Study of Indian Livestock Insurance Sector

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Abstract:
Livestock contribute towards the livelihood of the poor by supporting subsistence consumption at household level. It is an integral part of the livelihood of India's rural population. As the critical mechanism to cope with crop failure, it helps generate assets and bolsters the financial security of rural Indian farmers, many of whom are among the poorest people in the country. The intensive rearing of livestock led to higher incidences of diseases and involvement of high feed cost due to stall-fed system. Raising cattle, sheep or poultry is a risky business – especially if you do not own a herd or flock but only one or a few animals. The biggest risk is disease. Insurance as the key risk transfer must adapt to the coming reality of more commercial farming in India. The Government of India provides insurance against income losses of vulnerable sections arising out of four major reasons such as crop failure, sudden death of family member, unforeseen health expenditure and unexpected death of cattle. This paper intends to identify various schemes and arrangements for the Livestock Insurance in India. It also narrates the financial structure and availability of livestock insurance in Indian context. The last portion narrates the policy recommendations for the development of this sector.

Keywords: *Livestock, Insurance, Nonfarm activity*

JEL Classification: O18, Q12, G22

1. Introduction

Livestock contribute towards the livelihood of the poor by supporting subsistence consumption at household level, providing with complementary cropping activities, buffering against seasonality in income from other income generation activities and providing some assets for insurance against un predictable demands for cash (Dorward *et al.* 2009).

Livestock is an integral part of the livelihood of India's rural population. It contributes significantly to the overall output of the country's agricultural industry. Farming in India depends to a large degree on the vagaries of monsoon. If the rains fail, crops wither.

Livestock plays a crucial role in mitigating that risk. It provides alternative employment – especially for women and income opportunities. As the critical mechanism to cope with crop failure, it helps generate assets and bolsters the financial security of rural Indian farmers, many of whom are among the poorest people in the country.

During the last two decades, population growth, aberrant monsoon due to climate change, restrictions on land use, deforestation, cash crop plantation by big farmers, decreased land availability, sharp rise in land prices and industrialisation promoted through globalisation forced the farmers to shift to intensive farming system from the traditional free-range system (Bala Ravi2004). The intensive rearing of livestock led to higher incidences of diseases and involvement of high feed cost due to stall-fed system. Decrease in green and dry fodder availability from village common land and nearby forest areas with increased incidences of foot and mouth disease (FMD), pleuropneumonia, Peste des petits

ruminants (PPR), avian influenza and anthrax enhanced the risk in commercial livestock production activities resulting in decline in native livestock population (FARD2007).

Fischer and Buchenrieder, 2009 established the fact that the absence of livestock insurance threatened the long-term livelihood of small farmers by increasing the vulnerability to acute financial loss in the mountainous regions of Northern Vietnam. A comprehensive study by Perry and Grace, 2009 highlighted the complex relationships among 'livestock, livestock disease, livestock disease control and global poverty' and concluded that livestock diseases affected poverty reduction. This signifies the introduction of sophisticated risk management mechanisms for sustainable livelihood of farmers in the above scenario. Lack of proper animal husbandry extension support with veterinary healthcare services and risk minimisation options such as livestock insurance limited the livelihood options of farm households adversely affecting dietary diversity, food security and income generation. Limited availability of organic manure from the decreasing livestock population, use of dry cattle dung as fuel for cooking due to diminishing availability of firewood, non-affordability for use of alternate sources of energy as fuel for domestic purposes, high cost and scarcity of inorganic fertilizers, threatened sustainable agriculture and soil health status in most of livestock farming areas of country.

2. Importance of Livestock

While livestock contributes to the nutritional diet and food security of the people, the growth of the sector in different states is very uneven. Accelerating growth in the Punjab, Haryana and Gujarat regions is in stark contrast to states like Odisha, which lags behind. The divergence is due to the policy focus of different state governments. Depending on the incentives and infrastructure provided by the states, the sector grows or stalls.

Developing this sector in a country where 250 million people or 51% of the total employed population works in agriculture is crucial. In a country that still faces rising population numbers the livestock-raising industry can potentially provide work for many, assure food security and generate additional income – a cornerstone for further development and economic growth.

