

**Understanding the Gap Between the Supply of
and Demand for Cattle Microinsurance at the
Base of the Pyramid in Rural India**

*Master Thesis
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Abstract

Today, India is one of the most exciting emerging markets in the world. The country has a population of over one billion people and it belongs to the largest economies in the world. India is an agriculture-based economy with a substantial cattle market; the country leads the world in cattle population and milk production. Nearly 90% of the cattle market in India is owned by small and marginal farmers in the rural areas. However, these households face high risks due to poor veterinary services, various prevailing diseases and fluctuating supply of feed. The potential loss of cattle is the biggest concern for cattle-holders at the base of the pyramid (BoP) as it leads to a substantial fall in their income.

Currently, there exist few risk mitigation mechanisms for the cattle-holders at BoP in the rural areas. According to ICICI Lombard, the cattle industry offers 'substantial market potential for microinsurance.' However, the market is still untapped and underdeveloped; less than 7% of the total cattle population is insured in India. One of the key issues pertinent to the weak market is the mismatch between the supply of and the demand for cattle microinsurance at the BoP. This study focuses on discovering *how* the existing cattle microinsurance products differ from the demand at the BoP in Rural India in terms of product design and product distribution. Closing this gap is crucial for the growth of the cattle microinsurance sector.

A qualitative research has been executed in order to gain a holistic understanding of the cattle microinsurance market. Case-studies have been performed, in-depth interviews have been conducted and focus-group discussions have been held in three states of India. During the field studies, two different types of gaps have been found: product gaps (risk coverage, bundling possibilities and identification methods) and distribution gaps (lack in awareness and trust and inefficiencies in application and claim settlement processes).

Based on the gaps found, recommendations for insurance companies have been formulated in this report. An innovative distribution model for cattle microinsurance has been developed in order to reach the vulnerable people more effectively. Further, several product developments have been outlined which are necessary to decrease the fraudulent and moral hazard behavior of beneficiaries. Taking into consideration the challenges of the recommendations and the limitations of this study, the results could be valuable for the growth of the cattle microinsurance sector. This paper shows that investing in cattle microinsurance could eventually lead to financial growth for (multi-)national insurance companies and a decline in the vulnerability to poverty for BoP households in rural India.

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Executive Summary

Princess Maxima opened in the beginning of April the first Dutch microinsurance conference at the University of Twente. The purpose of this convention was to provide more insight in the importance of insurances in underdeveloped regions around the world. We are approaching the boundaries of microcredit if there is no microinsurance to safeguard the possessions of the vulnerable people and to protect their families against destructive financial losses. These people live very close to the edge, making them very eager to manage their downside risk. However, only 3% of the people in the world's poorest regions have access to microinsurance. Maxima, advisor "inclusive finance" at the United Nations, stressed the importance of research within the complex and fragmented microinsurance field.

In this line of thought, I have done research to the supply of and demand for cattle microinsurance at the Base of the Pyramid in rural India. Insurance companies have been very hesitant to enter or enlarge the cattle microinsurance market at the BoP in rural India (see part 1). Many Indian public insurance companies perceive cattle microinsurance as a loss-making product which the government obliges them to distribute to the rural areas in India as part of their social responsibility. As the premium is being subsidized by diverse government schemes, little to no effort is being put into product development or innovative distribution channels. Most private (multi)national insurance companies have had bad experiences with cattle microinsurance due to high transaction costs, high loss ratio and low reach. Mainly for these reasons, cattle microinsurance is not a prosperous market in India.

However, I have found that with the appropriate innovations in distribution channels and product features, cattle microinsurance at the BoP in rural India could become a profitable business model for insurance companies. It is an interesting market to invest in for a number of reasons (see part 3). First, India is one of the fastest growing economies in the world with a high return on investment. It has emerged stronger and more stable from the crisis than any other country and it has a growing middle-class with a young population. Insurance companies should consider that today's low-income policy holder is tomorrow's middle class, a promising market for insurance companies. Second, India is a large, densely populated country and has a well-regulated microinsurance sector, enabling the necessary scale and regulation required to penetrate the market. Insurers should be eager to invest in the Base of the Pyramid as the insurance markets in developed countries are relatively saturated. Third, India has the greatest cattle population worldwide and more than 95% of the milch cattle are

found in the rural areas of India. Seeing as the domestic demand for milk and milk products in India is rising at 10% per year, it is crucial to enhance the productivity, health care and breeding facilities of cattle which can be achieved to a certain extent by providing cattle microinsurance. As cattle are often the most valuable assets that low-income households own, cattle microinsurance is a highly needed product at the BoP in the rural areas in order to provide financial security.

This research has found that emphasis should be put on innovative distribution methods in order to reach a large client base as effectively as possible (see part 7). Three important conditions have to be fulfilled in order to ensure a strong and sustainable distribution model that is attractive for both cattle-holders as well as insurance companies: simplicity, transparency, and trust. Therefore I have developed a distribution model which is a hybrid between the partner-agent model and a community-based model. I recommend insurance companies to distribute cattle microinsurance through group-heads within well-established and operationally sustainable organizations such as SHG-Federations and Dairy Co-operatives. First, insurance companies are directly connected to group heads which manage large pools of cattle-holders. This allows for education to become a two-way street. Insurers educate group-heads about cattle microinsurance and the importance of risk-mitigation techniques in order to enhance awareness. They also teach them the necessary skills so that they are able to offer their members cattle microinsurance, settle their claims and administer their files. In return, group-heads can make the insurers understand the needs of their members so that the cattle microinsurance policy responds to their needs and uptake is increased. Second, the application and claim-settlement processes are internalized within the communities. Group-heads and paravets are completely in charge of executing both processes and sending the complete files to the insurance companies. This is very time-effective for insurance companies and reduces their transaction costs. Within this distribution model I would recommend insurance companies to implement the RFID-technology and compulsory risk-management packages in order to decrease the fraudulent and moral hazard behavior of beneficiaries. If insurers enter the market correctly, microinsurance could become a rapidly expanding and highly profitable business.

There are significant investment opportunities at the BoP in rural India - both in providing the cattle insurance cover itself and because having cover against the unexpected is a vital component in economic growth. Therefore penetrating the Indian cattle microinsurance market is not only valuable for insurance companies, the vulnerable people at the BoP but also for the country as a whole.

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PART 1: Introduction



“If Only We had Insured our Buffaloes ...”

Chapter 1.1: Motivation for study

Meet Manjula, a 24-year old woman who I met in a small village in Mayurbhanj, India. She and her husband had 2 buffaloes who contributed about 80% to their primary income. However, 5 days before I met them one of their buffaloes suddenly died. She does not know how. She does not know why. Half her income is lost and she has no idea how she can ever recuperate and care for her family. She knows she will not be able to ever purchase a buffalo anymore. Perhaps someday a less expensive cow ... but only perhaps. According to her, her future is gone. When I tell her about the possibilities of cattle microinsurance, she gets tears in her eyes: “Why didn’t I know about this?!” Then she gets extremely mad at me: “Why does nobody care about me? If only we had insured our buffaloes ...” Desperately she asks me how she can insure her other buffalo. After explaining to her the different possibilities of enrolling for cattle insurance (which were close to none for that area), I left. And while leaving I saw a spark of hope in her eyes. Perhaps, at least her second buffalo can be saved from danger.

Like Manjula, there are ten millions of other farming households in India at the Base of the Pyramid (BoP)¹ facing similar risks. Compared to other societal segments, the people at the BoP are the most exposed to risks and yet the least protected against its consequences. These risks could have a destructive impact on a household’s income and completely wipe out their life savings. The lack of protection inhibits poor people to take valuable risks and exploit economic opportunities, which limits the growth of their welfare and therefore disables communities to fight poverty. Indeed,

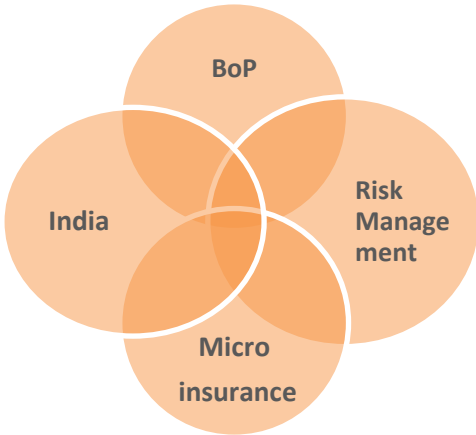
¹ The poorest socio-economic group

enhancing the ability of the poor to deal with various risks is increasingly being considered integral to any poverty reduction strategy.

Microinsurance is believed to act as a powerful risk management tool for low-income groups as it secures them against financial and income risks (McCord, 2008). Access to microinsurance enables the poor to make more investments and enhance their accumulation of assets, both of which contribute to the economic and human development prospects in rural areas (Roth, McCord, Liber, 2007). Microinsurance contributes to two millennium development goals: aiming to eradicate extreme poverty and hunger as well as the empowerment of women and gender equality.

According to the UNDP, GTZ and Allianz AG (2006) report, India currently has the most dynamic microinsurance sector in the world. However, more than half of the microinsurance products in India are focused on life and health whereas less than 10% of the products cover farms.² This is surprising as India is an agriculture-based economy, leading the world in cattle population and milk production. Dairy farming is the single biggest contributor to the Indian GDP and employment; it constitutes 5% of its GDP and involves more than 100 million farming households.³ The immensity of the cattle industry in India combined with the pertinent risks faced by cattle-holders in the rural areas at the BoP creates substantial opportunities for microinsurance. However, until now this has been an untapped market. Therefore, this research study focuses on the demand for cattle microinsurance at the BoP in rural India and analyzes how insurance companies can meet the needs successfully.

Chapter Review: Motivation



² Craig Churchill, head of the global Microinsurance Network
³ IndiaStat (2007)

Chapter 1.2: Problem Statement, Research Question and Contribution

Section i. Problem Statement

The problem statement aims to explain why currently the cattle microinsurance market in rural is underdeveloped. Less than 7% of the total cattle population⁵ and less than 0,6%⁶ of the cattle holders are insured in India.⁷ The National Commission on Labour and the Social Security Association of India stated that one of the key issues pertinent to the underdevelopment of the market is that most involved policies or schemes are developed in a ‘top-down’ approach and therefore do not correspond to the needs of the recipients. Sahu (2010) acknowledges this statement, adding that the cattle microinsurance sector in India is more supply-driven than market-driven. This implies that the market is driven by a few producers who decide what the consumers need, how much they are willing to pay for it and how they prefer to have it delivered. However, a supply-driven strategy in the cattle microinsurance sector has proven to be ineffective, as a UNDP study (2009) found that the offering of the cattle microinsurance products does not meet the needs at the BoP. According to this study, there is a low demand for cattle microinsurance in spite of intense needs because suppliers pay too little attention to product development and product diversification which is necessary in such a complex market.

Even the insurance companies in India recognize that the existing microinsurance products for cattle do not meet the needs of households at the BoP.¹⁰ However, what *are* the needs of the farmers at the BoP in Rural India concerning cattle microinsurance? A technical roundtable session on livestock risk management, held by the Institute of Risk Management in Chennai (2010), concluded that the diverse market players involved in cattle microinsurance are restrained by a lack of knowledge about the needs at the end of the supply chain. At the roundtable session, all the players agreed that too little research has been done to discover the needs for cattle microinsurance. Indeed, in the literature little to no research can be found on the specific needs for cattle microinsurance at the BoP. This study therefore focuses on discovering the needs for cattle microinsurance amongst the BoP households in rural India, and analyzing how it differs from the current product offering.

⁵ Centre for Insurance and Risk Management (2010)

⁶ Insurance Regulatory and Development Authority’s annual Report (2009)

⁷ Insurance Regulatory and Development Authority’s annual Report (2009)

¹⁰ In-depth interviews with public and private insurance companies

Section ii. Research Question & Study Objectives

The following research question has emerged after an extensive literature review¹² and in-depth interviews¹³ with different experts in the field:

How does the existing supply of cattle microinsurance policies differ from the demand at the BoP in rural India in terms of product design and product distribution? What could be done to close this gap?



In order to answer this question entirely, the following study objectives have been set:

1. To gain a better perspective of the cattle microinsurance market on a macro-level.
2. To analyze the product features and distribution of existing cattle microinsurance products and identify the challenges faced.
3. To understand the needs for risk-mitigation methods concerning cattle rearing at the BoP
4. To determine the existing and potential consumer needs and preferences regarding cattle microinsurance product features and product distribution.
5. To execute a gap analysis between the existing cattle microinsurance products and the needs and preferences at the BoP.
6. To identify potential solutions for product design and distribution in order to penetrate the rural market better and close the gap further.

Section iii. Contribution of Thesis

This thesis contributes to the development of the relatively new phenomenon of microinsurance by investigating the needs and demand at the BoP in rural India. Even though it is focused primarily on cattle microinsurance, a wide range of stakeholders can draw lessons from this study.

1. The paper is in essence the most valuable for Indian and multinational insurance companies as it provides useful insights in the current cattle microinsurance market and it gives concrete suggestions for future growth in this specific segment.
2. Intermediaries such as Micro Finance Institutes (MFIs), Non-Governmental Organizations (NGOs), Self-Help Groups (SHGs), and dairy co-operatives may benefit from the distribution

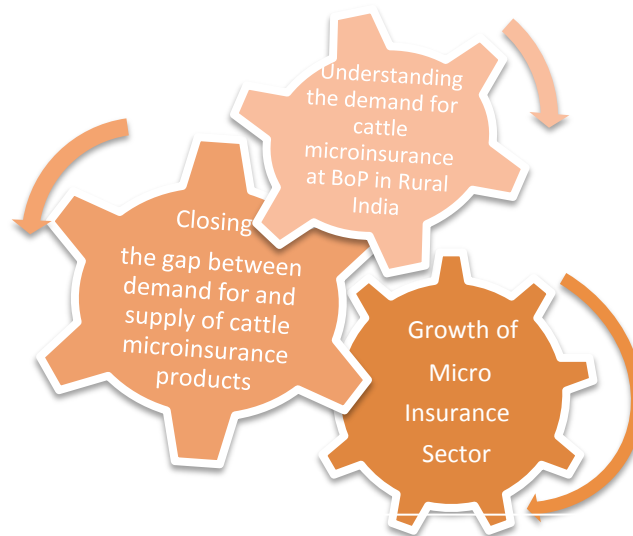
¹² UNDP (2007); Sharma (2010); Roth, McCord & Liber (2007); Sahu (2011); Hammond et al. (2007); Christen & Pearce (2006)

¹³ Toon Bullens; Annette van Dam-Houtekamer; David Dror; Kapil Garg

recommendations provided such as how to enhance awareness, provide education and create trust.

3. Recommendations are also given to the Indian government concerning the distribution of subsidies and how to stimulate growth of cattle microinsurance market.
4. Researchers, consultancies or corporations interested in emerging markets could derive lessons from the multifaceted research design of this study.

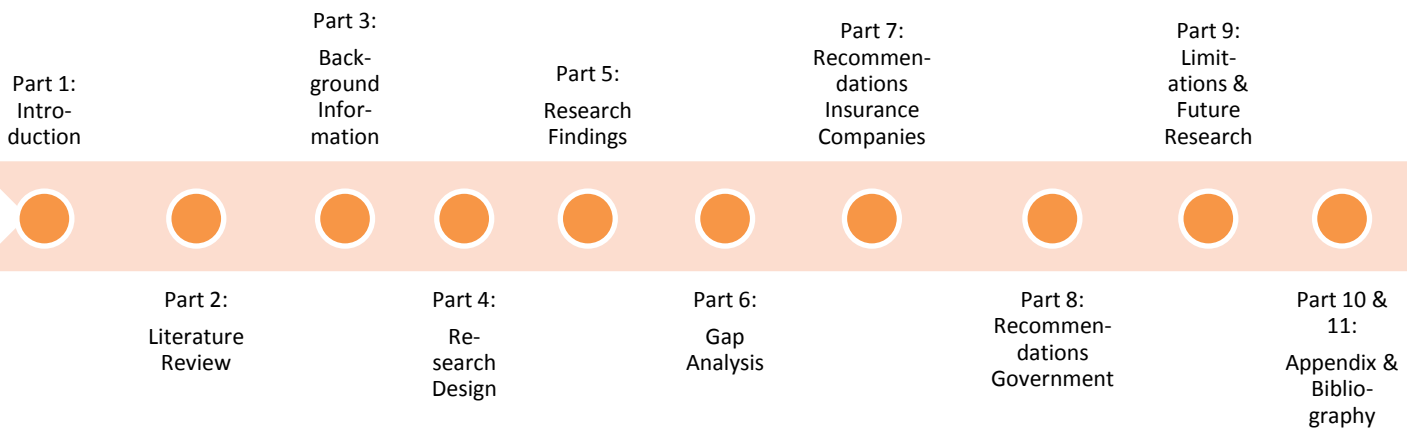
Chapter Review: Problem Statement



Chapter 1.3: Structure of Research Study

The aim of this thesis is to describe the gap between the supply of, and need for cattle micro-insurance from both a marketing as well as a finance point of view. This study is divided into fourteen parts and each part consists of various chapters. Part two gives an overview of the relevant literature on the BoP, microfinance and microinsurance. The next part highlights the background information on microinsurance and rural areas in India. Part four covers the complete research design of this study. Part five discusses the findings of the primary research that has been executed which is followed by the analysis of these findings in part six. In part seven the possible solutions are given for closing the gap between the supply of and demand for cattle microinsurance at the BoP in rural India. In the next two parts, these solutions are translated to recommendations for insurance companies and the Indian government. In part 10, the conclusion of the research paper is given. Finally, in the last four parts of the study, one can find the limitations of the study, the bibliography, the appendix and extra information about the research paper.

Chapter Review: Structure of Research Study



Box 1: Summary of Part 1 - Introduction

This introduction has given us an overview of the motivation, aim, structure and importance of this research study. A substantial number of cattle-holders at the BoP in Rural India are not protected against the consequences of the everyday risks they face. Despite the intense need for security, there is a low demand for cattle microinsurance. The problem is that there appears to be a mismatch between the current offering of products and the need for these products at the BoP in Rural India. Therefore, this study will try to answer the following two questions: *How* does the existing supply of cattle microinsurance products differ from the needs at the BoP in rural India in terms of product design and product distribution? And how can we fill the gaps between these elements? Closing this gap is crucial for the growth of the cattle microinsurance sector at the BoP in Rural India.

PART 2: Literature Review



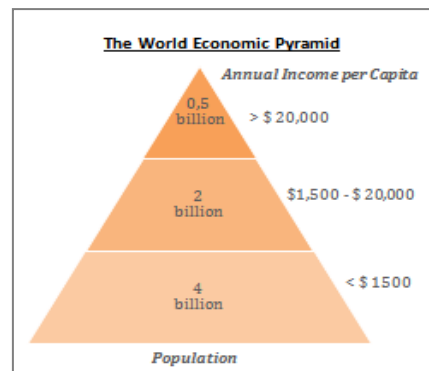
“Every person has the right to have access to the benefits of the global economy.” Prahalad

Chapter 2.1: Base of the Pyramid

In economy, what is the base of the pyramid? In the literature many definitions can be found on what the market is and who belongs to that market. However, for this research study we will refer to the original definition of C.K. Prahalad, professor at University of Michigan’s Ross School of Business. According to him, the BoP consists of the 4 billion people worldwide who live on less than \$2 per day

(see figure 1.1). His basic thesis, upon which he elaborates in his revolutionary book “Fortune at the Bottom of the Pyramid”, is that the BoP is being unserved or underserved by multinational companies. The poor should not be approached as victims but as value-conscious consumers and innovative producers. The most fundamental principle is that every person should have the right to have access to the benefits of the global economy. Until the poor can access the worldwide commerce, they won’t have any real chance for sustainable development.

Figure 1.1



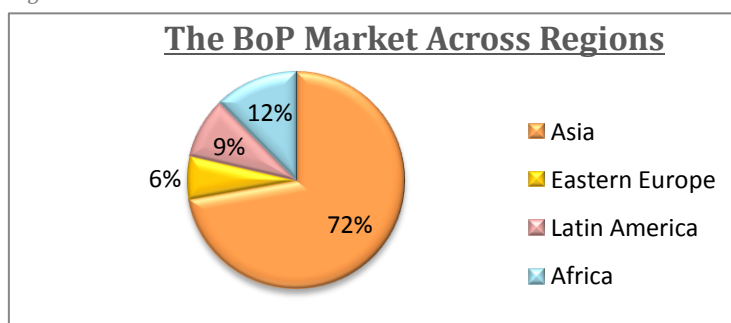
The literature is booming regarding the business opportunities at the BoP.¹⁴ A large amount of empirical research is done to the needs, preferences and purchasing behavior of the households at the BoP. Information on the demographics, aggregate purchasing power and productivity of the BoP is gathered. According to the latest study published by the World Resources Institute (Hammond et al. 2007), the BoP constitutes a \$5 trillion global consumer market. The division of this market between the global regions can be found in figure 1.2. Entrepreneurial and multinational experiences, such as Ericsson with the MiniGSM in Haiti, U.K. start-up Freeplay Group with hand-cranked radios in South Africa and Hindustan Lever with shampoo sachets in India, are shared to improve business strategies. Even though the business interest of multinationals is growing, many companies still have an outdated view of the developing countries and due to misbeliefs they are reluctant to enter the market.

Companies assume that low-income households solely spend money on basic needs. It might not be expected but households at the BoP are demanding non-essential and even luxury goods. For example, a majority of the households in the Mumbai shanty town of Dharavi own a television (85%), a pressure cooker (75%) and a gas stove (56%). 7% of the income of villagers in rural Bangladesh is spent on phone services – a higher percentage than consumers in developed countries. Another misbelief is that the goods sold should be so cheap that profit margins for multinational companies

¹⁴ Hammond et al. (2007); London (2008); Karnani (2007); Hart & London (2005); Landrum (2007); World Economic Forum (2009); Prahalad (2004)

are non-existent. However, MFI's request 40-70% interest *per day* on their loans, a rate so high that it is illegal in the most developed markets.¹⁵ In the poorest communities, food costs 20-30% more and drinking water 4 – 100 times more than in the upper-class segments of the country. There are also major concerns about the barriers to marketing and distributing products and services to the BoP market. However, in the urban slums the distinct ecosystems, with retailers, moneylenders, small businesses and clinics, create a vibrant commercial sector. And the density of the BoP population is growing so fast that by 2015, 903 cities in Asia, 225 cities in Africa and another 225 cities in Latin America have a population of more than 1 million. The aggregate purchasing power of these cities can add up to billions of dollars; for example the total purchasing power of cities such as Rio de Janeiro, Johannesburg and Mumbai is more than \$1.2 billion. In rural areas the distribution of products may be more difficult, but with innovative technologies such as GSMs, internet connection and digital television for the poor, improvements are being made and economic opportunities can be exploited. Further many companies believe that the barriers to entry at the BoP such as illiteracy, currency fluctuations and corruption make it impossible to succeed. Due to these misperceptions, the BoP remains untapped by (multi-)national companies and thus households at the BoP are still unserved.

Figure 1.2



According to Prahalad (2004), if the 4 billion people at the BoP are mobilized and organized, it could be “the next engine of an enormous growth.” The BoP has the potential to act as a forum for innovations; the companies that benefit are the ones able to shift to lower cost production models, redesign products radically and consider new distribution methods. Prahalad (2006) states that “a 10 to 200 times advantage (compared to the cost structures that are oriented to the top of the pyramid markets) is possible if firms innovate from the BoP up.” In order to access the BoP, large companies need to work together with NGOs and collaborate closely with BoP communities. The focus is on inclusive capitalism which creates mutually beneficial partnerships based on trust and respect. Companies can benefit from the local trust, understanding and responsibility of NGOs and NGOs can profit from the companies’ global standards, knowledge and scale. Constant and deep interaction

¹⁵ Prahalad (2004); Prahalad & Hammond (2002)

with the BoP community is necessary to create a mutual understanding. Prahalad stresses the importance of this “co-creation” phase as it is vital for the sustainability of the business model that it is culturally suitable. Local resources and capabilities should be exploited in generating and launching the business concept. Firms should consider what effects the product development has on the environment. For example, it would be unsustainable for the massive BoP market to use the same product resources as in the developed countries.

Prahalad (2004) notes that companies should keep in mind that products and services for the BoP market cannot just be “weighed-down versions of traditional products.” The consumers have other needs and preferences, require different functions and utilities. The products should also be adapted to the specific conditions and inadequate infrastructure of the BoP market. In order to succeed, firms should combine advanced technologies with the existing infrastructure. Kashyap (2007) argues that the BoP market is very brand-conscious and value-seeking. Aspiration brands are important for the BoP consumers as they dream of a different quality of life. The BoP consumers are value buyers and they expect high quality in return for the prices that they can afford. Thus the challenge for companies is to make aspiration brands affordable for the BoP market. In the BoP business model, volume is the source of returns on investment. Even when the profit margins are relatively lower, if the scale of operation is high, the return can be very attractive for firms.

