the hour of need. We are ready to work even after getting tired with daily household chores.” This was the response of one of the 26 Bima Mitras – all of who are women - responsible for the timely payment of claims when the farmer is in difficulty following the death of livestock which is the only source of livelihood for the poor cattle owner of Vizianagaram district.

“I feel so empowered when I hold this ATM card and use it for the benefit of my community. I can’t tell you the kind of faith people have in us. We work to live up to their expectations.” This

was what another Bima Mitra had to say. She went on to narrate how diffident she was earlier, and how this experience has helped transform her.



Figure 8: Bima Mitras in Meeting with DRDA Officials

All of this has not happened overnight; rather it was the outcome of constant struggle by SHG members to come out of their poverty. It is a remarkable effort by them given that more than 60% are illiterate. This initiative of the SHG members is an example of a process oriented participatory rural development programme where there is efficient coordination between the government body and the community.

7. Recommendations

7.1LPS

i. Transferring risk

Though the community should be a stakeholder in the risk management, it need not take all the risk on its own. It will be appropriate to involve the risk carrier also, so that the community can be protected from extreme events such as epidemics, unpredictable natural hazards, etc. However, the economics of insurance need to be worked out carefully, so that it accounts for all eventualities. Various arrangements can be worked out with insurance companies. They could include the following:

- To pass the excess risk on to the insurance company through a stop-loss arrangement.
 - Since the mortality rate was as low as 0.67% last year, it may be worthwhile for the community to bear the risk of first loss, and pass on higher risks to an insurer. This will also help to further reduce the premium amount.

- The DRDA, with the help of the veterinary department, has employed good risk reduction methods in the form of vaccination for FMD, HS, BQ, etc. This will help to reduce the mortality rates and therefore lower the premium.

The reduction in premium, as done by the ZS recently, is based on data generated over the past 4-5 years. The ZS may be interested in providing its members more comprehensive cover that goes beyond the first three lactations and insures the entire productive lifetime of the animal. Therefore, even if the premium is slightly raised in proportion to the risk, it will provide better coverage – an aspect worth exploring.

ii. *Technology up-gradation*

During the last 3 years, the LPS has been able to collect amounts higher than the claims incurred and this amount presently acts as a cushion in the case of higher losses. A portion of this amount can be used to upgrade technology and systems. The enrolment process burdens the systems quite a bit even though it takes place only once a year. If enrolments are to be done throughout the year, there is a dire need to upgrade the systems.

Presently, the animal carries no identification and it is insured on the basis of identity documents of its owner. It is a good idea to have separate identification for the animals. This will help in insurance related activities, disease management and better livestock management. The identification can also be used by veterinary departments for pedigree analysis, livestock census and other experiments done with the help of the community. It would therefore be better to have non-removable tags for the animal.

- The DRDA could look into external/internal RFID tags or the non-removable plastic tags which can be used for the unique identification of animals.
- The cost for this can be shared between the DRDA and the veterinary departments.

The following recommendations could make the programme more scalable:

- Having a decentralised system for enrolment.
- Each Bima Mitra can be helped by a Community Coordinator who can be supplied with a laptop, camera, and a network connection. This will help in coordination during enrolment.

Based on assumptions

The overall costs incurred will reduce if the Bima Mitras are provided with a laptop, camera, and connectivity, and if online funds transfer is used instead of cheques and bank drafts.

Assumptions:

- Calculations are done on the basis of figures for last year (numbers insured – 90,000 animals)
- Per day wage of the SHG member - Rs. 90
- Payment to SHG member per working day - Rs. 150

Cost-Benefit Analysis of proposed plan			
Feature	Cost/unit	Units	Total Cost
One time cost/investment			
Laptop	25,000	26	650,000
Camera	5,000	26	130,000
Data card cost	3,000	26	78,000
Total fixed Cost			858,000
Variable cost per year			
Connection	1,000	26	26,000
Visit for clicking photograph	30	3,900	117,000
Electricity cost	500	26	13,000
Total variable cost			156,000
Total cost			1,014,000
Expenditure borne by community and DRDA in present process			
DD cost	20	90,000	1,800,000
Time as money saved for members	45	90,000	4,050,000
Cost of travel of Bima Mitra (during enrolment period only)	30	3,900	117,000
Total value			

