

Livestock in India – diversification for rural development

Rural Indian farmers make India the second largest livestock market in the world. Over half the population and a quarter of the country's agricultural GDP depend on it. But further growth is hampered by death, disease and a lack of infrastructure and livestock services.



Helping rural Indian farmers by improving conditions for raising livestock will bring the country many benefits, such as more sustainable diets and income for the countryside poor. In turn, this will build a foundation for better lives in the future.

Currently, infrastructure for raising livestock is neither adequately developed nor tailored to local conditions. To develop the sector, improvements are necessary in veterinary care, transportation, storage facilities and farmers' education.

Improvements must also include in insurance. The current one-size-fits-all policies must make way for localised ones that address the different loss patterns farmers face across the sub-continent. Following this road will make insurance attractive to farmers, putting both the livestock industry and insurance on a path of sustainable growth.

Livestock in India – diversification for marginal farmers

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.

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.



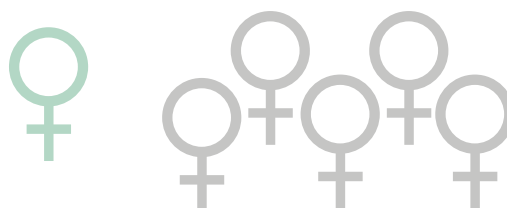
60%

of rural households have livestock as an integral part of their farming system



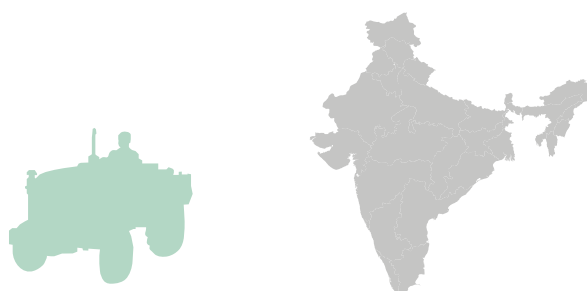
69%

of women are engaged in this sector



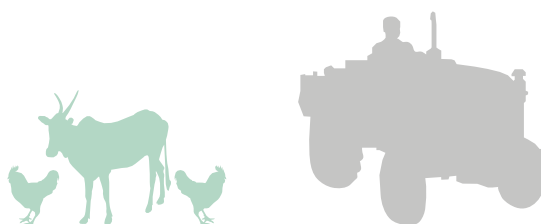
15%

Agriculture's contribution to India's GDP



26%

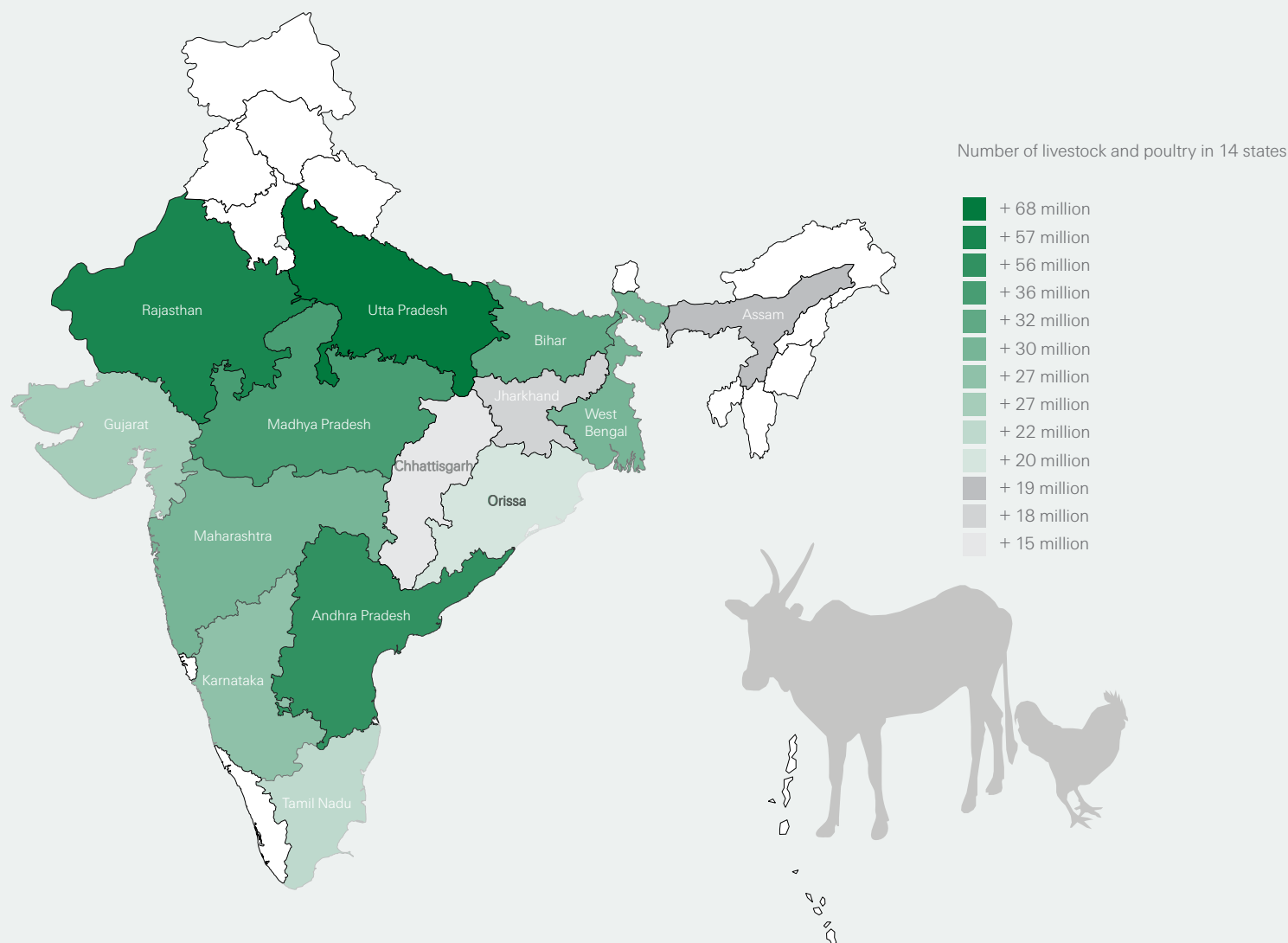
Livestock's contribution to agricultural GDP