Nearly 60% of rural households have livestock as an integral part of their farming system. About 69% of women are engaged in this sector. This sector contributes 26% to agricultural GDP. According to latest 19th Census, the livestock population stands at 512 million in India.

3. Why Livestock Insurance?

Raising cattle, sheep or poultry is a risky business – especially if you do not own a herd or flock but only one or a few animals. The biggest risk is disease. This can decrease the production of meat or milk and, in the worst case, result in the death of the animals. If there is only one animal on the farm, as is often the case in India, this is a huge exposure.

Diseases trigger cost. The direct cost incurred is in the treatment of the animal. Additionally, there is the loss-of profit if the animal products can no longer be offered for sale, or the cost associated with buying products the owner normally procures from his animals. A wider cost can be a loss of market share should buyers switch to other providers. Finally, but just as important, buying new animals costs money. Shouldering this cost as well is very burdensome for many farmers.

Another set of risks has to do with as shortage of fodder. The monsoon determines how much is available in the country. If the rains fail, supplies drop at a time when farmers are most in need. At the same time, falling production due to underfed animals makes it more challenging to secure the revenues necessary to cover rising prices in the fodder market. In breeding farms, there is also the risk that the production of higher yielding animals is not successful. India still has plenty of room to increase animal productivity by switching to better breeds of animals. If these new breeds underperform, this is a risk to the breeders.

These risks become even more serious if the sector grows and changes. The growing number of urbanites in India will mean city dwellers becoming increasingly dependent on accessing animal products from the countryside. To meet this demand many smallholders in India will, over time, need to develop into commercial farmers, and sell the surplus they make to the growing cities.
Transforming subsistence farming into an agricultural enterprise also means that farmers will become more aware of the risks they face because livestock failure will be tantamount to business failure. To protect their revenues, the coming decades will see them looking increasingly to insurance as a means to deal with business risks.

Average annual losses calculated due to diseases like Foot & mouth diseases 74.3%, Haemorrhagicsepticaemia 19.2%, Black quarter 5.2 % and Anthrax 1.3 % in cattle during 1991-2005 time periods.

Insurance as the key risk transfer must adapt to the coming reality of more commercial farming in India. A simple look at the numbers reveals how big this challenge is. In 2012, 41.8 – 62.7 million cattle could have been insured. In2009, less than 7% of the cattle and less than 0.6% of cattle holders had insurance. The numbers illustrate the tremendous growth needed to cover Indian farmers against livestock risks adequately.

4. Investment, Credit and Insurance

Animal husbandry and dairying is a state subject, and bulk of the investment for their development comes from the state governments. The central government contributes about 10% to the total investment through central and centrally-sponsored schemes as to supplement state governments' resources. In absolute terms, total outlay for animal husbandry and dairying increased over the plan periods. However, as per cent of the total plan outlay the share of animal husbandry and dairy development declined from 1.1% during first FYP to 0.4% during VI FYP and further to 0.3% in the subsequent FYPs. As proportion of the total outlay for the agricultural sector, the share of livestock fell from 11.2% in II FYP to 3.6 % in IX FYP but increased to 9.3% during XI FYP. The share of livestock in the planned investment has never been commensurate with its contribution to GDP or Agrl.GDP.

Since IV FYP the emphasis had been on dairy development to support the Operation Flood Programme. With the end of Operation Flood program, the allocation to dairy development slowed down, reaching to about 30% in the XI FYP. Animal health and veterinary services now receive about 30% of the total funds. In XI Plan, the centrally sponsored schemes -Animal Health and Disease Control and National Project for Livestock Development accounted for a major share of the outlay for animal husbandry. Small ruminants, piggery, feed and fodder development, research, education and training did not receive adequate financial support. There has been a large gap between planned and actual expenditure in case of Animal Husbandry in most plan periods, except during X^{th} FYP.