By stimulating business and development at the BoP, multinational companies could radically improve the lives of billions of people. *The Economist* states that multinational companies are “the embodiment of modernity and the prospect of wealth: full of technology, rich in capital, replete in skilled jobs” (The Economist, 1993). Through foreign direct investment, companies are able to diffuse capital and technology, the basic needs for production, into developing countries which improve the efficiency and productivity of the market.¹⁷ Multinational companies often bring with them the promise of jobs and education of skills, improving the employment rate and skill level of workers, leading to higher household incomes. Further, the entry of multinational companies is often linked to an increase of exports, boosting the Gross Domestic Product and Gross National Product. These changes could potentially attract more investors into the country, leading to the “multiplier effect”. The multiplier effect describes how the infusion of capital, technology, skilled labor and exports, could generate an exponential growth of economic activity.¹⁸ One of the most important consequences of the financial inclusion of BoP households is economic integration with the developed world. Even nationalistic values and restrictive political laws which could be hindering

¹⁷ Guyon (2007)

¹⁸ Guyon (2007)

economic or social change could be altered due to the introduction of international values and norms.

The BoP market requires a completely different mentality, a considerable financial investment, and radical innovations thus it is reasonable for managers to ask: Is it worth the effort? If it is possible to contribute to the alleviation of poverty, which concerns 4 billion people worldwide, the answer should be clear. By introducing market-based approaches at the BoP (multi)-national companies have the opportunity to meet real needs, increase the productivity and empower their entry into the global economy. But even from a business point-of-view the economic prospects are too big to ignore; the BoP offers hundreds of millions of new consumers, greater operating efficiencies and access to radical innovation.

Even though the BoP is still largely untapped, it has not been completely unnoticed and business interest is growing. The pioneers have been multinational companies specializing in food and consumer products. Large national companies are following, focusing in sectors such as housing, agriculture and health services. Micro and small businesses are trying to enter the market but are often strained by the strict operating and regulatory environments of developing countries. The sectors within the BoP market range widely in size: from small sectors such as water (\$20 billion) and ICT (\$51 billion) to medium-size sectors health (\$158 billion) and housing (\$332 billion) and finally very large sectors such as food (\$2,895 billion).¹⁹ One of the most thriving sectors at the BoP is the micro-financial services. This sector have expanded from providing small loans to a village in Bangladesh, to providing remittances, micro-savings, micro-pensions and microinsurance services BoP households worldwide. According to UN Secretary General Kofi A. Annan microfinance “has proved its value in many countries, as a weapon against poverty and hunger. It really can change people's lives for the better, especially the lives of those who need it most.”

Chapter Review: Base of Pyramid

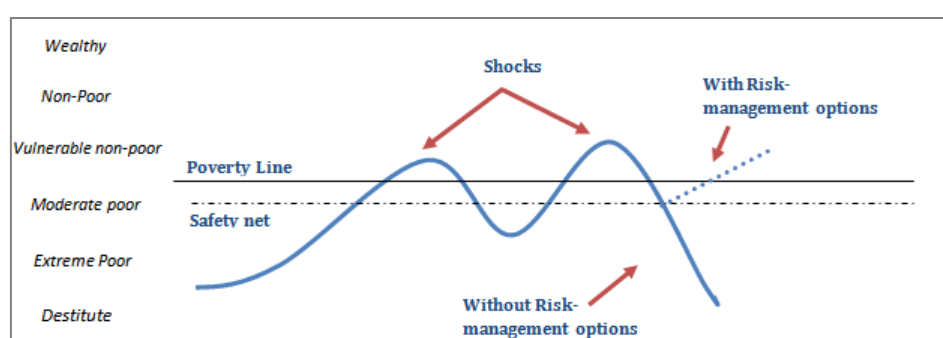
- 4 billion people worldwide who live on less than \$2 per day
- Poor are value-conscious consumers & innovative producers
- \$5 trillion global consumer market
- Underserved by multinational companies
- Next engine of enormous growth & Forum for innovations
- Deep interaction & Co-Creation are fundamental for entering the market
- Challenge: making aspiration brands affordable
- Foreign Direct Investment could contribute to alleviation of poverty

¹⁹ Hammond et al. (2007)

Chapter 2.2: Risk Management for the Poor

Before elaborating on the power of microfinance in reducing poverty, it is important to emphasize the importance of risk management measures at the BoP. Poverty, vulnerability to poverty and risk are three terms that are closely interlinked with each other. Poverty is traditionally defined as “the inability of an individual or a family to command sufficient resources to satisfy basic needs” (Fields 1994). However, poverty should not be considered as a static concept because in reality it is dynamic; over time people can move in and out of poverty (see figure 1.3). Asset accumulation and income growth lead to an increase of wealth whereas economic stress, faced as a result of shocks, can push households beyond the poverty line.

Figure 1.3



The probability that a person will become poor is known as ‘vulnerability’ to poverty. Many studies have been done to the dynamics of poverty. Chaudhuri (2000), Pritchett et al. (2000) and Suryahadi and Sumarto (2001) have found that people with a high variance of income have a higher chance to fall into poverty. This can be associated with “uncertain events that can damage well-being”, or better said, risk. There are many types of risks ranging from idiosyncratic risks such as accidents and crimes to covariant risks such as natural disasters and wars. A person exposed to high risks, has a greater income variance and hence is more vulnerable to poverty. But the relationship is reversible; poverty also brings more exposure to risk. The unhealthy and unsafe environment, deprived social arrangements and inadequate financial institutions expose the poor to greater health, security, and income risks. Security is an essential missing factor at the BoP and therefore it is crucial to create risk management measures which decrease the vulnerability to poverty.

Risk management for the poor involves dealing with the income and consumption fluctuations through income diversification, savings-borrowing schemes or insurance. Risk management can be classified into risk mitigation (ex-ante) strategies and risk coping (ex-post) strategies. In general, households at the BoP do not have access to formal risk management mechanisms such as insurance, bank loans and pension funds. Therefore poor households spend significant time and resources in developing informal risk management measures (Cohen, McCord and Sebstad, 2005; Torkestani and

Ahadi, 2008). Tucker (2007) discovered that an average of 9.2% of the total income of households at the BoP in El Salvador is spent on informal arrangements aiming to reduce disaster risks. Typically, the poor rely most heavily on their family, group or community members when facing financial hardships. The community's social capital is based on network and trust. Networks provide the foundation of building social bodies and they are sustainable due to the trust of the people. However, individual measures are also taken such as diversifying income sources, crops and plots and maintaining a stock buffer to mitigate risks. To cope with shocks, households sell their assets, take loans from money-lenders, reduce consumption, migrate or put their children to work. Informal means are essential for the poor in managing risks as they can provide protection to a certain extent. However, informal mechanisms have their limitations as the risk transfer is often far from perfect. Informal arrangement cannot protect the poor from big, persistent or covariant shocks, especially when the complete social network is impacted (Tucker, 2007). Also, using informal risk management mechanisms usually harms the efficiency of production (e.g. choosing for the less-risky crop that also yields lower profit). The lack of solid risk management measures often results in sub-optimal investment decisions at the BoP. Households at the BoP become risk-adverse and hesitant in using new technologies and exploiting new economic opportunities. They often forfeit substantial potential returns for limiting their risk, therefore giving up high net present value projects.

As there are considerably strong limitations to the informal risk management schemes, there is room for formal interventions. State social security schemes and formal private systems have the potential to fill the gap. Governments have a wide range of tools to alleviate risks ex-ante and aid households in coping with risks ex-post: social assistance programs, welfare funds, public works programs and subsidies on (financial) services. However, various studies²² have exposed that these services are often relatively scarce and have limited outreach as state institutions are restrained in their capacity and resources. Furthermore, government schemes often do not meet the local needs of the poor as the services are standardized nationwide. Prahalad finds it unfortunate that Western capitalists have inherently presumed that the NGOs and state governments will protect the poor whereas the corporate sector will only serve the rich. According to the UNCDF, the private sector may be the most effective in providing risk management products as companies are profit-driven and therefore have an interest in executing sustainable and long-term approaches. Doran (2008) found that the entry of private players can result in increased competition, reduced costs, more sustainable services and greater coverall of financial services for poor people. The Overseas Development Institute (ODI) and Department for International Development (DFID) greatly welcome private players in the

²² Mensah (2004); Dhakal (2007); Doran (2007); Tyobeka (2005); Yaron et al. (1997); Coffey (1998)

microfinance sector and even strengthened their own private sector programs in recognition of their potential positive impact. The Asian Development Bank (ADB) acknowledges this theory and states that the private sector has been the engine of growth in the financial development sector. In the following chapters, I will elaborate on the developments of the private sector in the microfinance sector and in particular microinsurance.

**Chapter
Review:
Risk
Management
Measures**

- Poverty is dynamic: people can move in and out of poverty
- A person exposed to high risks is more vulnerable to poverty
- Security is an essential missing factor at BoP --> risk management measures are crucial
- Risk mitigation (ex-ante) strategies & Risk coping (ex-post) strategies
- Limitations to informal risk management mechanisms, making formal interventions necessary (state social security schemes & formal private schemes)
- Government schemes are scarce and have limited outreach
- Private sector could be most effective in providing risk management products

Chapter 2.3: Microfinance

In order to understand the importance of microinsurance services at the BoP completely, it is imperative to understand the overall concept of microfinance. Microfinance is often defined as “the provision of financial services to low-income clients who traditionally lack access to banking and related services”.²³ From the 1970s onwards, micro-financial services are being offered in less developed countries. Muhammed Yunus was amongst the first to establish a formal micro-financial system, named the Grameen model. The Grameen Bank was created to provide small loans to women in Jobra, Bangladesh. The success of the Grameen model has led to the emergence of comparable initiatives in a hundred developing countries.

Microfinance is being used as a global tool to fight poverty. The access to credit implies that the poor people are better able to manage risks. Improved risk management entails that households can take advantage of economic opportunities which leads to a higher welfare. According to Sam Daley-Harris, director of Microcredit Summit Campaign, "There is significant correlation between the presence of microfinance and the movement out of poverty in the rural areas. “ Also, by supporting women’s economic participation, microfinance facilitates the empowerment of women and promotes gender-equity. Indeed, empirical evidence shows that low-income households participating in microfinance initiatives were able to improve their well-being much more than those who did not have access to financial services. For example, in Lombok, Indonesia, the average income of borrowers at the Bank Rakyat Indonesia (BRI) increased by 112%, and 90% of these households succeeded out of poverty (Kamble, 2011).

²³ Muhammad (2010)

From 2004 to 2008 microfinance has experienced exceptional growth in developing countries with average compound annual growth rate of 33%. India is the fastest-growing micro-credit market in the world with currently more than 188 million accounts, representing 18% of the national population. Micro-credit is considered to be an essential foundation of micro-insurance, as people at the BoP first have to have the means to escape the extreme poverty line before they can protect themselves against shocks which would bring them again below this line. In short, you cannot insure yourself if you have nothing to lose.

Microfinance has become an important item on the agenda's of the United Nations and the Group of Eight (G8). Also national governments have been supporting microfinance developments to bridge the gap in financial inclusion. Recognizing the prospective social and financial returns of microfinance has triggered investors to increase funding in this sector. In 2009, the Microfinance Information Exchange tracked 1084 MFIs worldwide, serving 74 million borrowers and 67 million savers. However, the rapid growth of the microfinance sector has also caused problems, which have become apparent in the last two years. As the sector expanded, many MFIs were focusing on the acquiring new consumers, expanding the product range and gaining market share instead of building their capacity and executing proper risk management. As a result, less time was dedicated to the recruitment, training and preparation of staff members making them unprepared for the job. Internal controls were undermined, leading to lapses in credit discipline and higher fraud levels. Also MFIs were neglecting consumer's services and relationships, critical to assess a borrower's credit capacity. The inability to react to the percipient growth of the microfinance sector in combination with the recent global economic crisis, has led to MFIs facing severe delinquency crises. On a statistical note, the Symbiotics SYM 40 median portfolios-at-risk rose to over 4.5 percent by June 2009.²⁴

The recent repayment problems have led to MFIs increasing their annual interest rates. Mr. Fernando, manager of Asian Development Bank, reports that MFIs in the Asia-Pacific region charge rates ranging from 30% to 70% a year. This has caused severe condemnation worldwide. For example, many have held the microcredit institutes responsible for the suicide epidemics in India. The national Crime Records Bureau (NCRB) stated that there were at least 17,368 farmers' suicides in India in 2009, the worst figure in six years. A number of studies²⁵ reveal that indebtedness is a major

²⁴ Chen, Rasmussen, Reille (2010).

²⁵ Mishra (2007); Center for Human Rights and Global Justice (2011); Tata Institute of Social Sciences (2005); Mishra (2006); Delhi (2010)

and proximate cause of farmer suicides in India. The quite severe reputation problems of the micro-credit sector, brings into consideration that perhaps microinsurance should not be linked directly to these services. This will be explained more elaborately in part 5 and part 6.

Despite of the severe problems and criticisms, we shouldn't forget that the microfinance sector has made significant steps in the last decade, leading to more than 150 million people at the BoP having access to microcredit. However, according to Jim Roth, Principal of Leapfrog Investments , “the future of financial inclusion lies in microfinance beyond credit”. Extending the microfinance portfolio to savings, remittances and insurance products, could be essential for a sustainable growth of the sector. I decided to focus on microinsurance, as this product is still close to non-existent for cattle-holders in India, as described in the next chapter.

Chapter Review: Microfinance

- The provision of financial services to low-income clients who traditionally lack access to banking and related services
- Is being used as a global tool to fight poverty
- Experienced exception growth from 2004-2008 : 33% average annual growth rate
- 1084 MFIs worldwide serving 74 million borrowers and 67 million savers
- Rapid growth has caused problems: severe delinquency crises
- Expanding portfolio to, amongst others, insurance could be essential for sustainable growth

Chapter 2.4: Microinsurance

Section i. Definition

Microinsurance is literally defined by the Insurance Regulatory and Development Authority (IRDA) as “an insurance with low premiums and low caps/coverage”. It further distinguishes itself from normal insurance by their distinctively designed features in terms of clients, distribution models, policies, control of risk and claims handling (see Appendix 1.1). The aim of micro insurance is to offer “a vital financial service to low income households by developing an appropriate business model that enables the poor to be profitable or sustainable market segment for commercial or cooperative insurers” (Butt, 2010). Another popular definition in the microinsurance field is that of Churchill (2006) who states that microinsurance is “the protection of low-income people against specific perils in exchange for regular premium payments should be proportionate to the likelihood and cost of the risk involved.” However, this definition is relatively risky to use as the likelihood and costs of the risk involved at the BoP are very difficult to measure. For this reason I will use the IRDA microinsurance definition for our research study. It should however be clearly noted that “micro” does not refer to the size of the risk-carrier, the scope of the risk or the delivery channel. Risk carriers can be large

insurance companies as well as small and informal schemes. The risks covered could have a big impact on the households at the BoP. And last, the insurance policies can be delivered through diverse channels including large multinational insurance companies as well as small community-based organizations. “Micro” directly refers to the relatively low premiums for beneficiaries and relatively low coverage expenses for insurance companies.

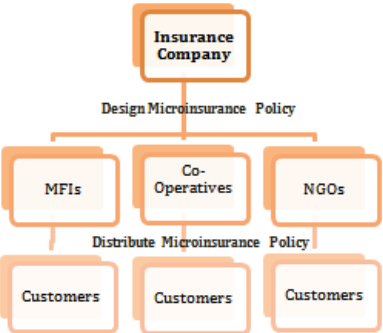
Microinsurance is considered to be a useful risk management tool for households at the BoP and a potential market for businesses. Microinsurance diminishes the vulnerability to poverty as households trade the uncertainty of future losses with the certainty of making small, regular premium payments (Churchill, 2006). By offering a payout after the loss, poor households can avoid the more costly and often deficient risk coping measures, thereby preserving their savings and future earning opportunities. Also, microinsurance gives a sense of security which enhances the risk behavior of households. The insured have more incentives to take rational risks and exploit new technologies/economic opportunities which increase the household welfare (Fischer & Qureshi, 2006).

Section ii. Microinsurance Products and Distribution Models

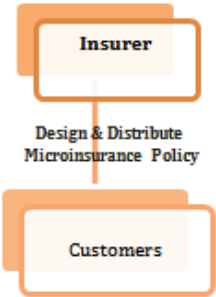
Microinsurance policies provide compulsory and voluntary coverage for risks ranging from health to mortality, from theft to fire and from livestock to crop (Begum, 2007). Churchill (2009) found that the consumers at the BoP primarily demand health and life products, followed by property insurance, accidental death and disability cover. In general there are three main methods for delivering the microinsurance products to the clients: partner-agent, direct and community-based. It is very important to understand these different models as in microinsurance the distribution process is one of the greatest challenges that insurers face due to bad infrastructure, low density in rural areas thus no economies of scale, and little technology. Indeed, the difficulty in reaching the poor is one of the most important reasons for a low penetration of microinsurance at the BoP in the rural areas.

1. Partner-Agent Model: In this model a contractual partnership is established between a regulated insurer and an institutional agent. The insurer is responsible for developing the product and carrying the risk. The agent distributes the product to its clients in exchange for a commission or a fee. Agents could be post-offices, churches and retailers; however usually they are microfinance organizations, NGOs and Community-based organizations. Especially MFIs are preferred by insurance companies as they are experienced in the microfinance field and have financial transactions with their clients. Agents should have a substantial outreach, trustworthy reputation and potential for growth. The insurer should have the capacity to carry the risk and the capability to design the product for the

BoP. This model exploits the comparative advantages of both players and therefore has the potential to be very successful. However, it is often experienced that agents do not have enough incentive to sell the insurance product as the financial reward is too low, making the business unprofitable for insurance companies. Further problems with this channel will be discussed elaborately in chapter 5.1, section iv.



2. Direct Sales Model/In-House Model: Within this model, the insurer is responsible for designing and distributing the insurance product. If the insurer is an insurance company, the model is called a direct model. In this case, the insurer appoints its own branches to sell microinsurance products to BoP areas. However, usually these branches are located in towns or cities far away from the rural areas which increases the transportation costs. Also the penetration costs of entering the rural market is very high as the insurance companies have little knowledge about the area and have to gain the trust of the people. The insurer could also be a MFI/NGO/Co-Operative, in which the model is referred to as the in-house model. These insurers are often located close to the rural markets and understand the needs of the people. However, they often lack the capability to carry great risks and do not have adequate knowledge to design sustainable insurance products. As these insurers cannot afford to lose money and they cannot benefit from economies of scale (in comparison to insurance companies), the premiums are often overcharged. The advantage of both models is that the insurers have full control on their microinsurance products. Also, processes such as claim settlement are massively improved as the insurer is directly in contact with the beneficiaries. However, experience has proven that the insurers (in both models) miss the comparative advantages of the essential “link” to make the business successful.



3. Community-Based Insurance: It is difficult to give a standard explanation of this model as the literature has almost as many definitions as there are community-based models worldwide. However, specific features are mutual-interest, not-for-profit and voluntary membership. Members are simultaneously owners and beneficiaries of the microinsurance policy. They choose a group of members to act as ‘managers’, responsible for all the insurance operations such as managing the risks, book-keeping, collecting premiums, and reviewing claims. All the policyholders pay a certain premium into a fund and are then entitled to specified benefits. Usually community-based organizations actively promote solidarity, democracy and social cohesion, which are beneficial values for risk-sharing and resource-pooling of microinsurance as they reduce moral hazard and fraud. Furthermore, as the insurance policy is controlled by local group-head, there is a greater understanding and the product is better adapted to the needs of the people. However, community-based insurance schemes are very vulnerable to covariant risks and they cannot benefit from economies of scope as the client base is usually relatively small. Often, there is also insufficient knowledge about the policy design and the management expertise is very limited. Further, community-based insurance schemes are not regulated by the government, implying that re-insurance is often not possible. These latter arguments make the community-based insurance schemes in general unsustainable.²⁶



4. Overview Distribution Models: The high costs of entering the rural markets and the complexity to attain a large client-base, act as strong barriers to entry. However, insurance companies are under-utilizing available distribution channels (e.g. phone providers, smart cards, computer kiosks, online & ATM etc.) and little diversification is being seen in the current distribution methods used. The appropriate distribution method is very dependent on the insuring institution, insurance type and target group. However, in general the distribution channel should meet some qualifications such as: sustainability, scalability, presence of infrastructure, cost-management. A table comparing the current three most-used distribution methods can be found in figure 3.1.

²⁶ Llanto (2007); Wiesmann & Jutting (2001); Sharma (2010)

Figure 3.1

Delivery Model	Partner-Agent	Direct	Community-Based
Sustainability	++	+-	--
Scalability/Reach	++	-+	--
Infrastructure	++	--	+
Transaction Costs	--	+	++
Trust	+-	--	++
Enrolment Process	--	+-	++
Claim Settlement Process	--	+-	++
Adverse Selection	--	+-	++
Moral Hazard	-	--	++
Remarks	Most prevalent distribution channel; biggest challenge is cost efficiency	Solely about 10% of market share: biggest challenge is reaching the poor	Experimental Phase: biggest challenge is sustainability

Section iii. Development of Microinsurance

The microinsurance movement has cultivated from the microcredit sector since the beginning of last decade. Microinsurance has by far not yet received the same attention from scholars, researchers and businesses as microfinance. It is in its experimental stage and therefore its reach is still very limited. One of the most important research questions concerning the development of microinsurance is: “Is there demand for microinsurance at the BoP?” loyds (2010) states that only 135 million people, or around 5% of the potential consumers, have access to microinsurance services; the market demand for microinsurance exceeds the three billion people. Even though some studies have been done to the demand for microinsurance,²⁷ it is very difficult to reliably measure the actual demand for microinsurance as the unawareness is still too high.²⁹ The potential beneficiaries of microinsurance often have never heard of the concept insurance. Not only is the product hypothetical for them but the benefits are also not directly visible or tangible. To make matters more difficult, we should take into consideration that the risk-trust relationship in insurance is opposite to that of loans. This makes it even harder for insurance companies to gain the trust of consumers at the BoP. The unawareness and mistrust in microinsurance, makes it very challenging

²⁷ Microinsurance Agency Holdings (2007), Roth McCord and Liber (2007)

²⁹ Cohen, McCord, Sebstad (2005)

for insurers to understand the demand for microinsurance. An increase in holistic, dedicated market-based research based on trust and devotion is necessary to gain a better understanding of the needs and preferences for microinsurance at the BoP. This is fundamental for an appropriate design of microinsurance products and to ensure a better adoption of these products.³⁰

In general, microinsurers are very optimistic about the future of their sector. Roth, McCord and Liber (2007) performed a study on the opinion of microinsurers on the prospects of their industry. The current country economic policies and financial regulations are viewed to be favorable for the growth of the microinsurance sector. Further, 70% of the microinsurers (strongly) agree that 10% growth in their market is very likely in the next year. Also, just over 40% of microinsurers (strongly) agree that the microinsurance sector will double in the upcoming 5 years. Leftley, chief executive of Uk-based MicroEnsure, acknowledges these statistics and is convinced that this is the time of microinsurance. "I think credit has been seen as the easy solution for global poverty, and the micro-finance industry has been drinking its own Kool-Aid for a bit too long," he says. "While credit is the best option in some situations, people are starting to realize that there are other options – and this can only be good for the microinsurance industry." According to Lloyds (2010), the microinsurance market will grow exponentially due to a couple of trends: economic growth, financial sector development, climate change and innovative use of communication and information technology. Due to this literature review, we have a better understanding of the importance of risk management measures at the BoP. Furthermore, we have gained a general overview of the microfinance market and in particular the potential of microinsurance. Based on this information, we can better comprehend the importance of microinsurance for cattle-holders at the BoP in India. In the next part I will give background information on the development of microinsurance in India as well as the cattle sector in rural India.