512 million

livestock according to 2012 census





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.

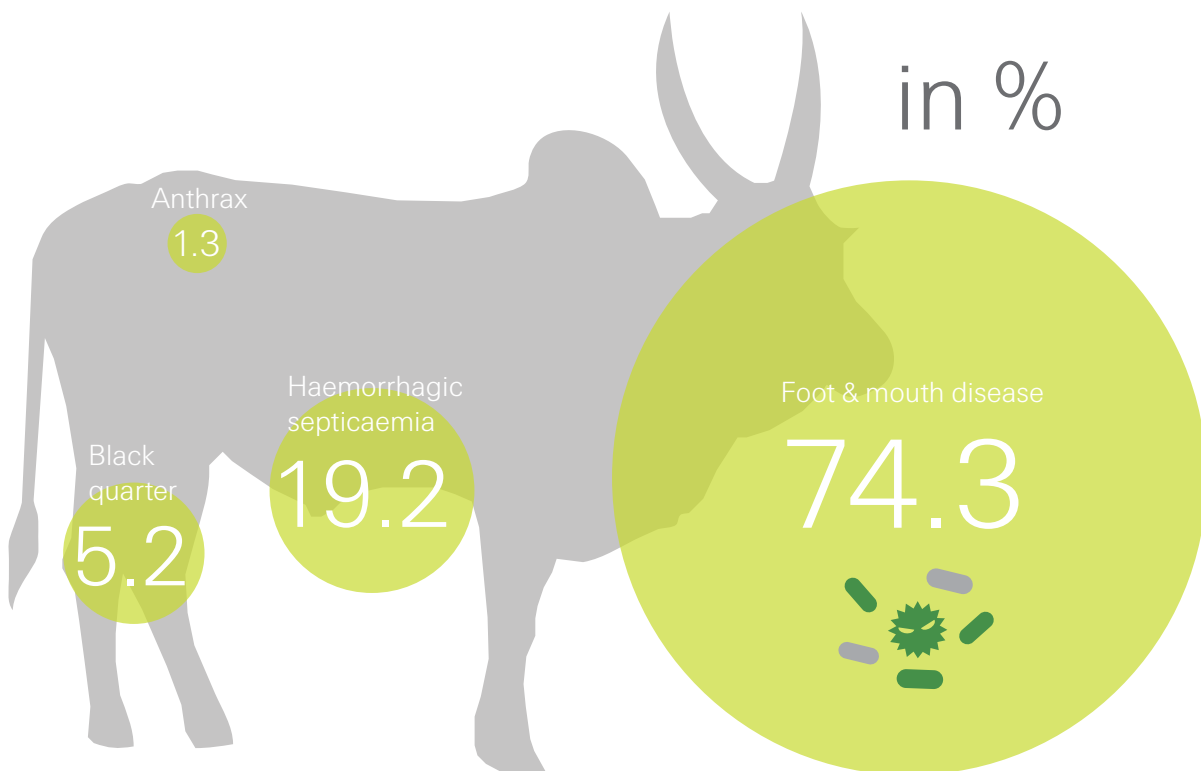
Livestock at risk

Another set of risks has to do with a 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