Box 1: Cost-Benefit Analysis of Proposed Solution**iii. Cash Management**

Cheques and Bank Drafts are expensive transaction instruments. A better system of money transfer can be used by the DRDA for premium payment. Online transfer of money will be an easier and cheaper solution. As the system gets decentralised, it will be a wise decision to use online transfer during the enrolment period.

iv. Incentives to Bima Mitra for the enrolment process

In the existing system, the Bima Mitras are paid on a per-day basis. This gives them the incentive to delay the process of enrolment. To make the system more efficient, payment should be made on a per animal basis. This will provide incentive to the Bima Mitra to finish their work as soon

as possible. If there is a possibility of major increase in the enrolment numbers, it may be useful to hire photographers on a contract basis and complete the enrolment as soon as possible.

v. Use of technology like ZigBee

Presently the LPS is using identification of cattle owners, but the animal itself carries no identification. Though this makes the process cheaper, a very large scale implementation of the programme with multiple cattle per owner could complicate matters tremendously. Steps need to be taken in advance so that potential issues can be addressed. It will be beneficial if some essential physiological parameter like temperature can also be recorded on a real time basis along with the identification. It will help reduce mortality by enabling the provision of immediate care to the animals.

For this purpose we suggest the use of ZigBee technology along with a temperature sensor. It is already well tested in human beings, and does not cause adverse health effects. Due to its flexibility, mobility, and ease of use in building wireless intelligence capabilities, it can be very useful for livestock insurance applications. However, as this technology is new to the livestock sector, it will be worth testing it as a pilot before scaling it up depending upon results. Costing details for this are being worked out, and it will be provided to the DRDA shortly.

7.2 Regarding animal husbandry in the area:

Information collected on diseases show that out of total deaths, it is Acute Tympanitis that is the major cause of mortality. This is indicative of the poor feeding habits of the animals. This disease is reported to be high when animals are fed huge amounts of leguminous plants. However there is a declining trend, and therefore it can be conservatively assumed that cattle owners are investing some of the profits earned through animal husbandry in feeding the animals. This is a positive sign of the changing mindset of the farmer in improving his livestock business.

Diseases like Trypanosomiasis and Hemorrhagic Septicaemia and Black Quarter indicate poor hygiene and vaccination. Animal husbandry needs more emphasis, and proper vaccination is compulsory to stop deaths due to HS, BQ and FMD.

Table 6: Disease Prevalence in Areas of Vizianagaram LPS operations

Year	Deaths due to specific disease as percentage of total deaths							
	Acute Tympanitis	Hemorrhagic Septicemia	Trypanosomiasis	Foot and Mouth Disease (FMD)	Food Poisoning	Milk Fever	Black Quarter	Snake Bite
2006	53.13	12.50	9.38	7.29	5.21	1.04	3.13	8.33
2007	43.33	15.00	4.17	10.83	6.67	2.50	7.50	10.00
2008	44.21	17.38	6.40	6.71	7.62	5.49	9.15	3.05

It was mentioned during our visit to Vizianagarm that a mobile veterinary van for quick service will help save the life of animals. If this service is coupled with implementation of ZigBee technology for wireless real time data transfer, it will definitely lead to better livestock management.

Vizianagaram being a drought prone area, the society will benefit if more investments are made to maintain tanks, rainwater harvesting systems are used. These will help agriculture, enhance animal productivity, and help in the commercial development of the district so that holistic development can be attained.

8. Conclusion

The Livestock Protection Scheme is a successful programme because of its simple and highly diluted processes which have reduced the turnaround time, and made administration costs almost negligible. Close monitoring with strong community ownership results in lesser frauds, and helps in building trust among community members. This has been instrumental in the reach of this programme to the masses. There is a profound social impact of the programme which is very much visible in form of women's empowerment with them being an active part of decision making processes at the household and community levels. With this programme having a profound positive impact on society, we can safely assume that similar programmes in other rural areas will not only help take insurance products to the masses, but will also help in the upliftment of the society.