**Chapter
Review:
Micro
insurance**

- An insurance with low premiums and low caps/coverage
- Useful risk management tool --> diminishes vulnerability to poverty
- Only 5% of the potential consumers have access to microinsurance services
- Product range: life, health, assets (livestock, crop , hut)
- Distribution models: Partner-Agent, Direct, Community-Based
- Challenging to understand demand for microinsurance: high unawareness & mistrust
- Increase in market-based research is necessary
- Insurers optimistic about future of microinsurance: market will grow due to economic growth, financial sector development, climate change and innovation

³⁰ Cohen, McCord, Sebstad (2005)

Box 2: Summary of Part 2 - Literature Review

It is possible to derive some valuable lessons from this literature review which are important for this research study. The BoP is a largely untapped but significant market for (multi)-national companies to invest in. The BoP provides phenomenal growth opportunities for these firms: a massive consumer-base, a forum for innovations, and the path to cost-reduction measures. The infusion of capital, technology, labor and export through foreign direct investment in developing countries could generate economic growth, an increase of welfare and access to the global market. The microfinance sector is one of the success stories at the BoP as it has experienced exponential growth from 2004-2008. Microfinance institutions provide financial services to low-income consumers who lack formal risk-management measures. Risk-management measures are crucial at the BoP as it provides protection and decrease the vulnerability to poverty. Households at the BoP traditionally employ informal risk-management measures but these are limited in their risk coverage, risk transfer, risk management and vulnerability to covariant risks. Even state social security schemes are scarce and have limited outreach, strengthening the role of the private sector. Until recently, microfinance has generally provided loans to low-income households but they are expanding their portfolio to, amongst others, microinsurance products. Microinsurance allows households to trade the uncertainty of future losses with the certainty of making small, regular premium payments. It is still in its experimental stage, reaching only 5% of its potential market. Still, insurance companies are increasingly recognizing the profitability of microinsurance and expanding their business to cover households in Africa, Asia and Latin America. They are providing coverage for life, health and asset risks, delivering the products through three types of distributing models: partner-agent, direct and community-based. Much effort is being done in spreading the insurance services, but many challenges are still faced in this field. Insurance companies face many obstacles in reaching the poor, as penetration of rural market is very costly, unawareness is too high and there is mistrust amongst the people. Even though microinsurers are very optimistic about the future of their sector, an increase in market-based research is fundamental.

PART 3: Background Information



“If there is one place on the face of earth where all the dreams of living men have found a home from the very earliest days when man began the dream of existence, it is India!” Romaine Rolland

Chapter 3.1: Microinsurance in India

Sector i. The development of microinsurance in India

In 1956, the Indian government expressed its concern towards the disadvantaged in its country for the first time and it established the Life Insurance Corporation Act. With this act the government nationalized the life insurance in India so that it could spread more widely and penetrate the rural areas. The aim of the act was to provide sufficient finance cover to all the insurable persons in the country. In 1972 the Indian government also nationalized the non-life insurance sector, with the same objectives as in 1956. However, as the economy was emerging, the government realized that opening the insurance market could help to meet its growing insurance needs. In 1999 the Insurance

Regulatory and Development Authority (IRDA) Act liberated the Indian insurance market; this did not only attract foreign insurance companies to enter the market but also international MFIs and NGOs.

In India, there are two important regulations that have effectively shaped its microinsurance market. The first is the “Obligations of Insurers to Rural Social Sectors”, published in 2002 by the IRDA. This regulation obliges companies to sell a percentage of their insurance policies to pre-defined rural and social sectors. The quota rises annually, reaching a maximum after five years: 16% of the total number of life-insurance policies sold and 5% of the premium general insurance income should be generated from the rural/social sectors. If the insurance companies fail to meet their targets, they get fined by the IRDA. The second pioneering approach in the microinsurance field is considered to be the microinsurance regulation set by the IRDA in 2005. One of the most important changes is the allowance of NGOs, SHGs and MFIs to act as microinsurance agents. Microinsurance agents are appointed by insurance companies to distribute microinsurance products to low-income households in the country. Amongst others, these agents analyze the consumer needs, promote the insurance product and collect the premium payments. Microinsurance agents are obliged to follow the code of conduct defined by the IRDA, which includes 25 hours of training, working with only one life and/or general insurer and solely distributing *microinsurance* products.

India is one of the only countries to have drafted and implemented specific microinsurance regulations to help insurance penetration in rural areas (Mukherjee, 2010). The IRDA regulations have stimulated a considerable amount of regulated insurance companies to enter the microinsurance market in India. These insurers have contributed financially and academically to the growth of the microinsurance field by introducing innovative products and delivery channels at the BoP. Due to the relaxation of specific rigid microinsurance norms concerning training, remuneration and bundling of products, the regulations have enhanced distribution efficiency and accelerated outreach of microinsurance. Even though the IRDA regulations have advanced the microinsurance field in India, there has also been a lot of criticism. Critics argue that the regulations cause significant barriers to entry as they require a minimum capital of \$25 million. Also, the quota system has caused several problems in the Indian microinsurance field. Some insurance companies are providing low-quality microinsurance products to the beneficiaries in the social/rural sectors, just to reach their target. It is difficult for the IRDA to regulate these actions as it is very complicated to control the quality of policies sold. Furthermore, some insurance companies tend to drop the products sold in the rural/social sectors once their target is met (if these products are loss-making). Finally, critics find the IRDA regulations of 2005 to be very crude as they only focus on the partner-agent model. Even

though the partner-agent model is the most used distribution channel (also before 2005), it is not ensured that this is the most efficient channel.

According to the IRDA, the microinsurance portfolio has made steady progress over the last 5 years. However, outreach of microinsurance in India is still very low: only 2% of the total poor in the country are insured (UNDP, 2007). The Finance Minister of India stressed in the most recent Global Insurance Summit, that there is an immense need for stimulating microinsurance in the rural areas of India. A study by UNDP, GTZ and Allianz AG (2006) finds that India has the most potential in developing a successful microinsurance sector in the upcoming ten to twenty years. The growing population in combination with the emerging economy of India leads to a massive and high-potential microinsurance market.

Sector ii. Formal and Informal Microinsurance Sector

The microinsurance sector in India can be split into the formal and the informal sector. In this sector, the formal sector will be discussed first and thereafter the informal system.

a. Formal Sector

The formal sector is considered to consist out of insurance companies that are legally registered with the government and which are supervised by the industry regulator. In the formal sector, there are two types of microinsurance products: the general and the life microinsurance products. The general microinsurance portfolio consists of any health insurance contract, personal accident contract or contract covering the belongings such as hut, livestock, or tools/instruments. The market potential of this product type is estimated to be between US\$104,248 to US\$ 142,503 million.³¹ The life microinsurance portfolio consists of any term insurance contract or health insurance contract, either on individual or group basis. The microinsurance market for life microinsurance ranges from US\$ 34,207 to US\$ 44,758 million.³² Currently, the formal microinsurance business consists primarily out of life-insurance policies, which is remarkable as the market potential for general microinsurance is much bigger. The state-owned insurance companies are the largest players in the field by garnering together about 84% of both the group and the individual premiums.³³ Most insurance companies use a partner-agent model for their distribution; at the end of March 2009, the number of microinsurance agents was at 7250.³⁴

It is interesting to note that in the formal sector there are no insurance companies focused exclusively or even extensively on the microinsurance market. Even more, only a small percentage of

³¹ Sharma (2010)

³² Sharma (2010)

³³ M-Cril (2008)

³⁴ Sahu (2011)

the insurance companies are actually voluntary active in the rural areas. The reason why most insurance companies enter the microinsurance market is due to the IRDA act of 2002 “Obligations of Insurers to Rural Social Sectors”. According to the IRDA, the social sector consists of the unorganized class, the informal class and the economically vulnerable/backward class. The IRDA classifies the rural sector as following: areas with a population of less than 5000 people, a density of less than 400 people per square kilometer and more than 25% of the male working population should be engaged in agricultural pursuits. Even though there has been much criticism on several aspects of the regulations, such as minimal capital investment, restrictions concerning microinsurance agents and limited scope within which microinsurance may be offered, the regulations have enhanced the interest in microinsurance from the supply-side and have resulted in a relatively more efficient provision of microinsurance services.

b. Informal Sector

The informal insurance sector is characterized by community-based schemes, in-house insurance schemes run by MFIs, NGOs and trade unions, hospital schemes etc. The International Labor Organization (2004) has identified about 80 informal insurance schemes in India and investigated 50 of these schemes further. It is apparent that all of these schemes are based on health insurance with a few having add-on underwriting of life, housing and/or productive assets. These community and cooperative insurance schemes vary in size from the 1,5 million beneficiaries of ‘Karnatak’s Yeshasvini Trust’ to relatively small schemes with just a few hundred persons covered. Further, there are a large number of informal quasi-insurance small schemes such as households that pool rice.

At present, the IRDA has not taken action against the informal schemes as the Authority does not consider them to be ‘insurance’ according to its definition. The IRDA realizes that this legal vacuum could cause some problems. Also regulated insurers have expressed their dissatisfaction to the IRDA; they need to compete against non-regulated insurers that do not bear any regulatory expenses. Even for the informal sector it could be beneficial if the IRDA creates specific regulation for the current unregulated microinsurance schemes because this would attract more donors to support its development. The risk of sponsoring these unregulated organizations is that there is no legal framework that ensures that they meet minimum prudential standards and other professional insurance qualifications. Also, by regulating this immense informal sector, synergies could be created between smaller informal organizations which in general have more “field” knowledge and bigger formal institutes which have more capital and resources. However, from the in-depth interviews it became clear that the IRDA will not regulate the informal sector in the near future. This should be taken into consideration when discussing the different possibilities for penetrating the cattle

microinsurance market in rural India as for example reinsurance of community-based models will not be possible. I will focus on formulating solutions within the formal sector, as this offers more stability, recognition and sustainability in the long-run. As this research project is focused on the cattle sector in rural India, some background information on this market will first be given in the next chapter.

Chapter Review: Micro insurance in India

- 1999: Liberalization of insurance market - Foreign insurance companies, MFIs, NGOs enter market
- India one of the only countries to implement microinsurance regulations
 - 2002: Obligations of Insurers to Rural Social Sectors (sell % to rural/social sectors)
 - 2005: NGOs, SHGs, MFIs can act as microinsurance agents
- Regulations enhanced distribution efficiency and outreach but also a lot of criticism (prudent, barriers to entry, lower quality)
- Formal Sector: Companies legally registered with government & supervised by industry regulator
 - State-owned insurance companies are largest players (84% market share)
 - Focused primarily on life insurance
- Informal Sector: community-based/inhouse insurance schemes trade unions etc.
 - Focused on health insurance
 - Regulated insurers concerned about legal vacuum of informal schemes

Chapter 3.2: Rural India

Section i. The Value of the BoP in Rural India

Half of India's purchasing power is located in the rural areas, with about two thirds of the population living there.³⁵ Investing in the rural areas in India therefore implies reaching more than 720 million people with a total purchasing power parity of 2.023 trillion. According to the Associated Chambers of Commerce and Industry of India (ASSOCHAM), insurance companies can add about Rs. 1000 crore to their net worth if they enter rural India, provided that innovative schemes are implemented at an affordable premium; nearly 200 million rural households are looking for alternate saving channels for their surpluses.³⁶ As the GDP of rural India has been growing by 45% in the last couple of years, ASSOCHAM believes that this is the opportune time for public and private insurance companies to enter the rural market. Indeed, India has one of the highest rates of returns on investment worldwide.

Gupta, founder and CEO of ruralnaukri.com fortifies these statistics: "Some 42 million rural households use banking services against 27 million urban households. No marketer can afford to ignore the possibilities of rural India."³⁷ Nearly 20% of all farmers in rural India own a Kissan Credit card which offers a huge database for insurance companies to make use of. The current economic value at the BoP in rural areas is only one of the reasons why companies should invest in rural India.

³⁵ IndiaStat (2007)

³⁶ Rural India offers tremendous growth opportunities for insurance companies (Banknet India)

³⁷ Ruralnaukri.com's Ajay Gupta: 'Rural Jobs Can Provide Momentum to the Wheel of the Economy'. (2009, March 26)

Further, looking at the culture of India we can find that aspiration is a dominant sentiment in these rural areas. “Today’s poor are tomorrow’s middle-class; today’s middle-class are tomorrow’s rich” is one thing that emerging India knows very well. This idea is backed up by a recent study by NCAER: the number of middle/high income households in rural India is expected to grow from 130 million to 172 million by the end of 2012 (compared to nearly 71 million of urban India). Investing in rural India is therefore investing in the future. As the rural areas are to a great extent still unmarked terrain, it offers stimulating opportunities for insurance companies. It is not only an economic opportunity for businesses but even more a desperate need for the poor. The Indian government pleaded industries and corporations beginning this year to collaborate with the government and invest in rural areas. Therefore, investing in rural India is also part of a company’s corporate social responsibility, as they have the power, capabilities and resources to alleviate poverty in these area³⁸ (as discussed more elaborately in chapter 2.1 ‘Base of the Pyramid’). In the next section it is explained why it is important to specifically focus on the livestock sector in these rural areas.

Section ii. The Livestock Sector in Rural Areas

India is an agriculture-based economy; 68% of the population depends directly on agriculture. The share of livestock in the agriculture sector is currently 20% but is expected to double over the next decade.³⁹ The livestock sector is therefore considered to be the “engine of agricultural growth”. This is an encouraging prospect for the rural India as the majority of livestock sector is based in these areas.

Livestock has a multi-facet function in the rural areas; it contributes to the food security, earnings of households, sustainable energy, income equality and export. First, livestock is obviously an important source of food production as it provides the essential proteins through milk, eggs and meat. These proteins are especially important for growing children and nursing mothers; a typical Indian diet consists of 10 grams of protein per day instead of the average 25 grams of protein/day in a European diet.⁴⁰ Second, livestock is considered to be a reliable income source for households in rural areas as it creates a continuous stream of earnings. Over 100 million⁴¹ households in rural areas depend on livestock as their primary or secondary income; on average, livestock production accounts for 15-40% of total farm household earnings. Not only can income be derived from food production, but also from non-edible agricultural by-products such as hides, skins, bones, blood and fibers. Livestock is considered to be a “cash crop”; the small stock usually acts as a cash buffer whereas large ruminants

³⁸ London (2007)

³⁹ Cagliarinia & Rush (2011)

⁴⁰ Agrawal P.C, & Kumar K. (2011)

⁴¹ Working group on animal husbandry and dairying (2007)

are often used as capital reserve. In the dry-land regions of India, which amounts to 60% of the total net cultivated area, livestock rearing is usually the primary income of households. In the wet-land regions of India, where crop-production is the primary income of households, livestock production can absorb income shocks caused by crop failure in dry seasons. For this reason, livestock can actually reduce the seasonality in livelihood patterns. Third, livestock can also be used for draught power, manure for crop production and fuel for domestic use. By performing these activities, renewable energy can be produced for the lighting, heating and cooking in households. However, the energy can also be used on a larger-scale for creating businesses and setting up schools. Hereby, renewable energy indirectly positively influences the employment and education levels in the rural areas.

The key strength of the livestock sector, in terms of socio-economic development, is that the distribution of livestock is relatively egalitarian (compared to land) among the rural areas. Nearly 70% of the livestock market in India is owned by 67% of small and marginal farmers and by the land-less. In fact, the regression analysis performed by Ali (2007) has proven that there is a positive relationship between the growth of livestock in rural areas and the reduction in income inequality. Further, studies have shown that the livestock sector has a positive influence on the equity of the rural areas in terms of income, employment and poverty reduction (Singh and Hazell, 1993; Adams and He, 1995; Birthal and Singh, 1995; Thornton et al., 2002; Birthal and Ali, 2005)).



The last contribution of the livestock sector in India is its potential to put the country on the world map in terms of export. Even though the trade liberalization and other recent governmental efforts have increased the country’s exports of livestock products, India still does not have a significant presence in global livestock trade (Shah, 2007). With livestock products accounting for about one-fifth of the global trade of agricultural products and expanding rapidly (Birthal and Taneja, 2006), the export prospects are encouraging. However, this can only be achieved when India produces enough in the upcoming years.

The future of livestock sector in India seems to be fertile from a domestic as well as international standpoint. The domestic demand for livestock products is expected to grow by 20% due to population growth, income rises and diet changes (Agrawal and Kumar, 2011). The expected global growth in livestock consumption will also impact the Indian livestock sector. Developing countries are expected to provide the main source of growth for world agricultural production, consumption and trade (FAO, 2006).

Section iii. The Cattle Sector in Rural India

Cattle are very important for the rural sector, seeing as more than 58%⁴² of the total livestock in India is cattle. Lord Lillithgow, former viceroy of India, rightly stated “The cow and the working bullock bear on their patient backs the whole structure of Indian agriculture”. Still today, India owns the greatest cattle population worldwide (281 million)⁴³ and is accordingly the largest milk producer in the world (112 million tonnes).⁴⁴ It is important to note that milch cattle produce 97% of India’s total milk production (Shah, 2007). Furthermore more than 95% of milch cattle are found in the rural areas of India, implying that almost the total Indian milk production comes from these areas. Dairy farming is the single largest contributor to Indian GDP and employment; it constitutes 5% of GDP and involves more than 100 million farming households.⁴⁵ However, the availability of milk is still lower than the minimum recommended levels. India produces per capita just 263 grams per day, which is lower than the world average of 279,4 grams.⁴⁶ Seeing as the domestic demand for milk and milk products in India is rising at 10% per year, and the country is consuming almost all of its own dairy production, it is crucial for the country to enhance the productivity, health care, breeding facilities and management of cattle. Currently, the productivity in dairy farming is six times below its potential (McKinsey, 2000).



⁴² India Stat (2003)
⁴³ IndiaStat estimation 2009-2010
⁴⁴ IndiaStat estimation 2009-2010
⁴⁵ McKinsey (2000)
⁴⁶ Animal Husbandry Statistics India (2010)

From this information we can derive that there is an important and sizeable market to be served by cattle microinsurance products. By combining microinsurance with compulsory health care services, the productivity of cattle could also be enhanced which is vital for the future of the country. Furthermore, by providing microinsurance to cattle-holders they could be willing to take a higher risk of purchasing more expensive cross-breed cattle which are in general more productive than indigenous breeds thus contributing to a higher milk production in the country. Having established the importance and relevance of cattle microinsurance for cattle-holders in rural India, it is important to design a holistic research methodology a successful market for cattle microinsurance products hasn't been achieved yet.

**Chapter
Review:
Rural Areas
in India**

- Rural India: 720 million people with a total purchasing power parity of 2.023 trillion
- Livestock sector is the engine of agricultural growth
- Livestock contributes to food security, earnings of households, sustainable energy, income equity and export
- Future Livestock sector is fertile: domestic demand for livestock products expected to grow by 20%
- More than 58% of total livestock in India is cattle
- India has largest cattle population (281 million) and is largest milk producer (112 million tonnes)
- 91.5% of female cattle are milch cattle & 97% of the milch cattle is found in rural areas

Box 3: Summary of Part 3 - Background Information

The background information on microinsurance, the rural areas and the livestock sector in India has given us more insight on the environment of this research study. India is the only regulated microinsurance market worldwide, obligating insurers to sell a percentage of their policies sold to the rural and social sectors and applying rules to NGOs, SHGs and MFIs acting as formal microinsurance agents. Even though these regulations improved the distribution efficiency and outreach of microinsurance, there is also a lot of criticism as the regulations are quite prudent, causing barriers to entry for foreign firms and leading to lower quality products. Despite the, in some aspects, restrictive regulations, insurance companies remain very interested in investing in Rural India. Half of India's purchasing power (Rs. 2.023 trillion) and 2/3 of the population (720 million) is located in the rural areas. The GDP is growing by 45% and increasingly rural households are looking for alternate (saving) channels for their surpluses. Livestock is very important in the rural areas, contributing to food security, earnings of households, sustainable energy, income equity and export. Considering that more than 58% of the total livestock in India is cattle, leading the cattle population worldwide (281 million), we can derive the importance of cattle for the rural sector. Dairy farming constitutes 5% of the Indian GDP and involves more than 100 million farming households. Seeing as the domestic demand for milk and milk products in India is rising by 10% per year, it is important to improve the productivity, health care, breeding facilities and management of cattle. Microinsurance could play a significant role in enhancing security for the cattle holders and increasing productivity of the cattle. However, in order to achieve this, research must be done to understanding why a successful market for cattle microinsurance products hasn't been achieved yet.

PART 4: Research Design



"Rural Market: Currently, it's a black hole, there's not enough data; we will try to create a knowledge base" Pradeep Kashyap

Chapter 4.1: Research Methodology

According to ICICI Lombard, the cattle industry offers 'substantial market potential for microinsurance.' However, the market is still untapped and underdeveloped; less than 7% of the total cattle population is insured in India. One of the key issues pertinent to the weak market is the mismatch between the supply of and the demand for cattle microinsurance at the BoP. This study focuses on discovering how the existing cattle microinsurance products differ from the demand at the BoP in rural India in terms of product design and product distribution. Closing this gap is crucial for the growth of the cattle microinsurance sector.

A qualitative research has been executed in order to gain an in-depth understanding of the gap between the current supply of cattle microinsurance and the demand for cattle microinsurance at the BoP in rural India. A qualitative research method has deliberately been chosen for this study as a specific situation is being explored and the aim is to achieve a holistic understanding of the condition. The key strengths of qualitative research are its contextual research analysis approach, its ability to gain insight into unstructured, complex phenomena and its capacity to identify intangible factors. Qualitative research is particularly effective for this study as specific information is being obtained about the needs and preferences of farmers regarding cattle microinsurance. These farmers are often illiterate and therefore it is necessary to talk with them in person. Qualitative measures is also especially efficient for answering complicated questions about the relevance (e.g. importance for farmers), unintended effects (e.g. moral hazard) and impact (e.g. on the financial situation of the farmers) of cattle microinsurance.

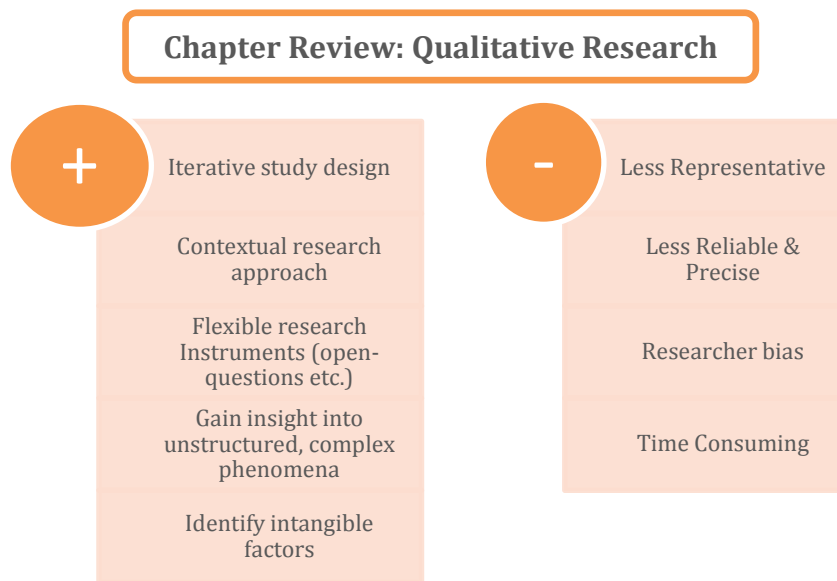
An advantage of the qualitative research method is that it is possible to execute an iterative study design, implying that research questions and data collection can be adjusted according to what has been learned. This is very important for this research study as the phenomenon has not been explored elaborately yet. Further, it is possible to use more flexible research instruments such as in-depth interviews and Focus Group Discussions (FGDs). The advantage of asking open-ended questions is that they have the ability to evoke meaningful and culturally salient responses that are rich and explanatory in nature. Further, open-ended questions allow the researcher to probe the participants' initial answers in order to understand the phenomenon better. This high level of flexibility is very helpful for achieving more valuable results. Finally, an advantage of qualitative research is that the cases can be selected deliberately, according to whether they respond to certain qualifications. The qualifications used for the case studies and the field studies will be explained more elaborately in chapter 4 and chapter 5.

A couple of challenges are faced during the research. First, some consider qualitative methods to be less representative, reliable and precise than quantitative measures. This idea is evoked due to the flexibility of the qualitative research and the difficulty to display qualitative data in mathematical terms. As the study primarily comprises linguistic data, it is very difficult to determine the validity of data; it is challenging to conduct significance tests or confirmatory analyses. Also, the researcher plays a critical role in obtaining valid results. It is very important for the researcher to take a neutral position, but in practice it appears challenging to interpret the participants' answers objectively. Consequently, research bias can not only influence the study design but also affect the data collection.

However, due to the affiliation with MART consultancy, India's leading consultancy firm working in emerginag, these challenges have not become threatening limitations. MART is a pioneer in the rural domain of India and undertook the first comprehensive study of the 47,000 haats and 25,000 melas (economic, social and cultural nerve centers of rural India) in 1995 for the Indian government. Over the years, MART has developed into the leading consultancy for the BoP in India. MART has developed social research tools adapted to the rural settings to gain sharp insights on rural lifestyle, knowledge, attitudes and practices. Being able to exploit their knowledge and experience in the rural areas, has resulted into advanced research strategies and cutting-edge techniques, necessary for an as-reliable-possible outcome.