Average annual losses calculated due to different diseases in cattle (1991–2005)



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.

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.

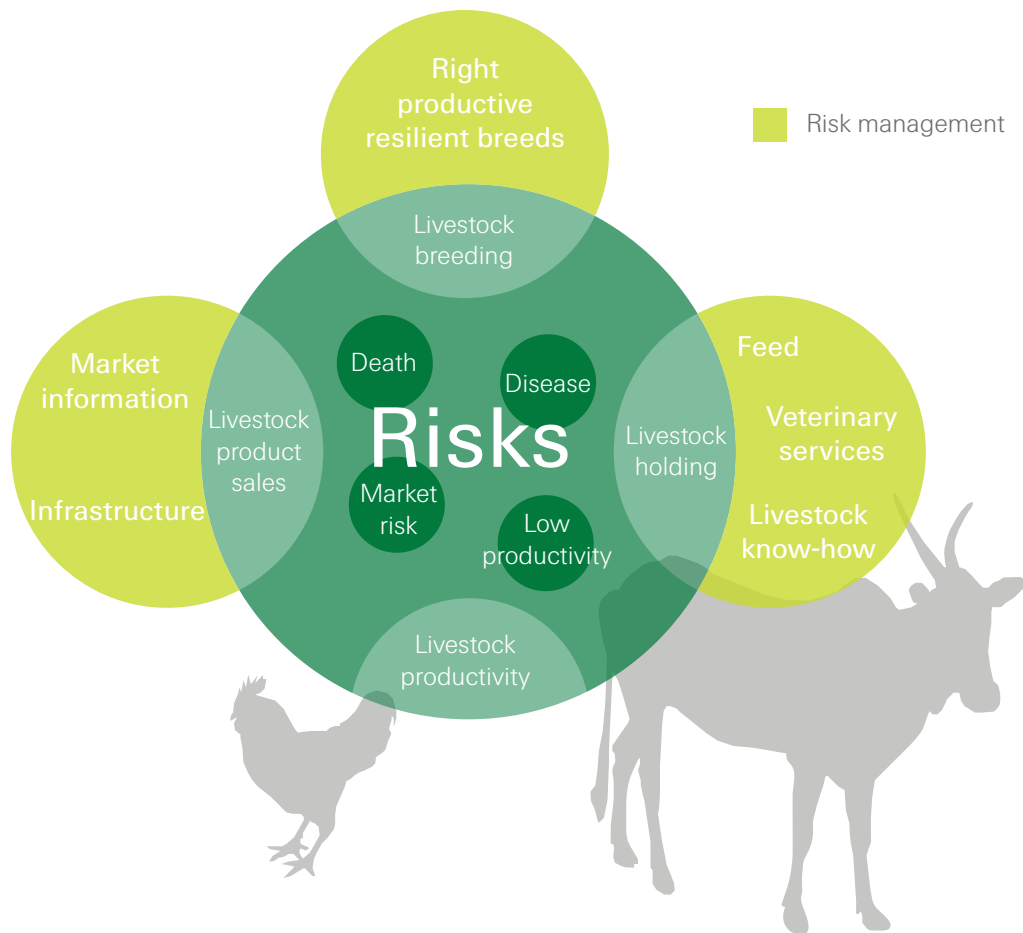
Transforming subsistence farming into an agricultural enterprise also means that farmers will become more aware