There is hardly any private sector investment in animal husbandry except some support to Gaushalas and Gosadans. The diary sector, however, has attracted considerable private investment in processing, value addition and marketing. The dairy development is no longer a monopoly of the NDDB as privately owned dairy plants account for close to half of the total milk processed in the country. Diary processing was not a priority for lending by institutional credit agencies. In 2009, dairy processing was included in the list of priority sector lending activities.

Credit: Financial institutions provide credit for various livestock as 'term credit' for introduction of animals, construction of animal sheds, purchase of equipments etc.). The credit is also provided for activities like establishment of milk collection centers, bulk milk coolers, livestock product processing units, cold chain, storage and marketing infrastructure, vehicles for transporting livestock products,

retail outlets for sale of livestock products etc. and feed and fodder development activities are also eligible for financing.

5. An Overview of Insurance Schemes of Government of India

The Government of India provides insurance against income losses of vulnerable sections arising out of four major reasons (i) yield losses in agriculture (crop insurance),(ii) death and disability of an earning member of a family (life insurance and group accident insurance schemes), (iii) unforeseen health expenditure (e.g. health insurance)and (iv) death of cattle, buffaloes and sheep (e.g. livestock and sheep insurance). This section provides an overview of the basic nature, premium rates and compensation structure of livestock schemes.

6. Livestock Insurance Scheme

The Livestock Insurance Scheme, a centrally sponsored scheme, which was implemented on a pilot basis during 2005-06 and 2006-07 of the 10th Five Year Plan and 2007-08 of the 11th Five Year Plan in 100 selected districts. The scheme is being implemented on a regular basis from 2008-09 in 100 newly selected districts of the country. Under the scheme, the crossbred and high yielding cattle and buffaloes are being insured at maximum of their current market price. The premium of the insurance is subsidized to the tune of 50%. The entire cost of the subsidy is being borne by the Central Government. The benefit of subsidy is being provided to a maximum of 2 animals per beneficiary for a policy of maximum of three years. The scheme is being implemented in all states except Goa through the State Livestock Development Boards of respective states. The scheme is proposed to be extended to 100 old districts covered during pilot period and more species of livestock including indigenous cattle, yak & mithun.

The Livestock Insurance Scheme has been formulated with the twin objective of providing protection mechanism to the farmers and cattle rearers against any eventual loss of their animals due to death and to demonstrate the benefit of the insurance of livestock to the people and popularize it with the ultimate goal of attaining qualitative improvement in livestock and their products.

7. Transforming insurance in a changing market

Historically, until the year 2000 at least, the public sector general insurance companies were the sole provider of livestock insurance in India. Liberalisation of the cattle insurance market in 2003 allowed private insurers to decide premium and policy conditions by themselves. This has paved the way for newer product offerings. More of these by public and private companies are needed to meet the differing local needs of farmers in the country

India is a subcontinent with a wide variety of climate zones and boundary conditions. Livestock holdings in one area depend on pasture, in others on supplied fodder. Water constraints determine what breeds are raised. Different breeds have varying susceptibility to diseases. The list of variation in livestock holdings goes on. Yet, even though there is so much difference, there are no customized product offerings across India. Having the same product nationwide means that in some areas the product does not offer what farmers need, while in other areas they have coverage for risks they do not face. This not fit-for-purpose or location is one major reason why farmers do not purchase livestock insurance.

There are only 0.6 % cattle holders are insured. Only 9% cattle insured in India. So far as the market share of cattle insurance concerned, private sector accounts 83 %in India.

Another reason farmers do not purchase livestock insurance is distribution related. Often insurance is bundled with credit. Credit-linked insurance policies are not always what farmers actually need since the loan might be solely for one year, even though the farmer wants insurance for a longer period. If the farmers want to renew their insurance policies, they may be obliged to take out another loan even

though they do not need one. These are just two examples of how the current market does not address farmers' needs. Offering localised and tailored policies is one important way of convincing the vast majority of farmers to take an interest in insurance.

The next big challenge is distribution. India is a big country. Consequently, connecting farmers with infrastructure is difficult. This fact also hampers the provision and administration of insurance and especially the most urgently needed micro-insurance products.