A last challenge which is often mentioned when discussing qualitative research is its time-consumption. Qualitative research can be expensive and time-consuming to conduct. However, in

this case it is practically a pre-requisite to dedicate a lot of time to the data collection as the needs at the BoP are very complex.



Chapter 4.2: Data Collection

The data collection is divided into four important steps. First, secondary and primary information has been gathered in order to get insight into the microinsurance field and cattle market. Second, three case studies have been completed, concerning three different cattle microinsurance models in India. Thereafter, in-depth interviews have been conducted with insurance companies and distributors. And finally, field studies have been executed in three states in India. The third and fourth steps intertwine as visits in the field raised questions that needed clarification from insurance companies.

Step 1: Gain Insight into the microinsurance field and cattle market in India

The first step of the research design involved gaining insight into the microinsurance field and cattle market in India. Secondary data has been collected through desk research into various published sources such as books, government reports, published articles, websites, etc. However, as the secondary information relating to cattle microinsurance in India was relatively limited and not always reliable, it is necessary to conduct direct interviews in order to get a dependable view of the reality. In-depth interviews have been conducted with diverse people that are knowledgeable on three different levels. First, diverse experts have been interviewed in the microfinance field in order to learn from their experiences at the BoP (Toon Bullens, Annette Houtekamer). Second, (micro)-insurance institutions in India (Microinsurance Academy, Microinsurance Network, CIRM) have been contacted to get a better overview of the current status of microinsurance market in India and its envisaged growth. A third target group for interviews consisted of livestock experts (ILRI, NABARD, veterinarians) from whom more information has been gathered on the importance of dairy and the value of cattle in India.

Step 2: Build Case Studies

To gain more in-depth knowledge about the existing cattle microinsurance products on the Indian market, three exploratory case studies have been executed. Exploratory case studies are performed in a condensed manner before executing a research study and are therefore sometimes considered as a “prelude to social research” (Yin, 1993). Case studies have been chosen as one of the primary research tools because they provide a multi-perspective analysis. In this way, lessons can be drawn from the obstacles faced by insurance companies and areas of improvement can be found which have been mentioned by consumers. Even though universal conclusions cannot be drawn from the individual case studies (Stake, 1995), a greater understanding of the cattle microinsurance market in India can be achieved.

Three case studies have been conducted on three diverse cattle microinsurance schemes (see appendix 2.1). According to George & Bennet (2005), “case study methods involve a trade-off among the goals of attaining theoretical parsimony, establishing explanatory richness, and keeping the number (of) the cases to be studied manageable.” Three case studies are pre-selected through a consensus of the researcher, MART Consultancy and the BoP Innovation Center. The structure for the case study is based on a methodology inspired by strategic consulting firms and used by the BoP Innovation Center in similar studies in the past. The data for the case studies has been collected by annual reports, archival records and interviews with the respective insurance companies, agents and consumers. The gained information has been used as a foundation for a well-adapted questionnaire.

The first scheme that has been analyzed is the centrally sponsored scheme executed from 2002 till 2007. The local insurance company National Assurance India Company was one of the participants of this scheme and collaborated with Pradan to distribute its cattle microinsurance products. These two organizations have been chosen more or less randomly out of all the participating companies in the scheme. The second case study is based on a private insurance company, IFFCO-TOKIO, using RFID-technology as identification-method to provide cattle microinsurance to the rural areas of the BoP. The third case study describes the community-based livestock insurance scheme in Vizianagaram.

Step 3: Conduct In-depth Interviews

In-depth interviews have been held with the four public insurance companies and the three biggest private players in the microinsurance field (IFFCO-TOKIO, Royal Sundarem and TATA-AIG). The objective of these interviews was to gather more information about the features and impact (total premium incurred, amount of cattle insured and geographical spread) of their cattle microinsurance products. I also wanted to understand their experiences in the microinsurance field and the

challenges that they are facing. In-depth interviews were also undertaken with NGOs, MFI's, dairy co-operatives and SHG federations to comprehend the distribution of microinsurance: application processes, claim settlement procedures and veterinary services. It was also interesting to gain their perspective on the demand for cattle microinsurance as they stand closer to the end-consumers than insurance companies. Last, several staff members of the IRDA provided us a regulator's view on the existing microinsurance policies, the success/failure of certain insurance products and future prospects. For an overview of the total sample size of all the in-depth interviews executed, please see appendix 2.1. For all interviews, discussion guides were prepared (see appendix 2.2); however whilst conducting the interview, a flexible position was maintained.

Step 4: Conduct Focus Group Discussions

a. FGDs

In order to gain valuable information about our target market ((potential) cattle-insurance consumers at the BoP in rural areas), field studies have been executed. In particular, a demand research for microinsurance has been conducted. Following the “guidelines for market research on the demand for microinsurance” formulated by the United States Agency for International Development, this type of research can be broken up into three levels. The first level of research focuses on gaining a more in-depth perspective of the different needs for risk management among the poor. After an initial product has been developed, the second level of research can be executed – testing the product prototype and assessing consumer satisfaction as well as improvement areas. Finally, the size of the potential market for the specific product can be measured quantitatively in the third level of research.

During the field studies I have focused on the first level of demand research for microinsurance. Since the experience with cattle microinsurance at the BoP in India is very limited, the first level of research has proved to be already very useful for insurance companies. It involves gaining a better understanding of the following:

- The key livestock risks which are being faced by people at the BoP (and their impact).
- The existing coping mechanisms which are being used by the people at the BoP in rural India (and their effectiveness).
- The specific need for cattle microinsurance of existing and potential consumers at the BoP in rural India.
- The preferences, purchasing behavior and experiences of cattle microinsurance consumers at the BoP in rural India.

- The intentions and perceptions of cattle microinsurance of existing consumers and potential consumers at the BoP in rural India.

In order to execute this demand study, FGDs were conducted which were based on pre-designed discussion guides (see appendix 2.3 and 2.4). FGDs are often used in rural marketing research for a couple of reasons. First, FGDs create an atmosphere in which profound listening and deep dialogue are key factors. According to the “Bottom of the Pyramid Protocol”, both characteristics are necessary for a cohesive research study. Profound listening and deep dialogue result in a shared commitment of mutual sharing and learning which is necessary for sustainable results. Secondly, FGDs rely on the interaction between people and this is very effective as the community-feeling is, in general, very strong in rural areas at the BoP. For this reason, FGDs give a genuine view of the respondents’ attitudes, behavior and beliefs as these are in reality also dependent of the group setting. A third important reason why FGDs are often used, is due to the informal setting – it encourages participants to be more open and honest which diminishes the gap between what people say and what people actually do. For participants, FGDs can become a forum of change (Race et al 1994) as people can experience a sense of emancipation, develop reciprocal relationships with researchers and due to viable inputs, improvements can be made.

Although FGDs have many advantages, especially at the BoP, the limitations also have to be considered. A main challenge of the FGDs is that the researcher has relatively little control over the data produced. Especially in this case, the researcher is dependent on the moderator and the translator to execute the FGDs as the language spoken by the participants isn’t equivalent to the languages understood by the researcher. Second, the FGDs have a propensity to become dominated by one or two influential people, making the end-results biased. Another key disadvantage of FGDs is that the results often cannot be generalized to a larger population. However, India is very diverse country with needs varying extensively between districts. For this reason, I expect the demand for microinsurance products to differ substantially in various regions, making valid generalizations in needs and preferences unattainable.

b. Sampling

The FGDs have been organized in three different regions in India. The location of the FGDs has been chosen by using the sampling research technique. A non-probability, multi-stage cluster sampling technique has been conducted by selecting certain states, villages and towns based on several factors which are mentioned below, within the limitations of time and budget. The 17th livestock census has been used as cluster-level frame for choosing the states. Lists containing the contact

details of microinsurance cattle consumers, provided by diverse microinsurance agents (NGO's, MFI's, Co-Ops, SHG) have been used as cluster-level frame for choosing the villages. To have an overview of the total sample size of FGDs please see appendix 2.5.



The choice of states was based on three main factors: the number of cattle, the milk production and the presence of cattle microinsurance delivery channels. In figure 4.1 it can be seen that the states Uttar Pradesh, Andhra Pradesh and Orissa all have a relative high number of cattle as well as milk production. However, I also wanted to capture differences in geographic conditions, economic factors and stages of microinsurance development. In figure 4.2 it can be seen that the selected states of India differ considerably amongst these indicators. Andhra Pradesh is a relatively rich state and is known as the insurance capital of India. Orissa is one of the poorer states in the country and extremely prone to floods and droughts. Uttar Pradesh is most dependent on its agriculture and is the country's most advanced agriculture state as well as the largest milk producing state.

Figure 4.1

Indicators	Uttar Pradesh	Andhra Pradesh	Orissa
Total Cattle	41,464,000	19,930,000	15,297,000
% of Total Cattle	14.65%	7.3%	5.4%
Total Milch Cattle	15923	7636	3979
% of Total milch cattle	15,12%	7,25%	3,78%
Milk Production (By cattle, in tonnes)	16,60	7,28	0,929
% of Total Milk Production	17,93%	7,86%	1,1%

India Watch (2008)

Figure 4.2

Indicators	Uttar Pradesh	Andhra Pradesh	Orissa
Total Population	166,197,921	76,210,007	37 million
Geographic Location	North West India	Central South India	East India
Location Risks	Floods	Droughts	Cyclones, floods, droughts
Percentage Rural	79,23%	73,09%	85%
Poverty Percentage	36,1%	15,8%	46.4%
Popular Rural occupations	Agriculture, Auto ancillaries, electronics	Agriculture, Food processing, Financial Services	Agriculture, Fisheries
Per capita income	Rs. 9895	Rs. 17642	Rs. 4726
Literacy Rate	57,36% (2001)	60,5%	48,6%
Microinsurance development	Underdeveloped	"The capital of microinsurance"	Mediocre

Economy Watch, IndiaStat (2003)

The choice of the villages where the FGDs were held was based on two factors: the population strata and the proximity to the town where in-depth interviews were held with microinsurance agents (see figure 4.3). The population of the chosen village should be lower than 5000 people so that it concurs to the definition of "Rural Area" according to the IRDA. For practical reasons, the village should be close to the town where in-depth interviews were held (the choice of these towns was based on the density of microinsurance agents).

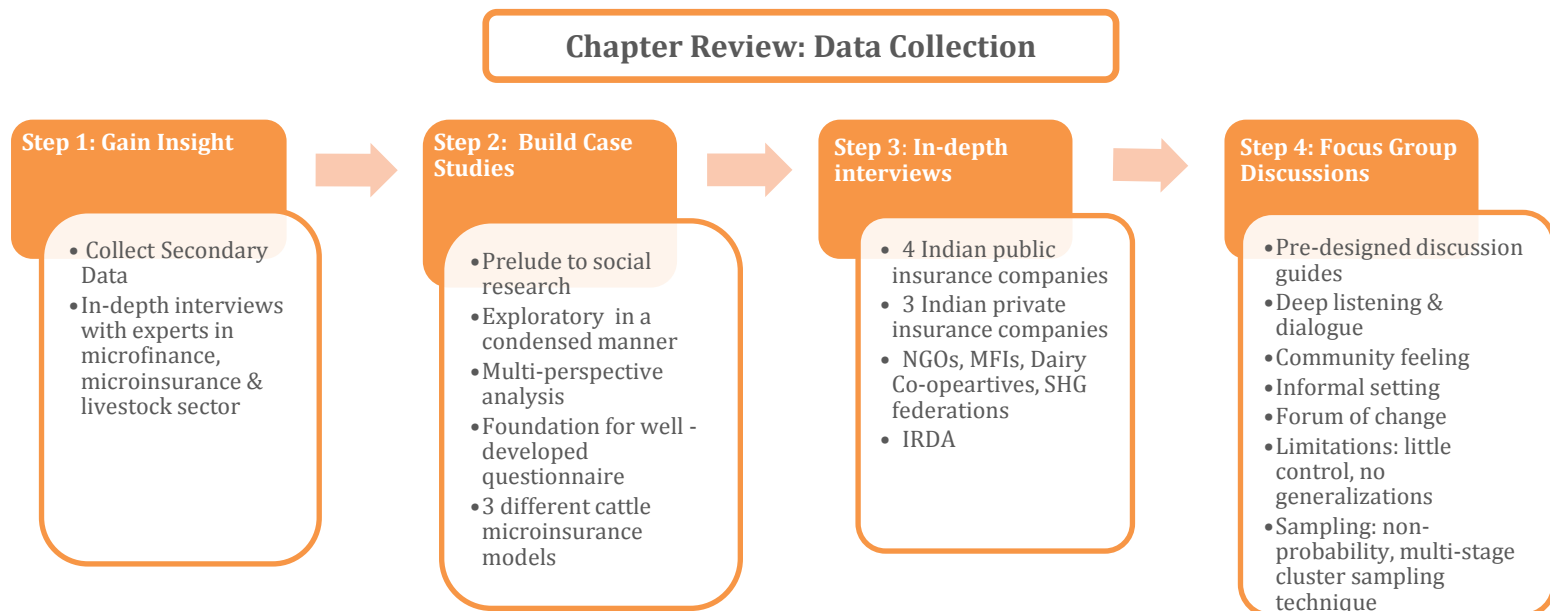
Figure 4.3

Village	Number of Inhabitants	Proximity to the Town
Gangol (Uttar Pradesh)	4823	12 kilometers from Meerut
Ragannaguda (Andhra Pradesh)	2312	60 kilometers from Hayathnagar
Naidu Peta (Orissa)	1504	9 kilometers from Rayagada

The choice of the respondents within the village was based on three factors: the number of cattle, and the possession of cattle microinsurance. All respondents should own a number of cattle. I tried to involve cattle-holders with different breeds of cattle, different ages of cattle and different purposes of cattle (milch, draft or dual). Also it has been aimed to involve cattle-holders who use cattle as their primary income as well as cattle-holders that use cattle as their secondary income. Respondents who possess cattle microinsurance are eligible for the first FGD consisting of cattle microinsurance consumers. Cattle-holders who do not own cattle microinsurance are eligible for the second FGD consisting of potential cattle microinsurance consumers.

I believe that the combination of case studies, in-depth interviews and field studies has given us a very complete understanding of the cattle microinsurance market at the BoP in rural India. Both the

demand as the supply-side has been investigated thoroughly such that conclusions can be derived concerning the gaps in this market. The specific findings of the research study will be discussed in the next part.



Chapter 4.3: Relevance of Research Study

Princess Maxima, advisor “inclusive finance” at the United Nations, opened in the beginning of April the first Dutch microinsurance conference at the University of Twente where she stressed the importance of research in the microinsurance field in order to gain more insight in the complex and fragmented market. Many different players, such as insurance companies, NGOs and governments are interested in exploring the possibilities of microinsurance as a market mechanism for reducing the vulnerability of households at the BoP. However, insurance companies need more data so that they can develop the right products and price risks more accurately. Authorities also require more complete data in order to develop effective insurance policies and implement subsidies. As it is a young and fast growing market, there is a large demand for innovative research focusing on many different aspects.

By executing a qualitative, bottom-up market research, critical gaps in managing risks can be understood and appropriate microinsurance products can be developed. The local milieu, culture and behavior matter a lot in understanding and applying the researched data correctly. I expect that by conducting interviews with people at the BoP in rural India, I can gain better insight in which risks

people face, their understanding of cattle microinsurance and their reasons for taking up or turning down insurance products. As princess Maxima stated in her speech: “Only when we understand demand will we design products that have the right features, the right prices and the proper delivery mechanisms. And when products are valued by clients, they will be used. And product use leads to expansion, scale and sustainability.”

Chapter Review: Relevance of Research Study

Expectations
of bottom-up
market
research

Better understanding of
needs of people at BoP

More accurate and
complete data useful
for insurers and
authorities

High potential for
sustainable market-
based insurance
products and efficient
government policies

Box 4: Summary of Research Design

The research design is based on qualitative research measures because the aim is to achieve a holistic understanding of the gap between the current supply of and demand for cattle microinsurance at the BoP in rural India. The iterative study design in combination with contextual analysis approach makes qualitative research appropriate for this study. The flexible research instruments are helpful in gaining insight into unstructured complex phenomena and identifying intangible factors. These benefits outweigh the disadvantages of qualitative research such as its lack in representativeness, reliability, research bias and time consumption. The data collection is divided into four important steps. First, secondary and primary data is collected about the microfinance, microinsurance and livestock sectors to gain overall insight. Second, exploratory case-studies on three different cattle microinsurance models are performed in a condensed manner as they provide a multi-perspective analysis. Thereafter, in-depth interviews with insurance companies, distributors, veterinarians and government institutes have been conducted to gather more information about the features, success and impact of cattle microinsurance products as well as the challenges insurance companies and distributors face. Last, FGDs are executed in order to gain valuable information about the target market: (potential) cattle microinsurance consumers at the BoP in rural India. FGDs stimulate profound listening and deep dialogue which result in a shared commitment of mutual sharing and learning, necessary for sustainable results. Also, the informal setting encourages participants to be more open and honest, diminishing the gap between what people say and do. The FGDs have been organized in three different regions in India, selected by a non-probability, multi-stage cluster sampling technique. States have been chosen based on the number of cattle, milk production and presence of cattle microinsurance delivery channels; the choice of villages has been based on the population strata and proximity to the town where in-depth interviews have been held with microinsurance agents. Last, the choice of respondents within the village was based on two factors: the number of cattle and possession of cattle microinsurance. I believe that the combination of case studies, in-depth interviews and field studies has given us a complete understanding of the cattle microinsurance market at the BoP in rural India.

PART 5: Research Findings – The Cattle Microinsurance Market at BoP in Rural India



“The Insurance Company Cheated us .. They never paid out our claim!”

CHAPTER 5.1: Supply of Cattle Microinsurance at BoP in Rural India

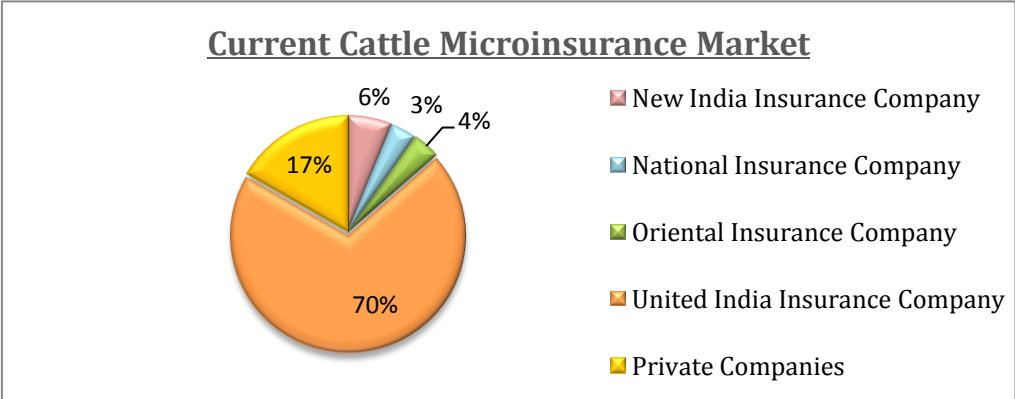
Section i. Cattle Microinsurance Suppliers

The public sector is dominating the Indian cattle microinsurance market, covering more than 80% of the insured cattle (see figure 5.1). All four public insurance companies in India distribute cattle microinsurance: Oriental Insurance, National Insurance Company, New India Assurance Company and United India Insurance Company. The large market share of the public sector is essentially caused by the nationalization of the Indian insurance sector from 1972-2000. The private players have only been able to capture about 1/6th of the market since 2001 and have not grown significantly since then. As of now, six out of the fourteen private general insurers in India provide cattle microinsurance. IFFCO-TOKIO General Insurance Co.Ltd and Royal Sundaram Alliance Co.Ltd are providing cattle microinsurance at a relative scale. Other players such as HDFC ERGO General Insurance Co.Ltd, TATA-AIG General Insurance Co.Ltd and Bharti-AXA General Insurance Co. Ltd entered the livestock market at a considerably later stage and therefore are still considerably small in the field.

Throughout the years, United India Insurance Co. Ltd (UIIC) has been the market leader in cattle microinsurance, with more than 69% of the total market share. The reason why United India Insurance Company is doing considerably well compared to the other public insurance companies is according to P.K. Patnaik, manager of UIIC Head Office, because “UIIC was the first insurance company to enter the rural market with cattle microinsurance. Further, it has an aggressive marketing technique and distributes the product through one-manned micro-offices which are located in the rural areas. Due to these ground-breaking offices, it is now present in more than 200

rural towns and villages.” Even though the cattle microinsurance product distributed by United India Insurance Company is roughly the same as the other public companies, the first mover advantage and innovative distribution network has led to relative success in cattle microinsurance field. However, it is reasonable to assume that these products wouldn’t have existed without the financial aid and stimulation of the Indian government. Therefore, the diverse government schemes concerning cattle microinsurance will be discussed elaborately in the next section.

Figure 5.1



Source: Annual Reports Insurance Companies (2010)

Section ii. Government Schemes

The central government and state governments of India have been very involved in the cattle microinsurance sector over the last 40 years. The first initiative to create a market for livestock insurance was done by the central government in 1971, with the help of “Small Farmer’s Development Agency”. In this scheme, nationalized banks financed the purchase of cattle and collected premium from the consumers. Since then, several national schemes were launched which can be found in appendix 3.1. In 2005, the government implemented the “The Livestock Insurance Scheme” on a pilot basis as part of the 10th Five year plan. The objective of the scheme was not only to protect farmers and cattle holders against the death of their cattle, but also to demonstrate to the people the benefits of livestock insurance and thereby make it more popular. Under the scheme, the government subsidizes the premium of the insurance for 50%. However, a maximum of two animals per beneficiary are entitled to the subsidized premium and only crossbred and high yielding cattle are being insured for a maximum of three years. The current market price of the cattle is the maximum amount that can be insured. From 2006 till 2008, this scheme continued in 100 selected districts. In 2008 it was approved to implement the scheme in 100 newly selected districts on annual basis.

The diverse state-governments in India also allocate diverse subsidies to public and private insurance companies so that they can meet their quota obligations as set by the IRDA in 2005. More than 90% of the cattle microinsurance policies sold in India are subsidized. Even though the subsidization of the cattle microinsurance market increased the uptake temporary, it has been detrimental for its long-term growth; over the last 10 years the market has been extremely constant (see figure 5.2). Due to the widely-available subsidies, insurance companies do not design cattle microinsurance products so that they are affordable and financially viable on their own. Furthermore, the subsidies are only allocated to the companies if they follow a certain scheme, which is standardized across the state or even the nation. This implies that the premium of the insurance policy is not fixed on actuarial basis but is standardized across the nation at an average rate of 4%. Consequently, the policy is underpriced in certain areas and overpriced in other areas, creating an unsustainable product. Also the risks covered are the same across the country, whereas the risks faced by the people differ considerably. This entails that the product is not adapted to the local needs of the people. Last, it became clear in the in-depth interviews with especially the public companies that due to the subsidies, insurance companies do not feel the need to improve the product features. As it is not a competitive market, they do not see a reason to improve their claim settlement processes, invest in identification methods, and develop their distribution channels in order to decrease premium prices and enhance uptake. As pictured in figure 5.3, the only public company that has experienced a considerable positive growth in the cattle microinsurance business is United India Insurance Company. Over the last 5 years, the number of policies sold has grown by more than 40%. Compared to the public sector, private insurance companies are relatively more innovative regarding cattle microinsurance. Iffco-Tokio is for example pioneer in experiencing with RFID technology for cattle microinsurance in India. HDFC-Ergo is experimenting with bundling the product with veterinary services. However, even in the private sector innovation remains limited. The characteristics of the different cattle microinsurance products offered by the private and public sector will be discussed in the following section.