Number of rural households
195.60 million

Households owning cattle
104.52 million



Risk management for livestock farmers

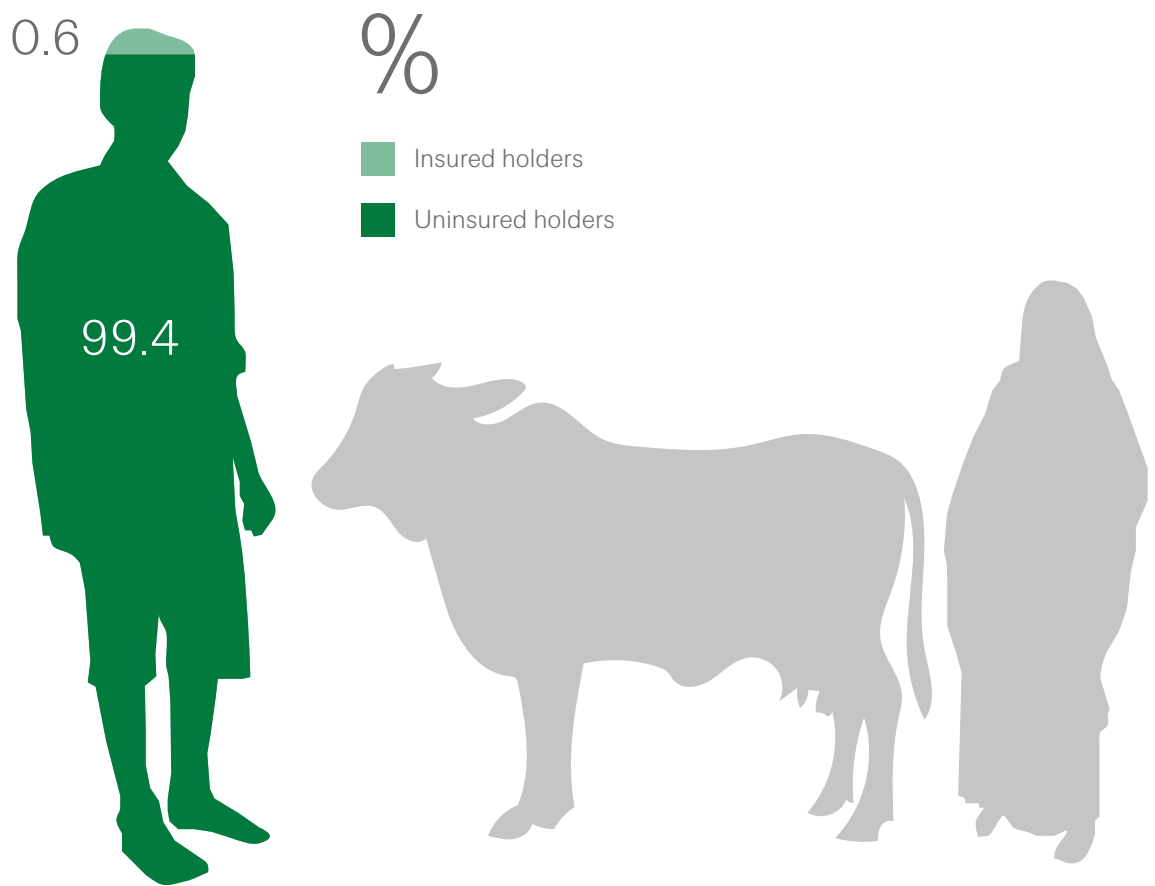


Insurance as the key risk transfer must adapt to the coming reality of more commercial farming in India. A simple look at the numbers reveals how big this challenge is. In 2012, 41.8 – 62.7 million cattle could have been insured. In 2009, less than 7% of the cattle and less than 0.6% of cattle holders had insurance.

The numbers illustrate the tremendous growth needed to cover Indian farmers against livestock risks adequately. So why is the insurance sector not yet where it should be?

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.