This problem is not just confined to issuing policies. Most farmers are not yet familiar with the concepts of livestock risk management and insurance. Providing this information to them in a way they can understand is one element that is currently missing. This education process has to include how proper risk-management lowers premiums, which, in turn, acts as an incentive to minimise losses. This is extremely important because loss ratios are high now. Lowering them will make it more attractive for the insurance industry to offer products.

Innovative use of technology to overcome infrastructure challenges will also help with administrative tasks such as issuing the policy and managing the claims process.

8. Special risk – business interruption for large dairy farms

Dairy farms have large herds. An epidemic, a fire or flooding of the facilities poses a major business risk for them. Replacing or moving livestock to avoid infection in a case of an epidemic generates huge cost. There may be additional cost for new equipment and fodder. Increasing cost will come in addition to diminished revenues. Commercial entities around the world have business interruption insurance in place for these types of events. It helps to cover additional cost in case of an incident, thus protecting the financial vitality of a company's balance sheet.

9. Cattle feed and insurance

Sixty percent of the expenses a livestock farmer in India has are for fodder. In case the monsoon fails this cost can rapidly increase by 30%–100% since a falling supply coincides with rising demand. Often farmers buy less fodder than they need, leading to shrinking yields from the malnourished livestock. Having more commercially interested dairy farmers triggered a trend away from traditional feed to more nutritional or mulations. These benefited milk yields. Farmers also discovered that using feeds that are more advanced exposed them to price risks in the fodder market. Corn prices in India increased 50% between January 2009 and February 2014. The volatility affected producers' profits and their ability to buy feed. The situation will not improve. Projections for 2015 are for a shortfall of 65% in the supply of green fodder and 25%for dry fodder. These developments necessitate revenue protection covers to hedge the market risks of variations in input cost. Bundling this revenue cover with livestock insurance is a way of offering farmers a package that protects them on the input as well as on the output side.

10. Distribution channels in rural India

Reaching the farmers means moving into the countryside. Experience has shown that insurance uptake increases once the point of sales and services is close to the farmers. Currently the prevalent distribution networks of livestock insurance in India are Microfinance Institutions (MFI), Non-Governmental Organisations and dairy co-operatives.

11. Microfinance Institutions (MFI)

As of 31 March 2015, Non-Banking Financial Companies (NBFC) MFIs provided credit to over 30.5 million clients. The total number of NBFC-MFI on 31 March 2015 stood at 10 553. Around 40% of MFI's lending portfolio goes into the dairy sector. The MFIs also train farmers in best practices and risk management. They also monitor the health of livestock health to minimise loan defaults.

12. Self Help Groups (SHG) Movement

The SHG federation as a large microfinance institution covers 97 million rural households and 7.4 million bank credit-linked groups. It is the largest microfinance model in the world. Different institutes as legitimate partners are increasingly recognising SHG federations. These include the Insurance Regulatory and Development Authority of India (IRDA) micro insurance agents, the Reserve Bank of India business facilitators and the non-financial services delivery agents of the National Bank for Agriculture and Rural Development (NABARD). Given the high credibility they have in local communities, the outreach across the country and the close link between micro-insurance and microfinance, they represent a natural match for the distribution of livestock insurance in India.

13. National Dairy Development Board

The dairy cooperative network includes 177 milk unions in 346 districts and over 133000 village level societies with a total membership of 14 million farmers. The cooperative provides its members with additional services such as cattle feed, artificial insemination and veterinary care. All these risk management services also address the interests of insurers.

14. Payment for the rural poor

Regulations in India permit mobile transactions only if linked to a registered bank account. While this protects clients, it does exclude the approximately 50% of Indian adults who do not have access to a bank. Most of these people live in low-income rural areas. In Africa, micro-payment services that work without a bank account have been a major success in serving the rural poor. These technology platforms can be used not only for transactions but also offer new ways to bring livestock micro-insurance to the poor in a cost-effective way, especially if bundled with knowledge and services. Para-vets or veterinary doctors in the field could also offer micro-insurance policies provided the set-up is right. Training field staff to apply Radio-Frequency Identification (RFID) chips to animals would be one example.