Figure 5.2

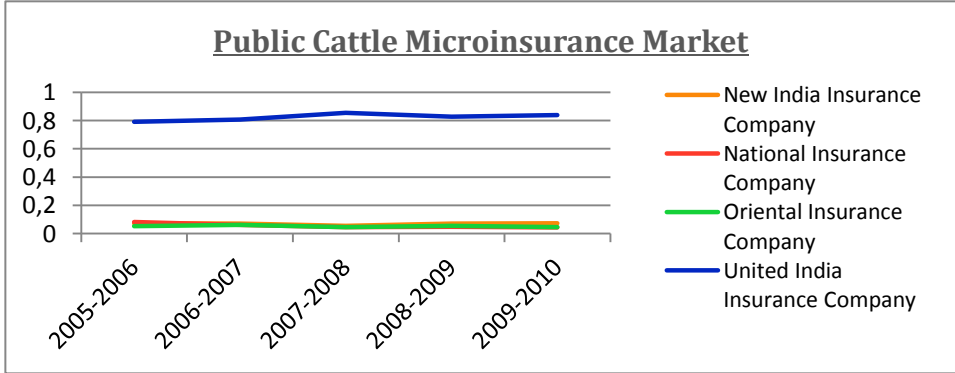
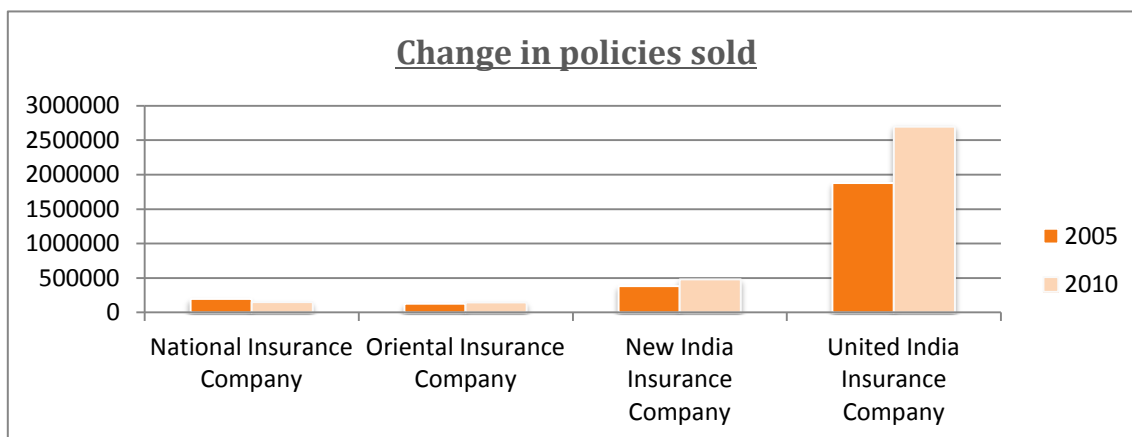


Figure 5.3



Section iii. Cattle Microinsurance Products

In general, the cattle microinsurance products sold by the different public and private insurance companies in India are very similar. The only considerable differences can be found between scheme insurance policies and non-scheme insurance policies. Scheme insurance policies entail policies that are subsidized by the government and therefore have to follow certain guidelines (e.g. premium percentage, animal coverage, sum insured, services included etc.). 90% of the policies sold are scheme – policies. In figure 5.4 and 5.5 the ‘general’ features of the scheme and non-scheme cattle microinsurance policies are given.

Figure 5.4

Feature	Premium	Animal Coverage	Age (cal = calving)	Risk Coverage	Term	Installments	Sum Insured	Services Included
Scheme (Subsidized)	2.5% of market value + 0.85% of market value for PTD	High yielding (Milch) Cows & Buffaloes (Bullocks, Mithuns)	Cows: 2yrs/1 st cal → 10 yrs Buffalo: 3yrs/ 1 st cal → 12 yrs	Death & Permanent Total Disablement (PTD)	1 year	Single Payment	Market value (fixed by purchase committee) or sum insured whichever is less	Ear tagging+ Health certificate; Post-mortem; 2 photographs
Non-Scheme	4% - 6% + 1% for PTD	(Milch) Cows & Buffaloes Bullocks, Mithuns	Cows: 2yrs/1 st cal → 10 yrs Buffalo: 3yrs/ 1 st cal → 12 yrs	Death & Permanent Total Disablement (PTD)	1-3 years	Single Payment	Market value (determined by veterinarian), or sum insured whichever is less.	Ear tagging & Re-tagging; Health certificate; Post-mortem; 2 photographs

Figure 5.5

Feature	Bundled	Type of Policy	Identification Method
Scheme	95% Credit-linked	Group & Individual	Ear Tag
Non-Scheme	80% Credit-linked	Group & Individual	Ear Tag RFID Tag (Iffco-Tokio, HDFC-ERGO)

The premium is based simply on risk due to mortality which is directly deduced from mortality assumptions. Unlike human life insurance, no mortality data is available to substantiate the numbers. Most of the assumptions are based on the field experience of veterinarians. At present, mortality is assumed to vary from 3-6% in Indian conditions⁴⁹ depending upon different regions. Even though mortality varies according to the breed, health situation and agro-climate conditions, specific risk profiling is not done. The premium is obviously considerably lower for scheme policies as 50% of the amount is subsidized by the government. The annual premium for scheme policies ranges between the 2-3% and for non-scheme policies around 4-6%, depending on the insurance company or the distributor. Both types of policies offer a permanent total disability (PTD) rider, however in practice this is not communicated to the farmers because insurance companies find the risk too high. In scheme policies, only high yielding cattle are considered, which excludes a great number of farmers at the BoP in rural India. The government only offers microinsurance subsidies to high-yielding cattle as it eventually benefits the country in terms of milk production enhancement. Non-scheme policies include all cattle, however typically high-yielding cattle are insured as their owners are usually more commercially-oriented and thus more aware of insurance. The average term for both types of policies is 1 to 3 years. However, also in this case the longer-term policies are not communicated or marketed towards the farmers because insurance companies find the risk of insuring a farmer for more than one year to be too high. In the majority of the cases, only a one-year term is possible as it is linked to a loan which usually only lasts for one year. All premium installments occur at the beginning of the period in which the total amount has to be paid. This reduces the transaction costs for insurance companies and diminishes the risk of default throughout the year. The sum insured is fixed in scheme-policies by the purchase committee and it is almost always determined by the amount of loan demanded. For non-scheme policies, the market value is determined by the veterinarian. The services included for scheme and non-scheme policies are very similar, except that non-scheme policies often also include retagging in their premium price.

95% of the scheme-policies and 80% of the non-scheme policies are credit-linked. The reasoning for insurance companies preferring credit-linked policies is given in sector iv. Although both types of policies can be bought as a group and as an individual, insurers prefer to sell scheme policies to individuals. Within the scheme, the government obliges insurance companies to offer a premium reduction to groups, cutting the insurer's profit margin. Especially Oriental Insurance is experiencing problems with the scheme group policies, stating that it is one of their largest "loss-posts" within cattle microinsurance.

⁴⁹ General field experience veterinarians

The products sold by the public and private insurance companies are standardized throughout the country. There is currently no insurance company that is adapting the policy to the location. Also, the product design is very supply-driven; the product features are not based on the needs or preferences of the target-market. Insurance companies recognize that these two features, standardization and supply-driven, are the two main reasons why the cattle microinsurance product is not demanded by their target group. Further, seeing as there is little difference between the cattle microinsurance products supplied by the insurance companies, distributors do not have a preference for one or another, making it very difficult to gain market share in this sector.

Section iv. Distribution Channels used for Cattle Microinsurance Products

In general, insurance companies believe that efficient and effective distribution channels are the key to succeeding in the microinsurance field. This will facilitate premium reductions, increase the uptake of the services, and lead to a higher renewal rate. The most prevalent model used by insurance companies for distributing cattle microinsurance is the partner-agent model. Insurance companies prefer to use MFIs in particular; in general 4/5 of the policies sold are through MFIs. These institutions combine the cattle microinsurance with the loan and sell it as an obligatory bundled product. It is especially an interesting distribution channel for cattle microinsurance policies as 40-50% of the issued credit in rural areas is used for dairying activities. Thus insurance companies can increase their outreach considerably by distributing the policies through financial institutions. Also, MFIs have a stronger financial background than other microinsurance agents, making it less complicated to exploit them as microinsurance distributors. Insurance companies can derive lessons from the experiences of MFIs in scaling up microcredit. Financial institutions are also interested in becoming microinsurance agents as bundling loans used for purchasing cattle with cattle microinsurance, decreases their portfolio risk. Eventually these due diligence activities could also lead to financial institutes lowering their interest rates on lending. Further, financial institutes need to broaden their range of financial services to the bop in rural India as the competitive environment is increasing.

However, there are also problems involved in delivering cattle microinsurance through financial institutes. The main problem is that the insurance premium is linked to the loan and therefore the bundled product can become unattractive or unaffordable for farmers. For example, Iffco-Tokio and Oriental Insurance have received much fewer applicants than expected by linking insurance to a loan. First, farmers do not always need a loan at the same time that they want to insure their cattle. For example, farmers don't always have to purchase cattle from the market; it could also be a new-born

from a cow or buffalo he already possesses. Another example is when the farmer purchases a cow or buffalo at a very young age, when it is not productive yet. They need the loan at the moment of purchase but want the cattle microinsurance two or three years later when the cow/buffalo is productive. Of course it is also possible that the farmer does not need the loan at all when purchasing a cow or buffalo. In these cases, the farmer cannot purchase insurance for its cattle at all through a financial institute. Second, if the insurance is bundled with a loan, the package can become unaffordable for a farmer due to the combined interest and premium rate. Many MFIs, such as SKS finance, have experienced this problem and therefore do not supply the bundled product anymore. BASIX is the only MFI that supplies cattle microinsurance as a stand-alone product, thus without linking it to a loan.

Insurance companies also face some risks when distributing their cattle microinsurance policies through financial institutes. Most importantly, financial institutes tend to do adverse selection as providing insurance is a strategic approach to secure that these “risky” farmers will pay back their loans. Cattle microinsurance is not the regular business of financial institutes and they are often reluctant to undertake proper due diligence in case of claimants. Further, it is also possible that financial institutes and farmers collude as their incentives are aligned. Banks want farmers to repay their loans and farmers are eager to repay their loans and receive new ones; both can be financed through insurance payment.

At a less frequent level, NGOs are also used to distribute cattle microinsurance to the poor farmers. It has become evident in the in-depth interview with the IRDA that even though MFIs often state they target the BoP, they often do not reach the absolute lowest-income group. Many NGOs, however, do actually reach the absolute poor with their services. Furthermore, as they are not profit-driven they do not have an incentive to deceive the insurance company by aligning with farmers, nor do they want to cheat the farmers by selling them low-quality microinsurance products. Also, MFIs are often located in the more urbanized towns whereas NGOs are more situated in the rural areas. Therefore, NGOs are more in touch with the target group of the insurance companies and have a better understanding of the risks they face. However, it became clear in the in-depth interviews that insurance companies find it difficult to distribute cattle microinsurance through NGOs as they are usually “here today and gone tomorrow”. Further, there are in general very few NGOs who are experienced in social intermediation, have effective communication skills *and* are familiar with microinsurance. According to most of the interviewed insurance companies, the benefits derived from this distribution channel do not exceed the time and resources invested in educating the NGOs about the product.

There are also some limitations to both of the distribution channels. For example, the MFI and NGO partner-agent model only serves its existing client base, which naturally inhibits growth. Second, according to the IFMR, microinsurance agents are only allowed to partner with one life insurance and one non-life insurance company. This entails that most of the well-known MFIs and NGOs are already involved in the microinsurance business. Also, these micro insurance agents have a “tick-the-box” mentality – selling as many microinsurance products to as many farmers without explaining the product or providing advice. For example, in South Africa 34% – 38% of the low-income clients of MFIs possess a credit-linked insurance policy, however less than 8% of these individuals are aware that they have it (Roth, McCord, Liber, 2007). These problems call for innovative measures to distribution channels. At the moment SHG federations, dairy co-operatives and fertilizer companies are being under-utilized by insurance companies.

MFIs vs. NGOs

MFIs		NGOs	
Benefits	Disadvantages	Benefits	Disadvantages
Increase outreach: 4 th densest financial network worldwide	Linked to loan → bundled product unattractive/unaffordable	Not driven by profits, won't deceive farmers nor insurance companies	Here today and gone tomorrow
Strong financial background	Adverse selection	Focus on the lowest income market	Few NGOs are experienced in microinsurance
Derive lessons from experiences in scaling up microcredit	Aligned incentives with farmers → collude	Are in touch with the people → better understanding	Only serves its existing client base
	Only serves its existing client base		The most well-known MFIs are already taken
	The most well-known MFIs are already taken		“Tick-the-box” mentality

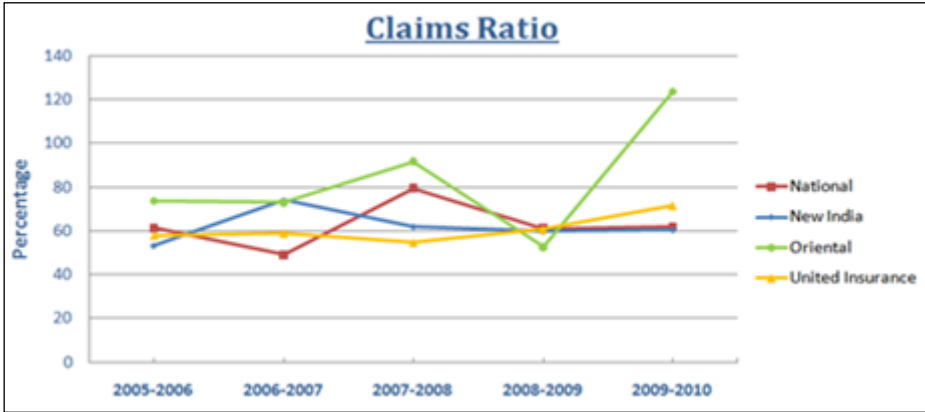
Section v. Challenges faced in Cattle Microinsurance

Public and private insurance companies face a large number of challenges in the cattle microinsurance field. Private companies are hesitant to step in and ICICI Lombard recently even dropped the cattle microinsurance business. Except for United India Insurance Company, all other public insurance companies view cattle microinsurance as an obligation; they mentioned in the in-depth interviews that if cattle microinsurance was not compulsory, they would not invest in the product. Currently, the cattle microinsurance business is a loss-making business for most insurance companies for of the following reasons:

1. The demand for cattle microinsurance at the BoP in rural India is not understood and therefore the uptake of the products is too low. This implies that insurance companies cannot benefit from the law of large numbers.
2. Absence of adequate insurance databank including the willingness to pay, the probability of loss, claims history, costs and benefits. This leads to an inability to project risks and an absence of actuarial pricing, thus unsound products.
3. The cattle microinsurance business is plagued by moral hazard and adverse selection problems which implies that the indemnity is greater than expected by the insurers.
4. The cost of penetrating rural markets is too high due to the unorganized market, poor infrastructure, soaring transaction costs, and deficiencies in the distribution system.
5. The loss ratio is very high (see figure 5.6) due to by the soaring level of fraud; market experts consider a quarter of all cattle claims to be fraudulent. Insurance companies have experienced insuring non-existent animals

Our main goal is to form recommendations for insurance companies so that these challenges can be overcome and the gap between the demand for and supply of cattle microinsurance at the BoP in rural India can be diminished. Considering the potential market of cattle microinsurance discussed in the following section, it is evident that it can be valuable for insurance companies to invest capital and resources in surmounting these challenges.

Figure 5.6



Source: Annual Reports Insurance Companies (2005-2010)

Section vi. Potential Market for Cattle Insurance

According to the UNDP (2007) insurance coverage can be extended to 40-60% of the rural households in India. Assuming that an average of 1 cattle per household will be insured, it has been estimated that

in total about 40 to 60 million cattle can be insured in India.⁵⁰ As the estimated average livestock premium is 4% of the cattle's value, and assuming that the cattle is valued at INR 12,000, this would imply that a total premium of Rs. 19,300 to 28,950 billion can be received annually through cattle microinsurance (see appendix 3.2 for a full explanation).⁵¹

In order for insurance companies to capture market share it is important that they understand and respond to the demand for cattle microinsurance at the BoP in rural India as discussed in the challenges in the previous section. In order to give insurance companies insight into the demand for cattle microinsurance, the function of cattle, risks faced by cattle-holders and trends in the cattle market at the BoP will be discussed in the next chapter.

Chapter Review: Supply of Cattle Micro insurance

- The public sector dominates cattle microinsurance market, covering more than 80% of insured cattle
- UIIC is market leader in cattle microinsurance with more than 69% of total market share
- More than 90% of the cattle microinsurance policies sold in India are subsidized
- The subsidies increased uptake temporary but is detrimental in the long-term --> the market has been extremely constant in the last decade
- In general, policies sold by different insurers are very similar; there are only small differences between scheme and non-scheme product features
- Product features are standardized and supply-driven
- The most prevalent distribution model used by insurance companies is the partner-agent model with a clear preference for MFIs as agent (about 90% of the policies are credit-linked)
- Insurance companies face significant challenges in the microinsurance business: demand is not understood, absence of adequate insurance databank, moral hazard & adverse selection problems, high penetration costs and high claims ratio
- A total premium of Rs. 32,460 to 45,444 billion can be received annually through cattle microinsurance

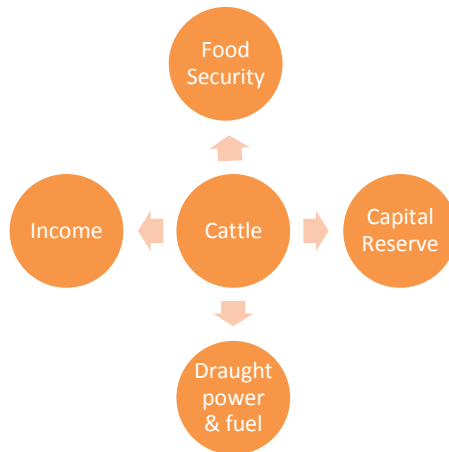
Chapter 5.2: Need for Cattle Microinsurance at the BoP in Rural India

Section i: Function of Cattle

During the FGDs, it was found that cattle have multiple functions on household level. Most importantly, cattle act as the primary or secondary income of a farmer. On average, a typical herd (2 cattle) contributes 33-43% of a farmer's income (see appendix 3.3). Due to its continuous stream of earnings, it milks on average 200 days a year, it is considered to be a very reliable income source. As one farmer said in a FGD: " My cow is the only stable factor in my life". It does not only produce milk, and in some cases (if it is not a Hindu household) meat, but also non-edible agricultural by-products could be sold from cattle such as horns, bones, skin and blood.

⁵⁰ Estimation Mart 2011: 162,3 million rural households

⁵¹ Sharma (2010)



Also, many households see their cattle as a “cash crop”. It can absorb income shocks caused by crop failure due to droughts or floods. This was especially noticed in households where cattle acted as secondary income and crops as primary income. Due to the high value of cattle, a majority of households also use cattle as a capital reserve. Farmers explained that possessing cattle gave them a sense of protection because in the worst-case scenario, they could sell their cattle. The cattle also provide food security for a household; 50% of the milk production is used for home-consumption. Milk contains essential proteins which are important for growing children and nursing mothers. A farmer that just lost his cattle two months ago explained how he could not provide his new-born child with milk anymore and therefore his baby is now very sick. Milk is becoming scarce in some areas of India, stressing the importance of possessing cattle. Last, households also use their cattle for other activities such as draught power, fuel for domestic use and manure for crop production.

Section ii: Risks faced by cattle holders at the BoP in Rural India

Owning cattle is relatively expensive (on average Rs. 10,000) and therefore these households are much more exposed to risks. In the unfortunate case that the cattle die or once households have to sell their cattle (e.g. due to sheer poverty), families experience a dramatic fall in income. It is expected that small landholders obtain nearly half of their income from cattle.⁵² In these cases, it is often impossible for households to rebuild their stock and they are forced into a state of extreme distress. During the FGDs, one farmer was telling the group how he has been suffering since the sudden death of his cattle three years ago. His cow was his primary income and gave him everything he needed: a stable income and milk. He never thought, or never wanted to think, about what would happen if his cow suddenly died. Therefore he didn’t prepare himself; he didn’t have any savings, any back-up plan, any safety-net.

The cattle holders face two types of risks: production risks and price risks. Production risks include the scarcity of inputs (e.g. dry and green fodder) for animals, natural calamities, prevailing diseases

⁵² Shukla & Brahmanekar (1999); BIRTHAL et al. (2003)

reduction or stoppage of milk production and mortality of cattle. The latter three risks are considerably high in rural areas due to poor veterinary services, bad hygienic conditions and little access to water. Due to global warming, incidences of animal diseases (in particular viral and protozoan diseases in crossbred animals) are likely to increase. The production risks that cattle holders face, vary significantly across the country. It is mostly dependent on the agro-climatic conditions, the infrastructure of the village and the proximity of the village to an urban town. A majority of the farmers are however most afraid of a scarcity of inputs, most of the times because they have experienced this hazard themselves. During floods or droughts, if crops are damaged, farmers cannot feed their cattle leading to diseases and in the worst case starvation. The reason why farmers are less worried about prevailing diseases, reduction or stoppage of milk production and global warming is because they do not understand these dangers. They cannot comprehend what is exactly happening and what is causing these dangers. Farmers see the crops being ruined and they understand that if they do not feed the cattle they starve because that would also happen to them. However, they cannot see the earth being warmed up or the internal processes leading to milk stoppage. Due to the lack of tangibility, farmers also understand the price risks to a lesser extent. Price risks are considered to be the fluctuations in the value of cattle and its products due to diseases, droughts and floods, as well as the market losses due to reduced demand. Even though farmers don't understand it, both types of price risks can expose them to considerable income losses.

Currently, there exist few risk mitigation mechanisms for the cattle-holders at the BoP in the rural areas. Proper vaccination, de-worming and curative measures are often inadequate and underdeveloped. Government institutions are not able to deliver these preventive livestock support services due to financial and operational constraints. Even the poverty reduction and social security schemes that have been established by private and public corporations appear to have limited coverage. Most of the cattle have never received vaccinations or de-worming sessions, even worse farmers didn't know that these measures existed. With little or no access to formal protection, they are left with limited adaptation and coping mechanisms. However, as farmers often don't understand the severity of the risks they face, they don't even apply informal mechanisms to improve the health of their cattle. This vulnerability leads farmers to engage in low-yield rearing techniques which limit the income growth as well as savings and asset accumulation, further pushing them into the poverty cycle. It is therefore outermost important to develop an insurance market to protect the livelihoods of cattle-holders.

Section iii: Trends at the BoP in Rural India

a. Trend towards Cross-Breed Cattle

Cross-breed cattle are gaining popularity as they provide greater yield to the farmers with less than proportionate input costs. Due to the launch of extensive cross-breeding programs, farmers are becoming more aware of these benefits. Also as the loan-facilities are enhancing at the BoP, farmers are increasingly able to purchase more expensive cattle. During the focus-group discussions in towns where cross-breeding programs were launched, some farmers were giving rational arguments for why they prefer cross-breed cattle and how they are planning to purchase one (most of the times together with a group of farmers, as they are less incited to take a loan). The growth of cross-breeds among rural households have increased by 5,91% from 1997-2003⁵³ and according to NABARD is increasing further at a steady rate (although no data is available). Accordingly, the percentage of indigenous cattle among rural households has decreased by 1,83% from 1997-2003. The increase in the value of cattle makes cattle-holders more vulnerable and enhances the need for security. Therefore NABARD and IFMR expect the cattle microinsurance business to improve in India with the increase of cross-breed cattle in rural areas.

b. Value of milk

The value of milk is increasing dramatically due to the projected increase in dairy demand. As per capita incomes are rising in developing countries, diets are accordingly predicted to diversify away from staple foods and move towards increased meat and processed foods consisting of livestock and dairy products. Livestock products, vegetable oils and to a smaller extent sugar, now provide 29% of the total food consumption of the developing countries but is expected to rise further to 35% in 2030 and 37% in 2050.⁵⁴ Compared to 1997-2006, the average dairy prices are expected to be 16-45% higher in 2010-2019.⁵⁵ These price rises are not expected to affect demand considerably, as the affluence of the consumers in developing countries is also increasing. Therefore, dairy demand and milk prices are expected to increase steadily. Due to these trends, the productivity of cattle becomes very important for cattle-holders, increasing the demand for cattle microinsurance considerably in the upcoming 30 years (FAO, 2006). Therefore, there lie substantial opportunities in the future for cattle microinsurance at the BoP in rural India. However considering the other findings discussed in this chapter, there are still many challenges that have to be overcome in order to capture these

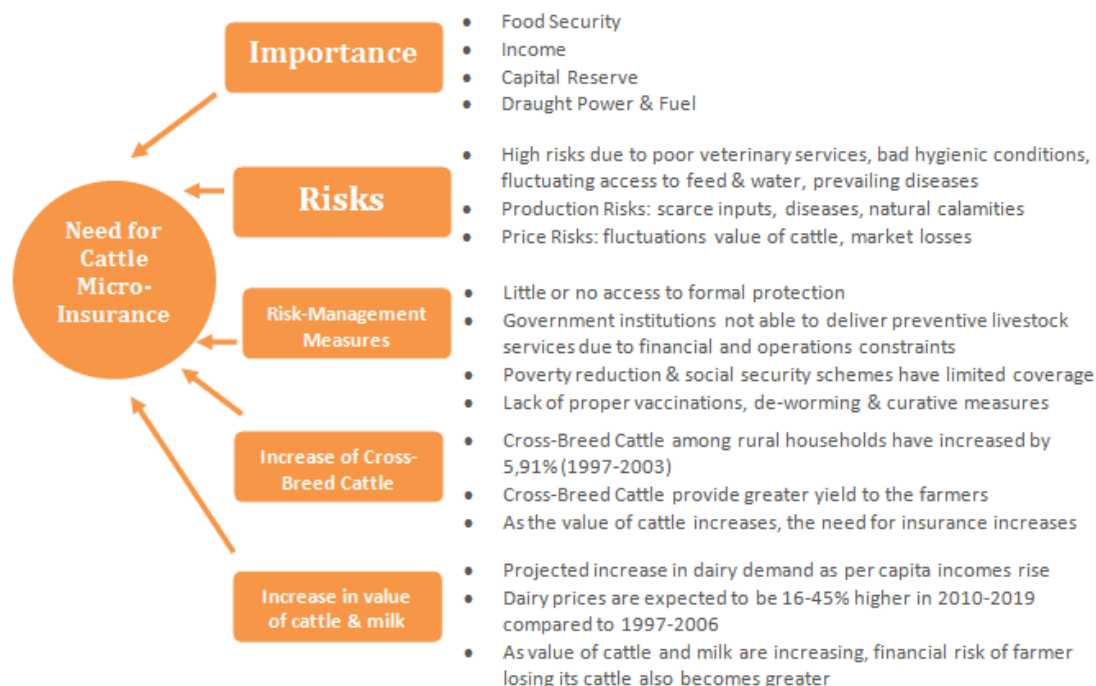
⁵³ NABARD data shared during in-depth interview

⁵⁴ FAO (2006)

⁵⁵ OECD-FAO (2010)

opportunities. In the next part these research findings will be analyzed more elaborately by conducting a gap analysis between the supply of and demand for cattle microinsurance.