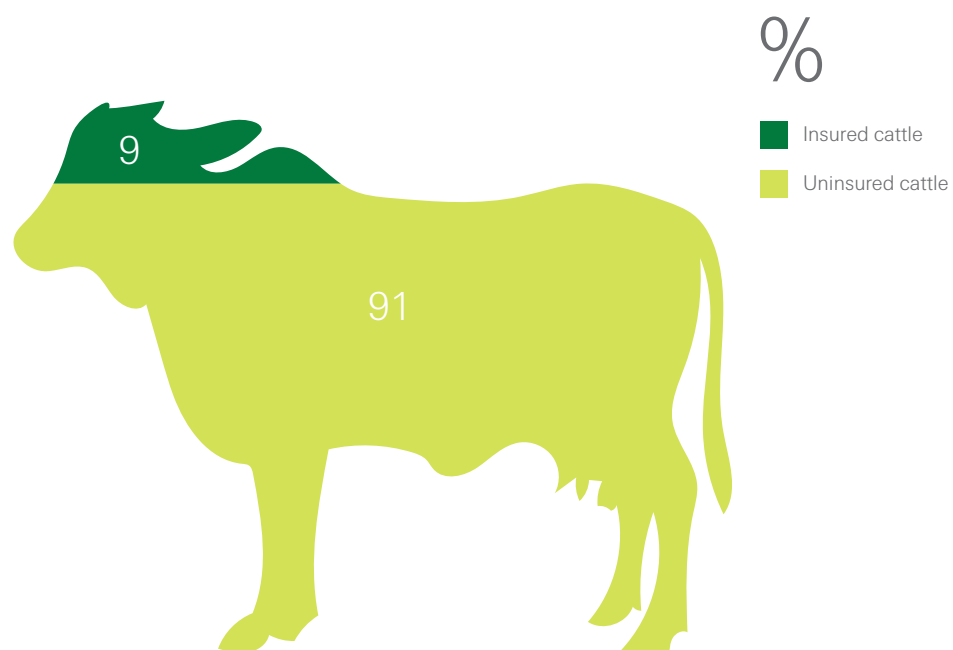
Cattle holders insured



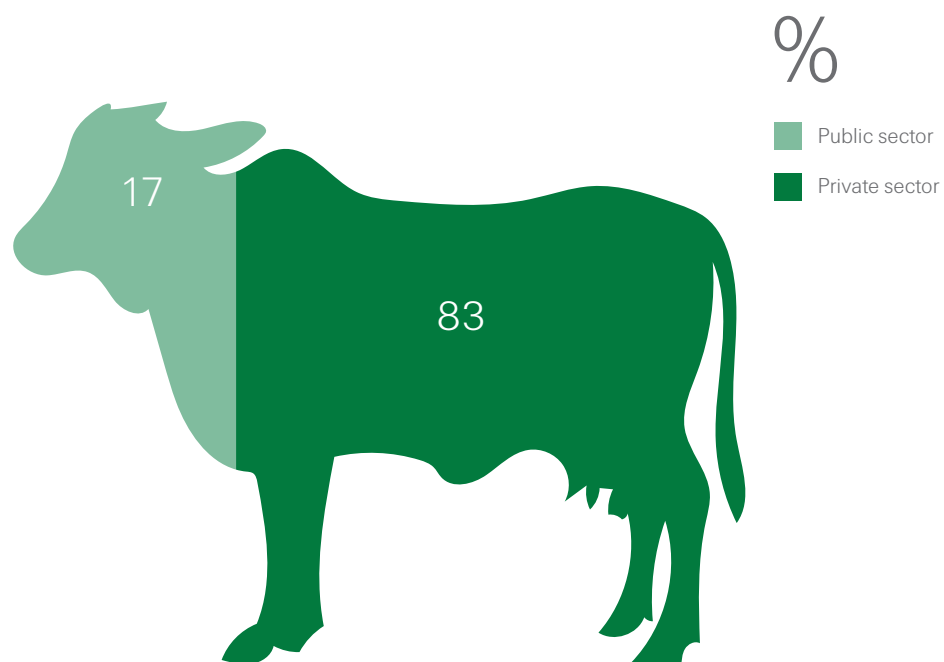
India is a subcontinent with a wide variety of climate zones and boundary conditions. Livestock holdings in one area depend on pasture, in others on supplied fodder. Water constraints determine what breeds are raised. Different breeds have varying susceptibility to diseases. The list of variation in livestock holdings goes on. Yet, even though there is so much

difference, there are no customised 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.

Cattle insured in India



Share of insurance market





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.

Insurance market potential in India
41.81–62.71 million cattle according
to the UNDP

Transforming insurance in a changing market

Livestock insurance in India – Traditional products overview

Insurance scheme	Sum insured	Risks covered	Insured
Scheme policies (Integrated Rural Development Programme (IRDP) or other subsidised schemes)	Market value (fixed by purchase committee) or sum insured, whichever is less Sum insured will not exceed 100% of the market value	Death Permanent total disability	Only high yielding cattle/ crossbreds are considered Dairy cows 2 years (or age at first calving) –10 years Dairy buffaloes 3 years (or age at first calving) –12 years Indigenous/first exotic crossbred female calves 4 months to 32 months or calving whichever is earlier
Non-scheme policies	Market value (fixed by veterinarian) or sum insured, whichever is less Sum insured will not exceed 100% of the market value	Death Permanent total disability	Includes all cattle; however, due to owners' commercial motives, priority is typically high yielding cattle Dairy cows 2 years (or age at first calving) –10 years Dairy buffaloes 3 years (or age at first calving) –12 years Indigenous/first exotic cross bred female calves 4 months up to the date of 1st calving or minimum age limit for adult females