To enable farmers to afford the policies, administration cost must below. Deploying today's communication inventions in a new way, as already happens in Africa, is one solution that comes to mind. Finally, yet importantly, farmers need access to additional services. These should include vaccination of animals, advice on best farming practices and access to markets and weather information so they can plan and develop their business.

Such services must make their way into the country side. Here insurers can play an important role by sharing know-how they gained not only in India but also around the globe. Innovations in Africa on payments, claims and farmer-relevant information can act as a model here.

Raising the level of livestock regulation while livestock plays an important part in nearly every rural household, it does not have the same importance on the regulatory level yet. The livestock sector receives only about 12% of total public expenditure on agriculture and allied sectors, and only about 4–5% of total institutional credit. It must become an integral part of the public support framework similar to that used to promote the farming of crops.

Over 50% of farm-level credit for livestock production comes from traditional lenders. Cash credit and micro credit is virtually unheard of in livestock. A majority of livestock farmers do not even have the facility of Kisan Credit cards. This instrument aims to provide need-based and timely credit support to farmers for their cultivation needs as well as for their non-farm activities in a cost effective manner. Transforming insurance in a changing market Experience in other areas showed that financial institutions are prepared to go rural if the regulatory environment is right.
Insurers ventured into the country side when regulation under the micro insurance quota system required it. In turn, this development encouraged financing institutions to hedge their own risk while

lending to the poor. Although this was a great start, there was one setback: the micro-insurance quota system tended to respond primarily to the needs of rural lending banks rather than needs of customers. Regulatory and process reform in livestock should concentrate on farmers needs. Using the agricultural reforms for non-livestock farming as a blueprint is a good starting point. Infrastructure investments around livestock are also needed. These should include:

- The government addressing, on a national level, the incidence of disease, the vulnerability to new exotic diseases and the shortage of feed and fodder should disease arise.
- An overall strategy to strengthen animal health (prevention/control of disease), including the establishment of disease-free zones, the management of grazing lands, projects and policies to rejuvenate pastures and encouraging the dairy cooperatives to extend veterinary services to farmers.
- The government must invest and focus on providing veterinary infrastructure, vaccines, artificial insemination breeding farms and fodder to farmers. Needed, too, are easy and safe animal identification tags − for example based on Radio Frequency Identification (RFID).Since RFID tagging enables storage of information such as an animal's breed, health status and value at inception, the insurer immediately knows exactly which animal is affected when a claim is submitted. This would considerably expedite the claims process.
- Ensuring adequate infrastructure for safeguarding bio-security, proper quarantine services and a system to prevent the spread of disease across state and national borders.
- Generating a reliable, timely and open-access database on livestock, production numbers, disease and weather risks to help the industry plan and prepare for incidents as well as future growth.
- Making institutional credit available and accessible to small farmers. This policy should also include support for the formation of self-help groups to facilitate the provision of livestock credits.
- Last but not least, farmers must be supported in literacy and general education as well as with livestock specific management instruction. Insuring livestock farmers in India has significant potential because now their needs remain largely uncovered. Farming is an open-roof business depending on the effective risk management of weather and other risks such as disease. Currently, most farmers in India run these risks on their own – often with the devastating consequence that they quit farming for good once disaster strikes.

15. Conclusion

As a country with the world's large stand still expanding population, this is a dangerous development. As in other parts of the globe, ever-growing numbers of people are moving to the cities. The country needs a thriving farming sector to assure its food security.

One key component of this is that farmers remain viable and working should a disaster hit their business. Insurance is normal for farmers in the developed world. Today it is possible to bring this "normal" to less developed regions as well. Once in place, insurance protection gives economic peace of mind to lenders and other value chain partners. Their agency is needed if the industry is to develop. However, they will only participate provided they know that farmers will still be around after extreme weather events or following an epidemic.

Insurance is one partner in this process, bringing insurance protection to the table as well as additional know-how. A vast knowledge foundation based on claims, risk management and products structures from across the globe is at India's disposal. 196 million households in India are farming now and will have to farm even more in the future to feed the country. It is time to start working on helping Indian farmers to meet this challenge.