Chapter Review: Need for Cattle Microinsurance



Box 5: Summary of Part 5 - Research Findings

The Indian cattle microinsurance market can be characterized as a supply-driven, heavily subsidized market. The public sector is dominating this market, covering more than 80% of the insured cattle, with UIIC as market leader (69% of the total market share). The standardized product features are determined by the insurance companies and are not adapted to the needs, preferences or location-specific risks that cattle-holders face. More than 9 out of the 10 cattle microinsurance policies sold are subsidized by the (state) government. Even though the subsidies increased the uptake temporarily, it has been detrimental for the long-term growth; the market has been extremely constant over the last decade. Due to the subsidies, insurance companies do not have an incentive to design affordable and financially viable products nor do they need to improve their product features as it is a non-competitive market. In general, the product features sold by the different insurance companies in India are very similar. There are only some small differences between scheme and non-scheme cattle microinsurance policies in the premium rate, risks covered and services included. The most prevalent distribution model employed is the partner-agent model with as agent, MFIs and NGOs. There is a strong preference for MFIs as India has a very dense financial network and most issued credit is used for dairying network, enabling insurance companies to expand their outreach considerably. However, insurance companies still face a large number of challenges in the microinsurance field, including, absence of an adequate insurance databank, moral hazard & adverse selection problems, high penetration costs, high loss ratio and little understanding of demand. Even though the preferences of farmers are not understood by insurers, they do recognize a strong need for cattle microinsurance. Cattle are very important for households in terms of food security, capital reserve, draught power and fuel, and a stable income (small farmers obtain nearly half of their income from cattle). However, cattle are relatively expensive and therefore farmers are much more vulnerable to the risks faced. These risks can be divided into production risks (scarcity of inputs, natural calamities, diseases, reduction of milk production, mortality) and price risks (fluctuations in value of cattle and market losses). As the value of cattle and milk prices rise, due to cross-breeding in India and increased global dairy demand, the financial risk of a farmer losing its cattle becomes even greater. Currently, there exist few risk mitigation mechanisms for cattle-holders at the BoP in rural areas, leading farmers to engage in low-yield rearing techniques which eventually push them further into the poverty cycle. It is therefore crucial to develop a microinsurance market to protect the livelihoods of cattle-holders.

PART 6: Gap Analysis between supply of and demand for cattle microinsurance



“The insurance companies just take our money away!” Farmer during FGD

During the field study two different types of gaps have been found in the cattle microinsurance market at the BoP in rural India: product gaps and distribution gaps. Within the product features there are considerable gaps in the degree of customization, risk coverage, bundling possibilities and identification methods. Within the distribution of the product, gaps could be found in the awareness and knowledge of the product, the trust of the farmers in the distributor, as well the application and claim settlement processes. A more extensive description of the gaps found will be given in the following few chapters.

Chapter 6.1: Gaps in Product Features

Section i: Customization

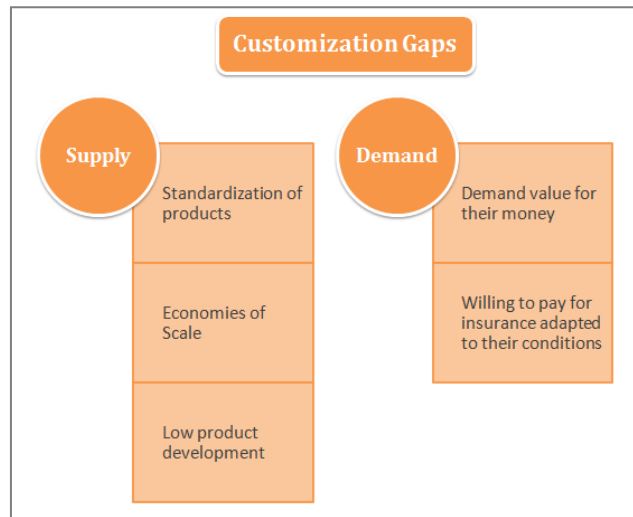
Customization is a fundamental gap in the cattle microinsurance market in rural India. Currently, there does not exist a cattle microinsurance product in India which is adapted to the local needs of the farmers concerning the risks covered, bundling possibilities with other products and value-adding services such as risk-mitigation techniques. These needs are very diverse depending on the region in India, type of land, sort of village and breed of cattle a cattle-holder owns. Therefore the cattle microinsurance policy should become partially customized so that the covered risks, bundling possibilities and premium payment are adapted to the situation of the farmer.

However, insurance companies perceive the BoP in the rural areas as one single, homogeneous market and do not consider the differences in behavior, income and risks between the villages. They are often not aware of the differences between farmers in the rural areas or not interested in understanding their different needs. This indifferent behavior is mainly due to the fact that cattle microinsurance is often seen as an obligation instead of a value-adding product in the company's

portfolio. Furthermore, public insurance companies believe that the economies of scale gained by the standardization of the product are greater than the benefits derived from localization. However these economies of scale are not achieved because farmers in rural areas demand value for their money, even more than in urban areas. During the FGDs, farmers frequently said that they were willing to pay the Rs. 400-600 premium for cattle microinsurance, but only if they would understand the terms and conditions better and if the product features would be in line with the risks they are facing and the conditions that they are in. Only by responding to the local needs in the fitting way, can cattle microinsurance be launched successfully in these rural areas. Indeed, Christensen et al. (2001) state that small-scale, decentralized initiatives may be more appropriate in low-income markets than the centralization of control and economies of scale which are efficient in developed markets.

Overall, the cattle microinsurance market is plagued by predetermined misperceptions and an inadequate effort in understanding the market better. Mainly due to these reasons, innovative product development within the cattle microinsurance field is also very low. Public insurance companies stated during the in-depth interviews that they are unwilling to invest in the cattle microinsurance as they view it as an unprofitable sector. The only reason that they offer this product is because the government obliges them to invest a certain percentage in the rural areas of India. Private insurance companies such as HDFC-Ergo and Bharti-AXA are hesitant to step in or expand the market because they do not understand the needs of the farmers well enough as the market is too massive and too diverse. One condition for a successful cattle microinsurance product at the BoP in rural India is an extensive amount of specific research and a relatively large investment. The gains are often only realized in the long-run, requiring a long-term vision and strategy.

It is evident that the product features need to be improved and adapted to the conditions of the farmers however it is not clear if insurance companies are able to do by providing the product directly or through a traditional partner-agent model as the costs are relatively high. Therefore, other distribution models should be considered to achieve customization of cattle microinsurance. Furthermore, insurance companies should understand that the cattle microinsurance market could become profitable but only with a considerable amount of research and investment and solely with a long-term vision and strategy.



Section ii: Risk Coverage

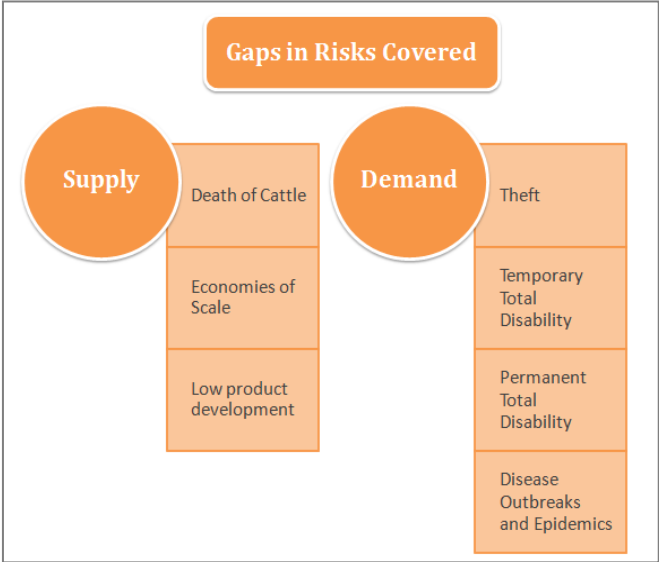
As stated in section i, one of the main reasons why farmers do not demand cattle microinsurance at the moment is because the insurance policy does not cover the risks that the farmers are most concerned about such as theft and permanent or temporary total disability. The standard cattle microinsurance product only covers the death of cattle because this is the least fraud-sensitive risk they are able to cover. As proof of death, one of the cattle's ears is sent to the insurance company. However, one cannot prove easily that their cattle is stolen or partially disabled due to the low-quality technology (lack of RFID tagging), deficiency of veterinarians and large distance between insurance company and farmer. Fraud is one of the biggest problems that insurance companies face in the cattle microinsurance field (this will be explained more elaborately in section iv). In theory, all the public insurance companies and some private insurance companies also offer coverage against 'permanent total disability' (PTD).⁵⁶ However, due to the large extent of fraud this PTD coverage is often not communicated towards the farmers and otherwise it can only be purchased against a much higher premium.

Farmers insist that cattle microinsurance should cover more aspects. The risks demanded to be covered, differ significantly across villages. For example, in some villages farmers would find the cattle microinsurance product valuable if it would cover them against theft whereas in villages close to busy roads, farmers demand cattle microinsurance policies which cover them against permanent or temporary total disability. One farmer said: "I bought cattle microinsurance with the assumption that it covered theft. However, when my cow was stolen, I heard from the insurance company that no cattle microinsurance policy covered theft. Therefore it lost value to me and I didn't renew it." As a lot of cattle-holders are illiterate at the BoP in Rural India, they are not fully aware of the terms and

⁵⁶ For milch cattle, this refers to the inability to produce milk

conditions of the insurance policy and often only purchase a product because they have become persuaded by a representative of an insurance company or distributor. Another farmer explained to us that if the leg breaks of a cow or buffalo, she isn't able to produce milk anymore until she is healed. As the health services are so poor in these areas, it can take a very long time before the cow or buffalo is able to yield milk again. Insurance companies must realize that for most farmers, cattle are their primary or secondary income; if the animal is injured or disabled, it can have disastrous effects on the household. It is the inability to produce milk and milk products where the farmers are most concerned about; not death on its own. Most farmers would also like to be insured against disease outbreaks or epidemics. Currently, farmers are discouraged to report disease outbreaks as no insurer offers indemnity payments. This leads to huge losses for insurance companies as the mortality in that village rises exponentially which implies that they have to pay out claims.

Even though Indian farmers are not yet aware of it, the climate change should be another growing concern for them. The latest Climate Change Vulnerability Index revealed that India is amongst the top countries in Asia facing "extreme risk" from climate change. Cattle undergo considerable production risks due to extreme weather conditions such as heat and humidity. Currently there is no access to formal protection against weather related risks and the poor are left with limited coping and adaptation mechanisms.

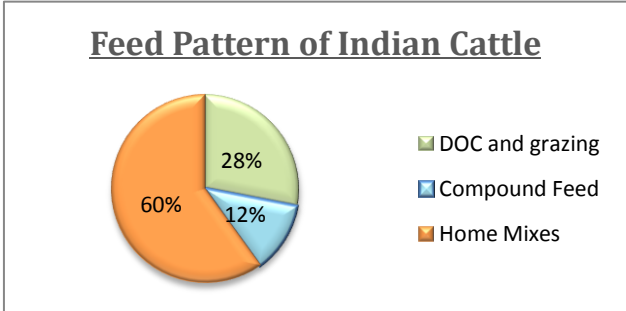


Section iii: Bundling

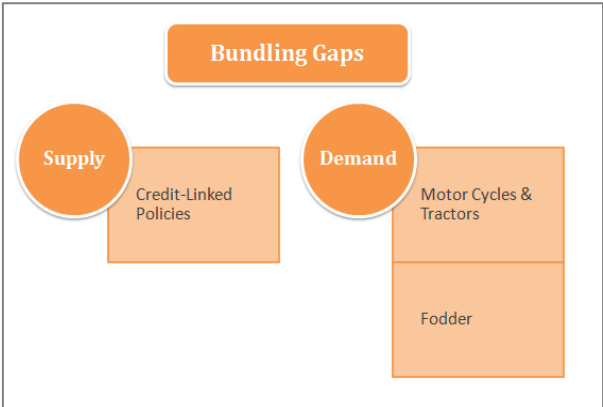
There exists a considerable gap in bundling cattle insurance products with other products such as motor cycles, tractors and fodder microinsurance. In several (higher income) villages, every farmer owns a motorcycle and one out of every ten farmers owns a tractor. 90% of these vehicles are not being insured, which could be seen as another gap in the market. In other regions in India, it is especially interesting to look into bundling cattle insurance with fodder crop insurance. During the

FGDs, farmers have shown a high interest in this bundled product as fodder contributes to about 60% of the daily cost of cattle⁵⁸ (see figure 5.7). However, if their fodder fails during droughts, farmers are forced to purchase fodder crops from the market. During these droughts the price of fodder crops can increase by 30% to 100%.⁵⁹ As farmers are often not able to pay this high amount, less forage is purchased and thus the cattle are underfed. Under-nutrition and malnutrition lead to low productivity of the cattle which deteriorates the income of the farmer even more.

Figure 5.7



Even though there is demand for innovative bundled products, insurance companies generally only supply credit-linked cattle insurance policies. However, farmers have in general a negative perception of these policy types as they are resistant to taking loans. With the suicide epidemic in India, which is often linked to the indebtedness of farmers, farmers have lost trust in MFIs, banks and moneylenders. Many farmers became furious when talking about the services of MFIs, many exclaimed: “MFIs? They are frauds!” This distrust in MFIs is caused by moneylenders selling too expensive loans to farmers and outsiders ‘faking’ to be representatives of MFIs and taking money away from farmers. Credit-linked insurance policies are anyways often not beneficial for farmers as the loan might be solely for one year whereas the farmer wishes to be insured for a longer period. If the farmer wants to renew its insurance policy, it would have to take up another loan even though he does not need this loan. Therefore, even though MFIs are still the most prevalent distribution agent used by insurance companies, their popularity is decreasing steadily.



⁵⁸ FGDs with farmers and as confirmation in-depth interview with veterinary doctor

⁵⁹ In-depth interview with veterinary doctors

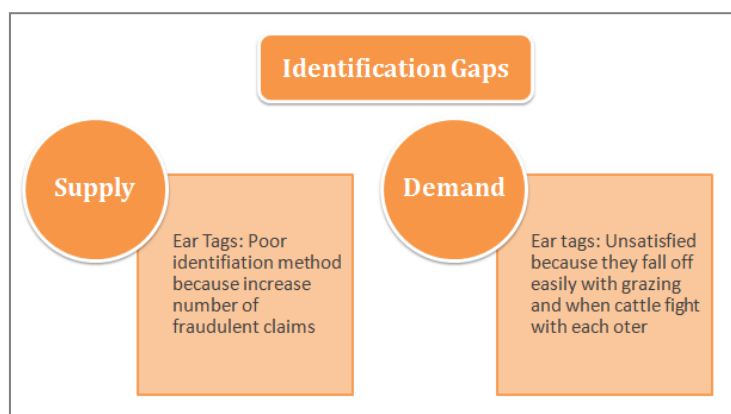
Section iv: Identification-Method

Indian insurance companies typically use the traditional, external ear tag for identification of the animal (see image 1). However, both farmers and insurance companies are dissatisfied about this identification method. Farmers say that the ear tags fall off easily with grazing and when the cattle fight with each other. Also, farmers find it “too much of a hassle to ask for a new one and it is often also too expensive.” Insurance companies state that ear tagging is an unreliable method of identification as the tag can easily be removed and submitted for claims (as explained before, farmers have to send one ear of their cattle as proof of death). According to Dr. Suresh Kumar of Oriental Insurance: “We are facing major problems with the ear tags ... it is a poor identification technique which increases the number of fraudulent claims substantially. Therefore, we need to increase our premium price which reduces the uptake of cattle microinsurance. It seems like we are stuck in a vicious circle.”

Image 1



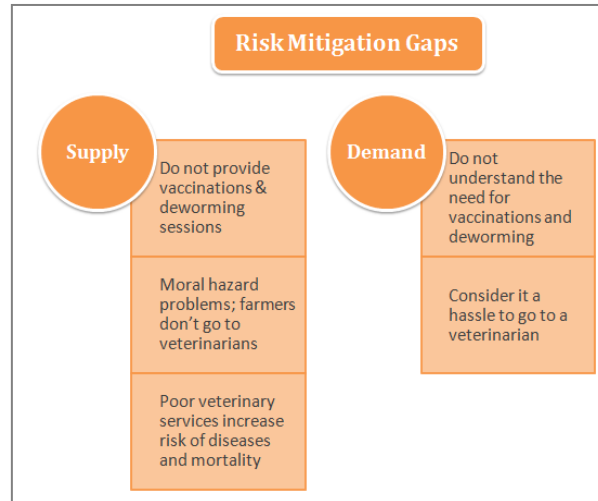
Only the private insurance companies are experimenting with other types of identification methods such as RFID-tagging. As explained in the second case-study (see appendix 2.1), IFFCO-Tokio executed a pilot in Orissa, offering RFID-based tags for the identification of the insured cattle. The beneficiaries were very satisfied about the RFID-tagging of cattle as the RFID capsule causes less pain to cattle compared to plastic ear tags and it is durable. Further, beneficiaries experienced a shorter waiting period for claims to be settled as IFFCO-Tokio could identify the cattle error-free. Also IFFCO-Tokio realized the various benefits of introducing RFID-tagging as identification method. They experienced less fraud and a decrease in moral hazard leading to a significant lower loss-ratio. However, public companies are very resistant in experimenting with other types of identification methods, even though they are also unhappy about the external ear-tags. These companies are only focusing on being as cost-efficient in the cattle microinsurance field and external ear-tags are by far the cheapest identification method. It is quite peculiar that the public companies are still unaware of RFID tagging, implying that they are doing very little research to how they could possibly improve the identification methods.



Section v: Risk Mitigation Techniques

From the FGDs it became clear that a majority of the farmers do not understand the need for risk-mitigation techniques. According to them, their cattle are healthy despite of the scarce inputs and bad hygienic conditions. Often low-income households have never heard of the terms ‘vaccinations’ and ‘de-worming sessions’ and therefore they have no idea of what it entails. The national marketing campaigns for risk-mitigation measures apparently do not reach the BoP in rural areas effectively. Even if the farmers are educated about the severe risks that cattle face, they consider it too much of a ‘hassle’ to go to the veterinarian. One farmer clarifies: “ I only go to the veterinarian if my cow is very sick and does not yield any milk anymore; the whole process of going to the veterinarian, waiting until he has time for me and then returning to my village takes about two days.” If the cattle are insured, there is even more reason not to vaccinate or de-worm the cattle, as the farmer receives money upon their death. This moral hazard behavior causes many problems for the insurance companies - the mortality rate of cattle is too high to make cattle microinsurance a very profitable business.

Not only the unawareness and unwillingness of farmers lead to the underutilization of risk-mitigation techniques at the BoP. The governmental veterinary services in India are very poor; there is a shortage of trained staff, a lack of funding for medicines and vaccinations, and inadequate transport. Poor veterinary services are detrimental for insurance companies as ex-ante risk mitigation measures cannot be taken and the burden of all risks is passed on to them. As mr. Saurabh, microinsurance expert TATA-AIG , says during an in-depth interview: “ Due to moral hazard behavior of farmers and poor veterinary services, the risk of diseases and mortality increases. Unfortunately, we need to factor these consequences in our premium price. This obviously harms the uptake of cattle microinsurance in the rural areas which implies that we cannot benefit from economies of scale.”



Chapter Review: Product Features

- The most important gaps found in the product features of cattle microinsurance are: customization, risk coverage, bundling possibilities, identification methods and risk-mitigation measures.
- Insurance companies do not customize their policies to what the local cattle-holders need, what risks they face and what features they prefer.
- Cattle-holders are willing to pay for cattle microinsurance, but only if it is adapted to their local conditions in terms of risk coverage and bundling possibilities.
- Both cattle-holders and insurance companies are very dissatisfied about the ear-tagging identification method.
- Cattle-holders often do not understand the necessity of vaccinations and deworming and even if they are educated they are often unwilling to go to the veterinarian or the services are insufficient.
- Moral hazard behavior and poor veterinary services cause many problems for insurance companies as it leads to high mortality rate and thus a high number of claims.

Chapter 6.2: Gaps in Distribution Features of Cattle Microinsurance

Section i: Awareness and Trust

The majority of the farmers that participated in the FGDs (for potential consumers) were not aware of cattle microinsurance. However, I found that there exists an interest among these farmers to learn more about the features and services of cattle microinsurance. Indeed, some of the farmers even became angry that they were never informed about cattle microinsurance. Just as Manjula, who was introduced in the introduction, there were other women who started crying when hearing about the possibilities of cattle microinsurance asking me: “Why didn’t anyone tell us? How come nobody provides us these services? Why are we being ignored by the whole world?”

Most of the farmers interested in cattle microinsurance have experienced a sudden death of their cattle and have felt the impact on their income and wellbeing. The farmers that are aware of the cattle microinsurance usually became known with the product through word-of-mouth. However,

even these farmers cannot clearly explain which risks are covered, how to submit claims and which insurance company provides the service. During the FGDs, the worst case I came across was a farmer who wasn't aware of the fact that he possessed cattle microinsurance. He applied for a loan one year ago to purchase a buffalo but he could only receive a loan that was bundled with cattle microinsurance. However, he didn't know what cattle microinsurance was and therefore perceived the premium as an additional cost to borrowing. I had to inform him of what cattle microinsurance entailed and explain the terms and conditions of the contract.

It became very clear that low-income households are not educated enough about cattle microinsurance, even if they possess the product. A couple of general aspects remained very ambiguous for almost all the farmers participating in FGDs. Some of the most frequent questions asked amongst the farmers were:

- ✓ Why do I need to insure my cattle if I am taking well care of them?
- ✓ How should I request for cattle microinsurance? Who should I talk to, what documents are needed, who provides the services?
- ✓ Why do I have to pay premium without receiving anything in return?
- ✓ Why can I only receive cattle microinsurance if I require a loan?
- ✓ Why don't I get money when I submit a claim?

Even though these questions are not difficult to answer, it appears that in general insurance companies and distributors are not involved enough with the farmers to provide these answers. The communication between the beneficiary and the agent and/or insurance company is extremely poor. Neither the agents nor the insurance companies explain the terms and conditions of the insurance policy coherently to the farmers. This creates a lot of confusion amongst farmers and a feeling as if they have been cheated by the insurance companies. For example, farmers often find it unfair that they pay premium each year even when no loss has been incurred. Other farmers genuinely do not understand why their submitted claim has not been settled and insurance companies often refuse to explain the reasoning behind it. This has a negative effect on the perception of the whole community as word-of-mouth is very strong in these well-knit villages.