Coverage	Premium	Comment
Death coverage: On pre-agreed value basis Permanent total disablement: 75% of sum insured	2.25% of market value (with premium subsidy of 50% up to 2 animals) + additional premium of 0.85% of market value for permanent total disablement (PTD) + additional premium of 1% for transit beyond 80km	95% of policies are credit linked. Credits run for one year only. Average term of policy is 1–3 years. Premium subsidies of 50% only for high yielding cattle up to a maximum of 2 animals per beneficiary The rate of premium should not exceed 4.5% for annual policies and 12% for three-year policies.
Death: Sum insured or market value before illness. Pregnant Cattle: Indemnity restricted to 50% for animals dying when pregnant for less than 4 months Dairy cattle: Indemnity of 50% if death occurred during dry period Permanent total disablement: Limited to 70% (for drought affected animals)	4%–6% of market value + additional premium of 1% for PTD + additional premium of 1% for transit beyond 80 km	80% of policies are credit linked Average term of policy is 1–3 years. This often includes retagging in their premium price, which is not the feature of scheme policies

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.

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.

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 formulations. These benefited milk yields. Farmers also discovered that using more advanced feeds 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.

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.

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.

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. SHG federations are increasingly being recognised by different institutes as legitimate partners. 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.

National Dairy Development Board

The dairy cooperative network includes 177 milk unions in 346 districts and over 133 000 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.

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 be low. 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 countryside. 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.

Successful livestock insurance schemes worldwide

Bangladesh

In Bangladesh, several leading NGOs/MFI, including the Grameen bank and Proshika have been implementing small-scale livestock micro-insurance programmes for many years to protect their investment loans to dairy cattle and water buffalo livestock producers. Typically, the insurance provides all risk mortality cover during the two three-year loan repayment period. The sum insured is fixed in accordance with the loan amount.

Nepal

In Nepal, the community livestock development programme (CLDP) for dairy cattle and goats is funded by the Asian Development Bank (ADB) with technical assistance from the Food and Agricultural Organisation (FAO) and provides all risk mortality and loss of use cover for livestock that are purchased on credit.

Kenya

For product structuring, satellite-driven normalised differentiation vegetation vigour index (NDVI) would be of help. This prediction model allowed the International Livestock Research Institute (ILRI) and Cornell to design an index-based insurance product using historical forage/pasture data. Private insurers can sell this data to pastoralists and provide them with financial compensation when a drought occurs and forage becomes unsustainably scarce.

North America

The Livestock Gross Margin (LGM) for Dairy Cattle Insurance Policy provides protection against the loss of gross margin (market value of milk minus feed costs) on the milk produced from dairy cows. The Livestock Gross Margin for Dairy Cattle Insurance Policy uses futures prices to determine the expected gross margin and the actual gross margin. This model can apply to India's dairy industry.

India

India's Andhra Pradesh Community livestock insurance scheme attracted insurance protection from private insurers in 2007–2008. This community-led programme aids in the reduction of premiums. As the scheme is totally administered by the community, costs are kept to a minimum. This helps reduce time and insurance costs, and curbs potential risks.

In general, community-based models are successful because they reduce transaction costs and potential risk through community supervision and peer monitoring.

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.

Experience in other areas showed that financial institutions are prepared to go rural if the regulatory environment is right.

Insurers ventured into the countryside 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.

Livestock in India going forward

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. As a country with the world's largest and 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. Swiss Re is willing to share and tailor this experience to the Indian markets.

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. This publication is an invitation to all partners to work with us to achieve this great goal of food security in the years to come.

Endnotes and sources

Unless otherwise cited the figures in this document are based on the following sources:

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Author:
Pallavi Singh

Editing and realisation:
Bernd Wilke, Cushla Sherlock, Richard Heard

Managing Editor:
Urs Leimbacher

Graphic design and production:
Swiss Re Corporate Real Estate & Logistics/
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Infographics:
Annie Wu, Swiss Re Communications

Photographs:
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Swiss Reinsurance Company Ltd
Mythenquai 50/60
P.O. Box
8022 Zurich
Switzerland

Telephone +41 43 285 2121
Fax +41 43 285 2999
www.swissre.com