In recent years, climate change has affected productivity and profitability in different sectors in several ways. Therefore, the present challenge of bringing in sustainability in animal husbandry sector justifies the adoption of risk management mechanisms. Insurance is a 'form of adaptive capacity for the

impacts of climate change' that provides the insurance users with a better control over physical and business risks (Mills 2005). Absence of sound risk mitigation mechanisms may render the animal husbandry sector unprofitable and question the viability of the sector itself in the future.

Level of education of the insurance users is a major determinant of availing insurance coverage as it enhances the responsiveness of the users to risk management by enabling them to analyse the risks precisely with 'a possible change in risk attitudes that complement improved risk carrying capacities'(Sherrick*et al.* 2004). Due to poor planning and complex socioeconomic conditions, the overall performance of livestock insurance has been slow and poor in India.

References

1. Ahuja, V, and E. Redmond. "Economic and Policy Issues in the Livestock Service Delivery to the Poor." In Tropical and Animal Health and Production. 2004.
2. Ahuja, V, K.E. McConnell, D Umali, and C de Haan. "Are the Poor Willing to Pay for Livestock Services? Evidence from Rural India."Indian Journal of Agricultural Economics 58, no. 1 (2003): 84-100.
3. Ahuja, V, M Rajasekhar, and R Raju. Animal Health for Poverty Alleviation: a Review of Key Issues for India. Background Paper, Washington, DC: mimeo, 2008.
4. Bala Ravi, S., "Neglected Millets That Save The Poor", LEISA India, Vol.6, No.1,(2004), pp. 34-36,
5. Bhasin, N.R. "Livestock and Pro-poor in Bihar and Orissa". Background paper prepared for a World Bank study. Washington DC: processed 2008.
6. Bhatia, J., K. Pandey, and K.S. Suhag."Economic Analysis of Sheep and Goat Rearing in Rainfed Region of Haryana."Indian Journal of Animal Sciences 75, no. 12 (2005): 1423-1432.
7. Department of Animal Husbandry, Dairying, & Fisheries.17th Indian Livestock Census 2003-District Wise. 2003.
8. Chaudhary, S. M., "Livestock insurance: still a distant dream for tribal communities of Koraput tract, Odisha, India", M S Swaminathan Research Foundation, Koraput, Odisha, India.
9. Department of Animal Husbandry, Dairying, & Fisheries.18th Indian Livestock Census 2007-District Wise. 2007.
10. Department of Animal Husbandry, Dairying, & Fisheries.19th Indian Livestock Census 2012-District Wise. 2012.
11. Institute for Financial Management and Research, Livestock Insurance: Lessons from the Indian Experience,
12. FAO.FAOSTAT. Rome: Food and Agriculture Organization of the United Nations, 2009.
13. Fischer, I. and Buchenrieder Gertrud, "Laptop, Livestock Drawings and Rice wine: A Demand Analysis for Livestock Insurance in Northern Vietnam", Savings and Development, Vol. 33, No.1 (2009), pp. 41-60.
14. Government of India. Report of the Working Group on Animal Husbandry and Dairying for the Eleventh Five Year Plan (2007-2012). New Delhi: Planning Commission, Government of India, 2007.
15. Mills, Evan, "Insurance in a Climate of Change", Science, New Series, Vol. 309, No. 5737 (Aug. 12, 2005), pp. 1042-1043.
16. National Institute of Public Finance and Policy, A Study on Insurance Schemes of Government of India, New Delhi, 2011.
17. Raju, S. S. and Chand Ramesh, "Progress and Problems in Agricultural Insurance", Economic and Political Weekly, Vol. 42, No. 21, May 26-Jun 1, (2007), pp. 1905-1908.
18. Swiss Re, Livestock in India- diversification for rural development, Swiss Reinsurance Company Ltd., Switzerland, 2015.
19. Sherrick, Bruce J., Peter J. Barry, Paul N. Ellinger, and Gary D. Schnitk, "Factors Influencing Farmers' Crop Insurance Decisions", American Journal of Agricultural Economics, Vol. 86, No.1 (2004), pp. 103-114.