One of the main reasons why involvement and communication is not improved is because especially public insurance companies experience cattle microinsurance as a hassle and see it as a loss-making product which the government obliges them to sell. They literally 'dump' the product in the rural areas, directly or through a MFI agent, and do not care about the profitability of the product as it is

already considered to be running at a loss. As cattle microinsurance is not the core business of MFIs, they are also not motivated to elaborately explain the product to the farmers. Private insurance companies who are experimenting with low-key cattle microinsurance pilots in small areas obviously have enough resources to create awareness and develop a mutual trust-level by answering farmers' questions. However, the moment that the insurance company wants to achieve scale, which is crucial for the success of the product, they lose the intimate relationship they have with the farmers. This doesn't only have a negative effect on the awareness of farmers concerning cattle micro insurance but it also affects the trust-level between farmers and insurance companies.

Trust is probably one of the most important factors in making cattle microinsurance a successful product at the BoP in rural India. Mainly due to the bad communication and low involvement of insurance companies, farmers have lost their trust in cattle microinsurance. But farmers also mistrust insurance companies because some have experienced for example that a legitimate claim has been rejected by an insurance company. One farmer expressed fumingly: "the insurance companies just take our money away!" As these farmers genuinely do not understand why their claims have not been settled, they didn't renew their cattle microinsurance policy.

However, the lack of trust is not one-sided because insurance companies also do not have faith in the farmers. The insurance companies often accuse farmers of submitting fraudulent claims as they can for example cut off the cattle's ear or kill the cattle deliberately in order to submit the ear as proof of death. Also, according to the insurance companies, the moral hazard behavior amongst farmers is very high. Farmers possessing cattle microinsurance often stop taking care of the cattle and do not vaccinate or de-worm the cattle as it takes too much time or it is too costly. These trust and moral hazard problems have a deteriorating effect on both the supply of and demand for cattle microinsurance. Therefore, it is evident that the distribution of cattle microinsurance has to be changed dramatically. Cattle-holders will easily cheat outsiders such as NGOs, MFIs or even local branches of insurance companies but they would never deceive their community. Even if, in the worst-case scenario, they would mislead their community-members, the village would punish the fraud so severely that he could even be excised. The importance of trust and involvement as well as the appropriate distribution channel will be discussed more elaborately in the next part, recommendations.



Section ii: Application Process

Farmers interested in possessing a cattle microinsurance policy, often do not have the knowledge of how to apply for the product. One potential cattle microinsurance consumer explained that he was very stimulated to acquire cattle microinsurance due to an information gathering of a local NGO. However, after this information gathering the NGO left the village and he had to figure out the application process on himself. This was quite difficult as the documents he received from the NGO were in Hindi and not in the local dialect, and therefore he didn't even know the next step he had to take.

If farmers do know how to apply for cattle microinsurance, they often discover that the application process is a relatively lengthy procedure (see figure 6.1 for a general description). Farmers become especially discouraged by the complicated process of collecting multiple documents from different sources. In order to apply for cattle microinsurance, farmers often have to schedule an appointment with the village head, a representative of the distribution agent and a veterinarian in order to get health certificates, valuation charts, photographs and ear-tag. Insurance companies require all three stakeholders to be present during the identification of the animal in order to reduce fraudulent behavior. This is also the reason why multiple documents are required to apply for cattle microinsurance and why the processing time is so long. However, insurance companies do not realize that it is very difficult for these low-income households in rural areas to gather all these people together. The farmers are also put off by the expenses sometimes involved in obtaining the application requirements. One farmer was shocked when he saw that he had to pay Rs. 50 for the application; not because he couldn't afford it but because "these insurance companies have so much money, and then they expect us to pay the application fees? Why?"

Figure 6.1

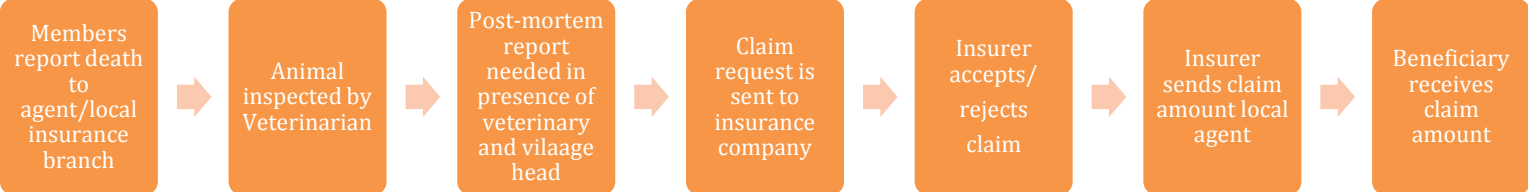


Section iii: Claim Settlement

The main reason why farmers do not re-new their cattle microinsurance policy is because they are very dissatisfied with the claim settlement process (see figure 6.2 for a general overview). In order for farmers to submit a claim, many proceedings must be taken which the farmer cannot handle himself. First, the agents often live considerably far away (especially MFIs and insurance branches),

making it very difficult for the farmer to report the death on time. Second, veterinarians are often unable to reach the village within 24 hours to establish the postmortem and thus animals are burnt or slaughtered before the required verifications can be made. Third, insurance companies often receive unfilled or misfiled claim requests as a high percentage of the farmers are illiterate. Occasionally it occurs that farmers are not aware of how to submit a claim and therefore these claims never reach the insurance company.

Figure 6.2



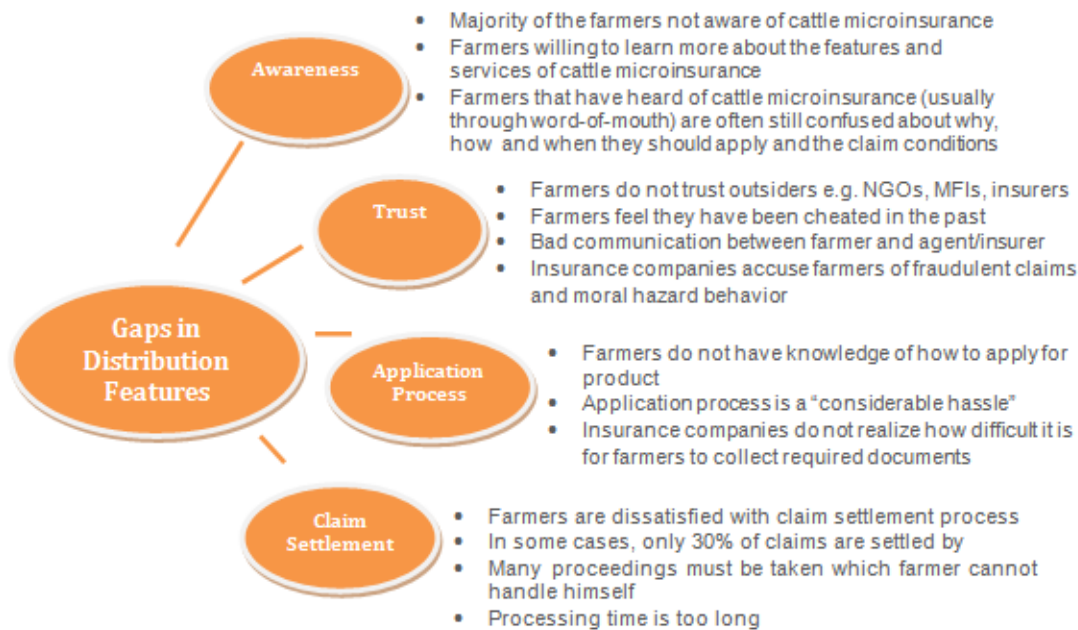
In some severe cases, only 30% of the claims are finally settled by the insurance companies.⁶⁰ IFFCO-Tokio elaborates: “The reason why this percentage is so low is because a majority of the claims we receive are fraudulent, incomplete, or misfiled. However, all the genuine claims are of course paid out completely.” The farmers don’t agree with this last statement; one farmer said: “ When my cow died, I filled out all the papers, reported the death to the agent and the cow was inspected by the veterinary doctor. However, I never received any money from the insurance company! Still today, I don’t know why!”

Most farmers also complain that the processing time of claims is too long; it may take more than one month. Farmers are unable to purchase new cattle in the mean time and therefore they still experience a considerable loss of income. The reasoning behind cattle microinsurance is that the welfare of farmers would not be negatively affected upon the death of its cattle. However, it seems that insurance companies cannot safeguard this goal. Insurance companies state that they need this time in order to take all the cautious measures to avoid settling fraudulent claims. In order to enhance the renewal rate of cattle microinsurance policies, it is clear that improvements have to be made in the current inefficiencies of claim settlement.

In the next part, solutions will be discussed which could close the gap between the supply of and demand for cattle microinsurance at the BoP in rural India. These solutions are primarily based on enhancing the trust-level between the insurance company and the beneficiary, decreasing the transaction costs and customizing the products to the needs of cattle-holders.

⁶⁰ In-depth interviews with Insurance companies

Chapter Review: Gaps in Distribution Features



Box 6: Summary of Part 6 – Gap Analysis

During the field study two different types of gaps in the cattle microinsurance market at the BoP in rural India have been found: product gaps and distribution gaps. Within the product features there are considerable gaps in the degree of customization, risk coverage, bundling possibilities and identification methods. Customization is one of the most fundamental gaps in the cattle microinsurance market; insurance companies provide standardized products to achieve economies of scale but farmers are only willing to pay a premium for cattle microinsurance if they gain real value from it and if it is adapted to their needs. However, there is inadequate effort amongst the insurance companies to understand the market better, improve product features and develop localized promotion strategies. Farmers also demand a broader risk coverage in terms of theft, permanent and temporary total disability and disease outbreaks and epidemics. Currently, 90% of the insurance products are credit-linked, however there is demand for more innovative bundled products such as cattle microinsurance in combination with motor cycle, tractor and fodder microinsurance.

Within the distribution of the product, gaps could be found in the awareness and knowledge of the product, the trust of the farmers in the distributor, as well the application and claim settlement processes. It has become clear that the identification method of cattle microinsurance (external ear tags) has to be improved as both insurers and beneficiaries are dissatisfied about this process. Finally, in order to decrease the disease and mortality rate of cattle, it is crucial that improvements are made in the risk-mitigation techniques. Often farmers are unaware of the risks their cattle face or unwilling to take the effort to vaccinate and deworm their cattle. However underutilization of risk-mitigation techniques is also caused by the poor governmental veterinary services. Concerning the gaps in the distribution features, awareness and trust are significant issues in the provision of cattle microinsurance. Cattle-holders are not aware of the cattle microinsurance possibilities, do not get educated enough about the terms and conditions of the contracts and even if they are informed some general aspects remain ambiguous. There is also a lack of mutual trust between the insurer and the beneficiary. Farmers have the feeling they are getting cheated by insurance companies due to poor communication and little understanding. Insurance companies accuse farmers however of fraudulent and moral hazard behavior. The application and claim settlement processes of the distribution channels are also very ineffective, causing low renewal rates amongst cattle microinsurance consumers. It has become evident that there are too many gaps in the product design and product distribution of cattle microinsurance for it to become a successful product in its current state. It is crucial that these

PART 7: Closing the Gap between Supply of and Demand for Cattle Microinsurance at the BoP in Rural India



“Cattle microinsurance: If not in India ... Where else?”

Based on the gap analysis performed in the previous part, different solutions have been considered to closing the gap between the supply of and demand for cattle microinsurance in rural India. These solutions are separated in distribution solutions and product development solutions.

Chapter 7.1: The Distribution Solutions

Section i. Introduction

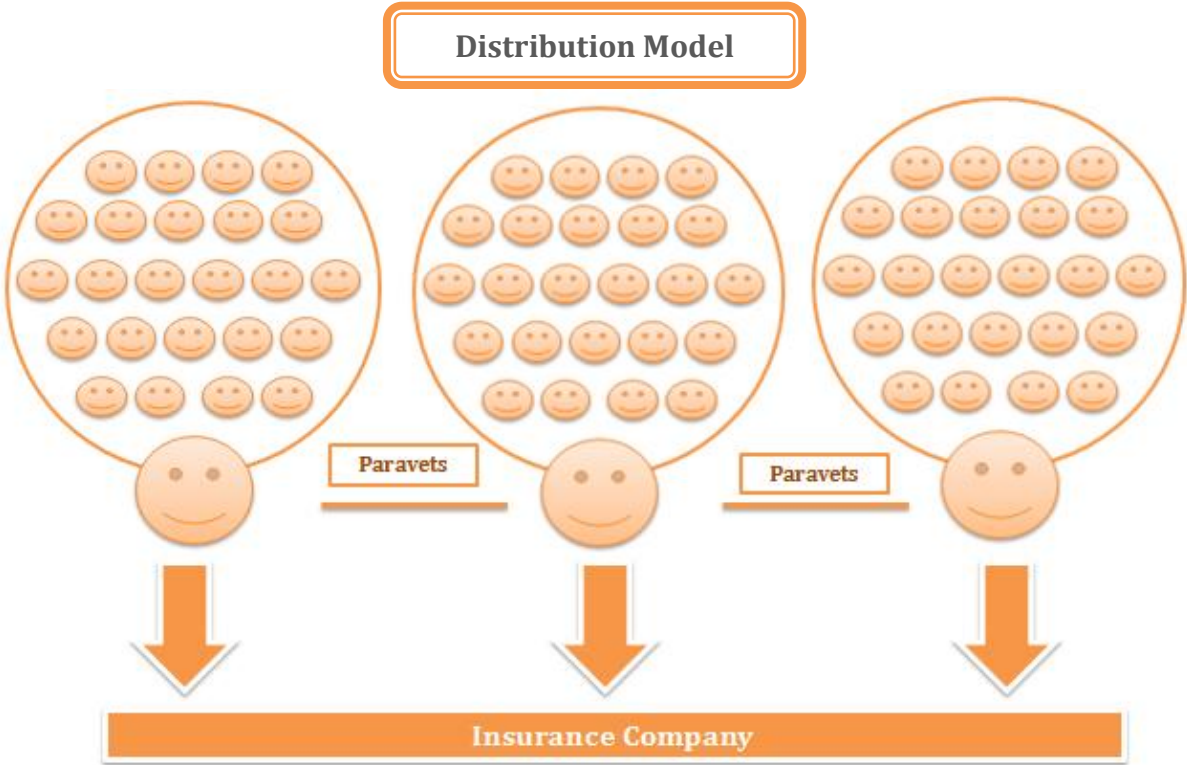
From the in-depth interviews with insurance companies, it has been discovered that the biggest gaps between supply and demand of cattle microinsurance in rural India are being caused by inefficient distribution channels. Like Brandon Mathews, head developing markets of Zurich Re, says: “The trickiest part isn’t figuring out what to sell, but rather connecting with consumers. “ As we have seen in the previous chapters, the direct-delivery model and the partner-agent model (with MFIs and NGOs as agents) are not reaching the consumers in an adequate or profitable way. Both ends of the supply chain, the consumers and the insurance companies, are not satisfied with the current distribution of cattle microinsurance. However, due to a lack of interest, consumer research and financial investments, little improvements and innovations are being made in the distribution of cattle microinsurance. This is surprising, as an efficient distribution system is fundamental for the success of the product. With the appropriate distribution channel, the total insurance uptake can be increased due to greater awareness and knowledge whereas the premium pricing can be reduced due to lower transaction costs, improved application and claim settlement processes and less fraud. As the most significant gaps found are linked to the distribution channel, and considering the importance of an efficient distribution model, I decided to primarily focus on formulating solutions in this field.

Learning from the case studies, in-depth interviews with insurance companies and FGDs with farmers, I have developed a new distribution model for cattle microinsurance in rural India. The innovative distribution model is a hybrid of the partner-agent model and the community-based model (see figure 7.1). It is strongly based on the Vizianagaram model, studied in case study 3 (appendix 2.1), as it has been found that this model has the most potential for the future. The product features were more suited to the local needs as the community was involved in developing the product. Also, the length of the application and claim settlement processes had declined by more than two weeks compared to other distribution models. Most importantly, the loss ratio had decreased to less than 40%, implying that fraud had declined significantly. Due to lower transaction costs, more transparent processes and less fraud, the premium pricing could decrease from 4% to 2% within one year (without any subsidies). However, the community was obviously very vulnerable to local shocks as one flood could wipe away all their premium savings. This makes the insurance model exposed to covariate risks and therefore economically unsustainable. As these models are not regulated by the government, community-based models cannot benefit from reinsurance or government schemes subsidizing the premium payments. Last, the management expertise within the community-based models is very limited, weakening the content of the insurance policies. In this model I attempt to extrapolate the benefits from the community-based models while strengthening their weaknesses by developing new features to overcome their challenges.

During the research process I have found three important conditions that have to be fulfilled in order to ensure a strong and sustainable distribution model that is attractive for both cattle-holders as well as insurance companies: simplicity, transparency and trust. In order to attract the attention of insurance companies, the distribution model has to be very simple and directly target a large amount of cattle-holders. Due to the skepticism of insurance companies concerning cattle microinsurance, it has to be a low-barrier model implying that it is easy to implement and involves relatively low investment costs. Second, the distribution model has to be transparent for both the insurer and the beneficiary. The profit margins are relatively small within the microinsurance field, so to make cattle microinsurance a profitable business, insurance companies have to decrease their transaction costs. By making the distribution process transparent, involving only a small number of stakeholders and providing the product directly to the beneficiaries, insurance companies can decrease their transaction costs considerably. Transparency is also important for the farmer, as he wants to know exactly where his money goes to, what is being done with the money and what he receives in return. For this reason, also education about cattle microinsurance is essential. A third condition for a strong and sustainable distribution model is a high level of trust between the beneficiary and insurer. Currently, there exists a lot of suspicion at both ends of the supply chain - insurance companies do

not believe farmers and farmers are wary of insurance companies. This mistrust leads to a lot of problems including little uptake, high premium prices and lengthy procedures. For this reason the innovative distribution model is based on groups or communities of farmers. Communities are highly-valued within the Indian culture. The communities are very highly-knit and so everyone knows each other, treats each other each with respect and trusts each other. An Indian man will cheat the insurance company to improve his family life but he will never deceive his community. Even if a man tries to cheat his community, community vigilance is so strong that the chance of being caught is considerably high. By targeting communities, insurance companies can expect less fraud and moral hazard problems due to the reasons stated above. Furthermore, beneficiaries trust their group head more than an outside representative of an insurance company, thus they are more willing to learn about the benefits of cattle microinsurance and the importance of risk mitigation techniques. In the next section I will describe how the innovative distribution model maximizes the transparency and trust-level between the insurer and beneficiary, which is necessary to enhance the supply of and demand for cattle microinsurance.

Figure 7.1



Section ii. Distribution Model

In the innovative distribution model for cattle microinsurance in India, communities are connected with insurance companies in order to maximize the transparency and trust-level between the two parties. It has been found that communities can be professional and capable enough to execute

insurance policies in terms of application and claim-settlement processes. Also there exists a high level of trust within these communities which lowers the fraudulent and moral-hazard behavior considerably. However, these communities do not have the expertise to develop the policies, nor the capacity to bear the risk. Therefore, in order to establish a successful cattle microinsurance policy, communities need insurance companies and insurance companies need communities. For this reason I propose that insurance companies sell cattle microinsurance as a group-policy to group heads which lead communities of cattle-holders. The group head is in charge for the internal processes (education, application and claim settlement processes and health-management of cattle) whereas the insurance company is responsible for the management of the policy (designing the policy, collecting premiums and paying out claims, and bearing the financial risk). In this section the different stakeholders within the model will be discussed as well as their role in distributing cattle microinsurance to cattle-holders.

a. Insurance Companies

The first and most important step in enhancing the supply of and demand for cattle microinsurance at the BoP in rural India is creating awareness and providing education. Insurance companies are responsible for educating the group heads of communities about the risks cattle face and the importance of cattle microinsurance. Further, insurance companies should teach them how to assess applications and settle claims as well as train them administration and book-keeping skills. This can be done at large district meetings, gathering group heads of different communities together. Educating the group heads of communities is the largest and probably most time-costly investment which insurance companies have to make. However it is also one of the most important investments as it creates awareness, understanding, efficiency and competence. Investing in education can reap off short-term and long-term benefits. By properly educating one group head, an insurance company can gain around 30-40 beneficiaries as the group head is responsible for a large pool of cattle-holders. In the future, group heads experienced in cattle microinsurance could perhaps teach other group heads the required skills and thus learning can occur amongst the SHG federations and milk unions themselves.

The second important task of insurance companies is to aid the group-head in developing a cattle microinsurance policy for their particular pool of members. By developing the cattle microinsurance policy together with the group-head, the policy is more in line with the needs of the cattle-holders in terms of annual premium, risks covered and bundling possibilities. Finally, insurance companies obviously carry the financial risk of the insurance policy and therefore also have the authority to accept or decline application forms and claim requests.

b. Group-Heads

The group heads play the most important role in this distribution model and their learning capacity, professionalism and discretion is essential for its success. The group heads are responsible for the cattle microinsurance of 30-40 people, depending on the type of community. The group heads have to educate their members about the different risks cattle face, the existing risk-management techniques, and the elements of cattle microinsurance. Second, the group heads are in charge of the application and claim settlement procedures for its group members. This includes the administration of all the application files and claim documents. Third, the group head is held responsible for scheduling appointments with the paravets on time for vaccinating and de-worming the insured cattle. If the paravet or insured does not participate in these compulsory risk-mitigation methods, the SHG or dairy co-operative head is obliged to inform the insurance company. In order to ensure that their professional knowledge is sufficient, they receive special insurance training from the insurance company after which they should pass the 25-hour IRDA exam. Especially at the beginning, insurance companies should stimulate different group heads within a village or district to come together to share experiences and discuss problems.

For a one-year functioning (application forms, regulating the vaccinations/de-worming, claim settlement) the group head receives around 7% of the total premium incurred. The income that the group heads receive for the time they spend on their responsibilities is assumed to be considerably higher than the opportunity cost of their time that they would dedicate to the next best thing. This assumption has been verified by different SHG groups and dairy co-operatives during the in-depth interviews. It is estimated that the group head receives an annual income of INR 1344 – INR 4032 whereas an average farmer at the BoP in rural India receives INR 20 per day (see appendix 4.1). This implies that the group head receives income for 67 – 200 days depending on the size and number of SHG groups. As the village head receives a percentage of the total premium incurred, he/she is encouraged to increase sales volume.

c. Farmer Groups in Villages

Insurance companies can distribute their microinsurance policies to different types of groups at the BoP in rural India. These groups can be formed deliberately for the distribution of this product by e.g. NGO's. However, insurance companies can also exploit the communities within the well-established SHG Federations and Dairy Co-operatives which are structurally organized and operationally sustainable. Working with these already developed communities in a type of partner-agent model, enables insurance companies to target many groups at a single time. This creates economies of scale and reduces their transaction costs, which is beneficial for their bottom line. Furthermore, the SHG

group heads and dairy co-operative heads are usually educated up to senior secondary level, implying that they are capable enough to execute their tasks concerning cattle microinsurance. In the following subsections, further explanation is given to why it could be very beneficial to distribute cattle microinsurance to communities within SHG federations and Dairy co-operatives.

Example 1: SHG Federations

According to an APMAS (2005) paper “ A SHG Federation is a democratic body formed with certain number of SHGs functioning in a specific geographical area with the objective of uniting such SHGs for common cause and for achieving these causes with an individual SHG would not be able to do.” SHG Federations have grown rapidly since the late 1990’s as they are being developed and promoted by the government and NGOs; currently there exist more than 69,000 SHG federations. SHG federations are increasingly being recognized by different institutes as legitimate bodies; as microinsurance agents by IRDA, as business facilitators by the Reserve Bank of India and as non-financial services deliverers by NABARD. However, Indian insurance companies are not yet using these federations on a big scale to distribute their microinsurance products. The main reason for this is that the growth in outreach, professionalism and sustainability of SHG federations is very recent and therefore insurance companies have not yet had time to react.

It could be very effective to supply cattle-microinsurance to SHG-groups as it became evident during the in-depth interviews that group members are professional and capable enough to co-operate with banks, insurance companies and government institutions as well as implement high-impact, complex programs. Furthermore, SHG groups are very reliable; it is generally observed that more than 90% of the external borrowings are being repaid by SHG groups.⁶¹ Also, studies found that people belonging to SHG groups save more money and are more likely to take an insurance cover. Finally, the Operational Self-Sustainability⁶³ (OSS) and Financially Self-Sustainability (FSS) figures, measured by the APMAS, are promising. The OSS of SHG federations is at 138%, indicating that the performance is very good and reaching operational sustainability. Even though the financial SHG federations are slowly reaching financial sustainability as well, the average FSS of all the SHG federations remains relatively lower at 78%. It is also important to note that insurance companies can reach a great number of farmers through SHG federations; the size of SHG federations varies on average from around 50 SHGs to 1500 SHGs. The members of SHG groups are women, which is appropriate for cattle microinsurance as cattle are the traditional responsibility of women. A last noteworthy reason why I believe insurance companies should target SHG groups is because they often offer non-

⁶¹ APMAS

⁶³ “income covers all the operational expenses, loan loss provisions and financial costs” APMAS

financial services. During the in-depth interviews, it became clear that most federations participate in several governmental welfare and developmental activities, providing education, health and livelihood services to its members. It is important for insurance companies that its consumers are well-educated (to understand the product) and in good-health (to lower the default rates). Further, veterinary care can be provided through the livelihood services, improving the health of the cattle.

Example 2: Dairy Co-operatives

To understand the power of milk unions in India, Operation Flood has to be explained. Operation Flood, launched in 1970, is one of the largest rural development programs of India. Its objective was to create a nationwide milk grid; a three-tier structure including milk producers' co-operative societies at the village-level, district-level and state-level. It is also called the White Revolution of India, as it resulted in making India the largest milk producer worldwide. In total there are around 13,4 million farmer members organized into 103,281 dairy co-operatives at village level which have been systematized in 177 milk unions and 17 state federations.



Dairy co-operatives are based on small groups of farmers in a village who sell their milk collectively. These groups of milk producers are comparable to SHGs, in which the people know each other very well, trust each other and depend on each other. For this reason, insurance companies could also target the groups within dairy co-operatives. An important benefit of targeting groups within dairy co-operatives is that the insurance company can expect a low number of adversely selected portfolios. It is important for the cattle to be in a healthy state as each farmer is paid on the basis of the quality of its milk, by testing the fat percentage. Similar to SHG federations, dairy co-operatives also provide farmers with services such as cattle feed, artificial insemination and veterinary care. Dairy co-operatives implement these risk reduction strategies even better than SHG federations as they directly benefit from healthy, productive cattle. Thus, insurance companies can expect a lower number of claims from beneficiaries linked to dairy co-operatives. Last, dairy co-operatives are trying to increase the productivity of dairy animals by promoting cross-breeds to farmers. As a positive correlation has been found between owning a cross-breed and possessing a cattle microinsurance

policy, it could be another interesting reason for insurance companies to link with groups within dairy co-operatives.

d. Paravets

Since a couple of years the state governments have initiated schemes to stimulate paraveterinarian services in communities. Paravets are similar to community health workers but focus on animals instead of people. These community workers typically have an entrepreneurial spirit, are highly motivated and willing to learn. They are animal-loving and willing to improve the livestock welfare in their community. They receive practical training to be able to give medicine, vaccinations and de-worming sessions to the cattle as well as advice on risk-mitigation techniques to the farmers. Since beginning this year, paravets are also allowed to promote cattle microinsurance, implement ear-tags and issue health certifications, animal valuations and post-mortem reports. Depending on the size of the village and the number of livestock, the number of paravets is established. The applicants should be between 18 and 45 years old, live in or near the village, be in good health and be literate.



As mentioned in chapter eight, rural farmers often have no access to veterinary services and governmental vaccine campaigns are often not executed properly. This was one of the reasons why insurance companies were hesitant to provide cattle microinsurance to the BoP in rural India. However, with the introduction of paravets risk-reduction measures can be executed at the BoP in rural India. This would improve the welfare of livestock and therefore benefit farmers as well as insurance companies. Insurance companies can further benefit from the paravets as they are able to promote cattle microinsurance to the farmers. This would increase the uptake of cattle microinsurance and finally lead to economies of scale. However, as paravets are only allowed to work for insurance companies since beginning this year, the current insurers in India have not yet made optimal use of this channel.

In our distribution model the paravet has a very strong relationship with the SHG/Dairy co-op head; these two entrepreneurs of the village collaborate extensively in order to provide high-quality services to the insured. The paravet is in charge for issuing the animal valuation document and health

certificate at registration and inserting the RFID tag in the cattle’s ear. Furthermore, in case of death the paravet is responsible for issuing the post-mortem report. The paravet is also in charge of providing the compulsory risk-reduction measures to the cattle (see chapter 7.2, section iv) and reporting any spreading diseases to the insurance company.

The paravet gets paid a substantial fixed amount from the insurance company per insured cattle for issuing the complete administration dossier, performing the risk-reduction package and an eventual post-mortem file. In a number of villages, the vaccinations and de-worming sessions are subsidized by the state government. For this reason, insurance companies do not have to pay for these risk-mitigation measures in these villages. If an animal is in need for veterinary drugs or health check-ups, the farmer can directly contact the paravet or the SHG head. The farmer has to pay a certain amount to the paravet for these drugs, however it is considerably less than if he/she is not insured.

Section iii: Processes within the Distribution Channel

a. Application

The group head forms an insurance pool of a couple of smaller SHG groups or dairy co-operatives groups. He/she arranges, assembles and reviews all the required documents of all the beneficiaries and together with a paravet issues the health certificate and makes some photographs of the cattle. Then, the files are sent to the insurance company. If the request for cattle microinsurance is accepted, the group head schedules an appointment with the farmer and the paravet to insert the RFID tag into the cattle’s ear and collect the premiums. Once the premium payments have been collected, the pooled premium amount is sent to the insurance company by bank draft or a representative of the insurance company can pick up the money.

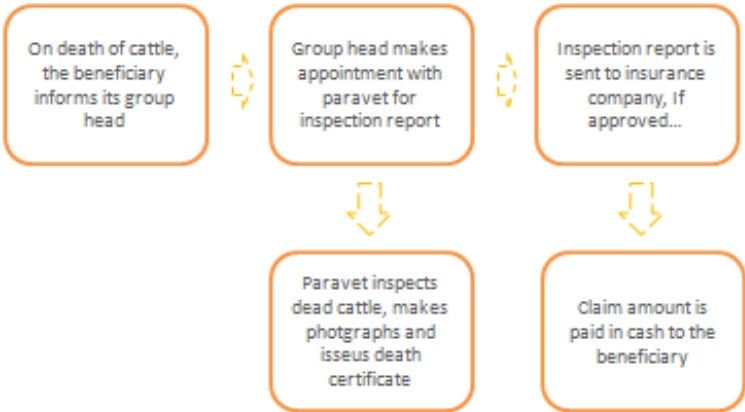


By making the group head responsible for filling-out the documents and scheduling an appointment with the paravet, the hassle for the farmers to apply for cattle microinsurance is reduced

considerably. Another advantage of this procedure is that the probability of insurance companies receiving incorrect or unfilled documents is much lower as group heads are literate and trained. These two advantages could lead to an improvement of the application processing time in comparison to the current distribution models.

b. Claim Settlement

On death of cattle, the beneficiary informs its group head. The group head schedules an appointment with the paravet and within 24 hours he/she inspects the dead cattle and issues a death certificate. This inspection report is sent to the insurance company. If accepted, the claim amount is sent by bank draft to the group head which can pay-out the claim in cash to the beneficiary. Another possibility is that a representative of the insurance company pays out the claim directly to the beneficiary. Due to the higher level of transparency and trust within this model, insurance companies should be able to promise farmers that they receive their money within 10 days. During the field studies it has been noticed that farmers find it extremely important to receive their claimed money as soon as possible as they often need it to survive. If it takes more than 14 days, they are very dissatisfied and they often stated that they would not renew their insurance policy.



Section iv: Generating Awareness & Trust within the Distribution Channel

In the gap analysis it has been found that the awareness of cattle microinsurance amongst the farmers at the BoP is one of the greatest missing links. With this distribution model, members of for example SHG federations and dairy co-operatives become educated by their group heads. As the group heads are people of their own community, there is a mutual understanding. This is very important in India, as communities have different values, problems and challenges. Also, group heads live in the village so they are always available for questions and concerns, unlike MFIs or NGOs which stay for a day and then move on to the next village.

Recent studies undertaken by the Centre for Microfinance in Chennai show that a households' willingness to re-new its insurance policy depends predominantly on trust.⁶⁴ By distributing cattle microinsurance through group heads within a community, the trust in the product is expected to be very strong. As described before, the communities are highly-valued in India and during the FGDs it has been found that farmers trust their village heads and paravets/veterinarians more than any other MFI, NGO, governmental institution or corporation. Due to the greater awareness of the risks, better understanding of the product and enhanced trust in the insurance company, it is plausible that the uptake of cattle microinsurance will be greater with this distribution model.

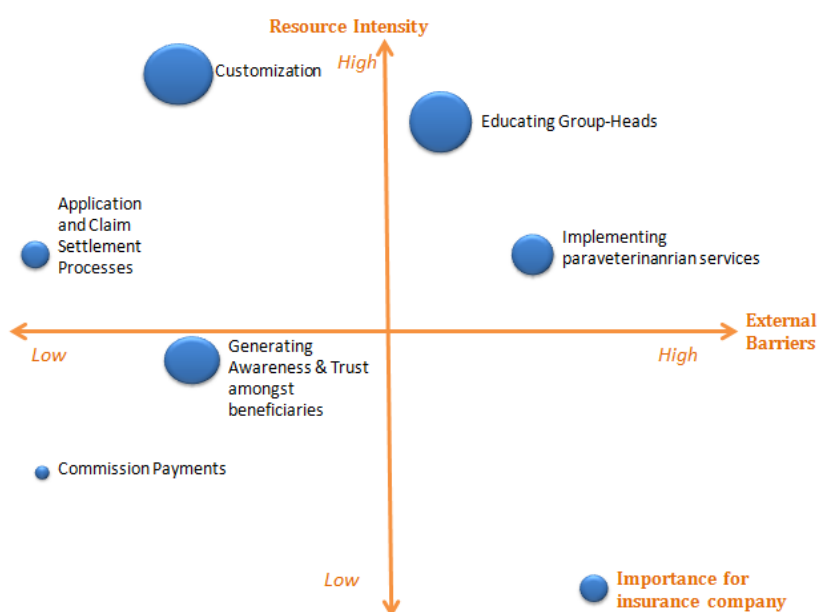
Section v. Customization

In this study I have found that rigid, standardized products with little flexibility cannot successfully penetrate the rural market in India. Needs are location-specific as they are influenced by agro-climatic conditions, income per capita and the risks faced by cattle. Therefore, once the distribution channel is well-established, insurance companies should customize the cattle microinsurance policy together with the group-heads in order to serve the different needs of the cattle-holders. Group heads understand their members very well and are aware of their literacy level and general insurance knowledge. Further, they understand which product features are relevant for their group members. This holistic comprehension of group heads increases the responsiveness of farmers to cattle microinsurance. This will help insurance companies achieve scale in this potentially large but untapped market. According to the CIRM, the customization of the product is not too expensive as the benefits derived from it will definitely outgrow its costs.

Concerning the product features, the annual premium, risk coverage and bundling possibilities should be customized to the location. The premium should not only be based on the type of cattle (breed, age, health) but also on the type of community (e.g. high % theft), the climate (e.g. high % floods/draughts) and the location (e.g. close to roads) of that village. The risk coverage and bundling should be based on the needs of the farmers in order to make it a high-value, relevant product for which the farmers are willing to pay for. These specific product features will be discussed in more depth in the next chapter. The distribution channel should also be chosen depending on the location; from the in-depth interviews it became clear that communities within SHG Federations are more effective in Southern India and communities within dairy co-operatives function better in Northern India. In the next chapter the different product features which should be customized more extensively to the needs of the cattle-holders at the BoP in rural India are described in more detail.

⁶⁴ Hill R.V. & Torero M. (2009)

Chapter Review: The Distribution Model



This matrix pictures the resource intensity, the external barriers faced and the importance of various recommended distribution features. The resource intensity implies the time-consumption and capital required whereas the external barriers include infrastructure, government regulations and third parties required. The first step that has to be taken and the one of the most important factor for gaining financial growth in the cattle microinsurance business, is educating group-heads of e.g. SHG Federations and Dairy Co-operatives. However, insurance companies have to dedicate a lot of time and capital into selecting, educating and training these group heads. The development costs have to be borne by the insurance company and the insurance company should take into consideration that this step takes a relatively long time.

These group heads are crucial in closing the gap between the demand for and supply of cattle microinsurance. In this distribution model, they are responsible for generating trust and awareness in cattle microinsurance amongst their members. Insurance companies cannot achieve this as there is a lack of mutual understanding and trust between the insurer and beneficiary. Therefore the generation of awareness and trust should not be resource-intensive for the insurance companies. It can only be impeded by external factors if group heads don't put enough effort into it, but this seems relatively unlikely as they receive a percentage of the premium incurred, As the group heads understand the needs of their members very well, they should help insurers customize the cattle microinsurance policy to the needs of the cattle-holders within their community. Customization is necessary to stimulate the demand for cattle microinsurance. However, it is relatively resource-intensive process to translate the valuable information gained from group-heads into a sustainable and profitable cattle microinsurance policy. Therefore, insurance companies should customize the cattle microinsurance products when the distribution channels are well in place and there is a better understanding of the needs at the BoP in rural India.

The paraveterinarian services in villages are crucial for implementing risk-mitigation measures, reducing application and claim settlement processes and improving the health of cattle. However, to execute these services, insurance companies are very dependent on the (state) government regulations and training institutes for paravets. Even though the current regulations are stimulating the growth of paravets, improvements have to be made in the number of training facilities in order to make these services available nationwide. Insurance companies should keep in mind that even though group heads and paravets are important for the business model, their sustainability is not guaranteed. Group heads and paravets are local entrepreneurs thus there are risks concerning their behavior and/or willingness to function. However, these people can be replaced relatively easily by other community-members.

A more internal aspect of the distribution model is the application and claim settlement processes. As most of the aspects are being executed by group-heads, insurance companies actually only have a "monitoring" role. At the beginning, insurance companies might still want and have to invest some time in monitoring the group heads closely and examining the application and post-mortem forms strictly. However, we expect that in the long-run this behavior will decrease and become less time-consuming. Last, commission payments are important stimulants for group heads and paravets to make cattle microinsurance a profitable business. These payments should not be seen as resource-intensive as it is only a relatively small percentage of the premium payments. It also helps that government regulations are already in place concerning commission payments and are not straining these recommendations.

In conclusion, we can find that most of our recommendations are resource-intensive in terms of time-consumption and capital required. However, all these recommendations contribute significantly to the potential financial growth of insurance companies in the cattle microinsurance business. Further, it is important to note that these distribution features are in general scalable and sustainable, which are two important factors to consider when implementing an innovative distribution channel.

Section i. Risk Coverage

Currently, insurance companies solely cover the death of cattle as these events happen with a relatively low frequency (compared to other risks) and are comparatively easily insurable. However, amongst the cattle-holders there exists a strong need for a complete cattle microinsurance product which covers more than only the death of cattle. Insurance companies should aim to expand their risk cover by customizing the product to suit the various requirements. Farmers are willing to pay for insurance if it has a high-value for them and therefore the product should be relevant. Most importantly, the product should cover disease outbreaks and epidemics which cannot be prevented by the compulsory vaccinations (see chapter 7.2, section iv). This would encourage farmers to report disease outbreaks at the earliest which would consequentially reduce the mortality rate. This would have a good impact on both the insurance company as well as the farmer.

Further, the permanent total disability should be communicated and marketed to the farmers. Farmers find it very important that the permanent total disability is included in the insurance policy because if the cow or buffalo cannot milk anymore, it might as well be dead for the farmer. Especially in villages close to the roads where the danger of accidents is very high, permanent total disability is a pertinent risk. Insurance companies should also make it possible to insure the cattle against theft, as in some villages the concern for theft is very high. Currently, insurance companies do not supply cattle microinsurance against theft because the risk of fraud is too high. However, with RFID tagging insurance companies can counter the problem of fraud and it becomes interesting to include the theft cover supplement in the cattle microinsurance policy. This would increase the relevance of the product for a substantial amount of farmers.

In the future, insurance companies should consider implementing an index-based cattle microinsurance product to protect farmers against climatic stress. Research has shown that there is a negative correlation between the temperature/relative humidity and the stress levels/productivity of milch cattle and buffaloes. An insurance product making use of the temperature humidity index (THI) could protect cattle-holders against the risk of reduced milk production due to extremely hot or humid weather conditions. If the temperature humidity index (THI) reaches a certain threshold value, which leads to a drastic decline in the productivity of the cattle, the farmer will be correspondingly compensated. However, more research should be done to these index-based products as currently index-based crop microinsurance products are still facing many obstacles. The BoP market is reacting very hesitant to index-based microinsurance as it is very difficult to understand due to its intangibility and a lot of trust is required. Therefore, we believe that low-income households at the BoP should

first fully be aware of and have experience with 'traditional' microinsurance products, before index-based products can be introduced in the market.

Section ii. Bundling

The productivity of cattle greatly depends on the feed, nutrition and care provided to them. The feeding practice for Indian cattle is primarily driven by farm by-products such as oil cakes, maize and cereal. The fodder contributes up to 60% of the cattle's feed pattern. This entails that for many farmers at the BoP, the amount and quality of available fodder is a great concern because it impacts the productivity of the cattle extensively. A study has been done to the purchase details of fodder during normal and drought years. This study has shown that farmers purchased significantly more fodder in drought years as their own crops were damaged, even though the price of fodder crops had increased by 30-100%. Because of the increase in prices of cattle fodder, many farmers reduced the amount of feed that is fed to the cattle. In turn, the health of animal was affected and the quality and quantity of milk produced was severely impacted. Rathore (2004) reported that 25-50% of the cattle starved to death during the 2003 drought in Rajasthan as farmers abandoned their cows or put them in charity centers due to acute shortage of fodder and finances.

Usually cattle-holders are not interested in crop insurance as it is too expensive and it covers a lot of crops which they do not own. However, many cattle-holders did show a great interest in insuring the fodder crop as they are very concerned about the possible damage and/or price increase of the crop. Therefore bundling cattle microinsurance with the fodder insurance, would respond greatly to the needs of the cattle-holders at the BoP in rural India. The premium price of the bundled product would be relatively lower as the transaction costs of insurance companies would be considerably lower. Bundling products is an effective strategy for insurance companies to improve the ratio risk premium to the transaction costs, which has proven to be a problem in the cattle microinsurance field. By bundling diverse types of products, the covariant risk could also be considerably reduced. For these reasons, it could be effective for insurance companies to consider bundling cattle microinsurance with other products other than loans (which have several disadvantages). For example, cattle microinsurance could also be bundled with motorcycle or tractor microinsurance policies. 90% of the motor cycles and tractors are not insured in the rural areas of India. This could be another untapped market to look further into.

Section iii. RFID-Technology

Another important obstacle found in the conventional cattle microinsurance was the fraud-sensitivity in cattle identification during claim settlement. The usage of Radio Frequency Identification Device (RFID) could help to overcome this problem. RFID tags are uniquely coded and are implemented inside the ear of cow or buffalo. Cattle can be recognized faster and error-free by the electronic

reading of their tag numbers. Furthermore, information on the details of the cattle (e.g. vaccinations, de-worming, healthcare, breeding, feeding) can be stored on the RFID tag. This data can not only be used for detecting fraudulent and moral hazard behavior in the case of claim settlement, but also for the greater good. If sufficient data is generated and recorded through RFID technology, it will become easier to value cattle, improve breeding and track diseases.



To give insurance companies an idea of the costs related to implementing a RFID-system for cattle microinsurance, Samad, Murdeshwar, Hameed (2010) made an approximation for 5000 cattle (see table 7.4). In this table it is evident that the investment cost would be recovered even if only 0.6% of the fraudulent claims can be prevented. The insurance companies using RFID technology in India (TATA-AIG, HDFC-ERGO) are very satisfied about the RFID tagging system and according to them the loss ratio and transaction costs have reduced dramatically.⁶⁵ In the second case study, it has been found that farmers also perceived the RFID-tagging system positively; they found the application and claim settlement processes to be more transparent and faster.

Table 7.4

Item	Investment Cost (US \$)		
	Unit Cost	Units	Cost-Benefit
FID ear tag with visual duplicate tag	1,03	5000	5150
RFID reader with interface to mini-laptop	40	5	200
Mini-laptop for veterinary health worker	270	5	1350
Local server along with web-server space	600	One	600
Software for mini-laptop and data server	-	-	7100
Internet Connectivity to all VHWs	100	5	500
Total			14,900

Section iv. Mandatory Risk-Management Package

During the field study it has been discovered that a majority of the cattle are not de-wormed or vaccinated regularly, because farmers did not find it necessary or it was considered to be too big of a hassle. This number was even greater amongst the insured cattle, as the beneficiary receives money

⁶⁵ In-depth interviews

upon their death. In order to solve this moral hazard issue, I would recommend insurance companies to make vaccinations and de-worming sessions compulsory.

Within our innovative distribution model, compulsory vaccinations and de-worming sessions can be introduced relatively easy. The group head is responsible for checking when the insured cattle of one of its group members should be vaccinated or de-wormed. Then, he/she makes an appointment with the farmer and the paravet for the vaccination or de-worming to take place. Due to RFID-tagging, the insurance company can always check if the accurate number of vaccinations and de-worming sessions has taken place. If this is not the case, the group head may get severely punished or even fired.

Introducing compulsory vaccinations and de-worming sessions have several benefits for both the insurance companies and the farmers. First, these preventative health care measures lead to a lower mortality rate of cattle and therefore the loss ratio is expected to decrease as well. This is very valuable for insurance companies as one of the main reasons a lot of insurance companies are not expanding the cattle microinsurance market is due to the high loss ratio. As lower loss ratio leads to greater profit margins for insurance companies which gives them more flexibility. If insurance companies decide to lower their premium prices, the insurance product is more attractive for cattle-holders and could increase the overall uptake of cattle microinsurance. As the group head is responsible for scheduling the appointment with the paravet, cattle-holders will most likely not view the vaccinations and de-worming sessions as a hassle anymore. Cattle-holders which are aware of the risks faced by cattle and the importance of preventive health measures, may even view this mandatory risk-management package as an additional, value-adding service. This could make the product more attractive to cattle-holders and thus enhance the overall uptake of cattle microinsurance.

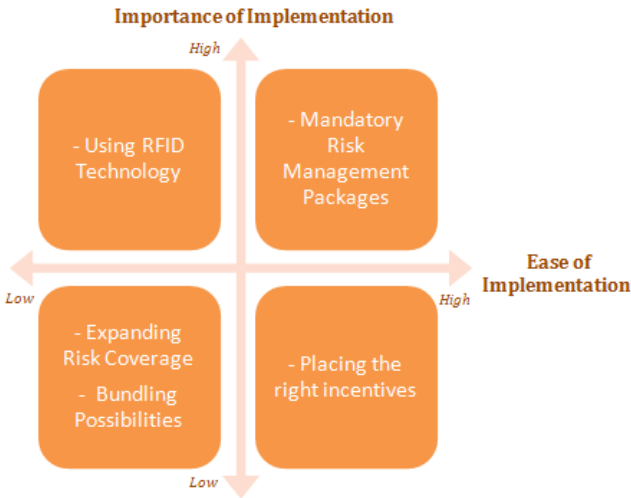
Section v. Incentives

Even though almost all the cattle microinsurance policies include punishments (to counter fraud), none of the policies include incentive features. During the FGDs, it has been noticed that Indians are very sensitive to incentives. Financial and non-financial incentives could reduce the level of moral hazard and number of fraudulent claims considerably. Positive stimulation appears to be very effective as Indians value 'rewards' highly. The insured could for example be stimulated to renew their insurance policy by offering a discount in the second year if the farmer did not submit a claim request in the first year.

Especially the group heads should be incentivized appropriately to sell cattle microinsurance to their members, properly monitor the behavior of the beneficiaries, and act correctly. For this reason, if the loss ratio is below a certain level, say 45%, the village head receives a (non-) financial reward from the insurance company. For example, the insurance company could organize a conference for those village heads with the best performance. This could reduce fraudulent claims and moral hazard issues.

Based on the solutions discussed in this part, recommendations for insurance companies and the Indian government will be formulated in the next two parts of the research study. Even though all the solutions should be considered carefully by insurance companies, I will discuss which innovative distribution and product development features have precedence for penetrating the cattle microinsurance market at the BoP in rural India.

Chapter Review: Product Development Solutions



From this matrix we can derive the importance and ease of implementation of the different product features. First, it is essential for insurance companies to use RFID technology and implement mandatory risk management packages in order to decrease the fraudulent and moral hazard behavior of beneficiaries. This would decrease the mortality rate of cattle and therefore increase the profitability of cattle microinsurance. As paravets already possess the vaccinations and equipment for deworming, the only requirement for implementing the risk management packages successfully is a healthy relationship between the group heads, paravets and insurance companies. However, paravets need to be trained to use the RFID technology efficiently, thus it is relatively difficult and costly for insurance companies to implement this product feature at the BoP in rural India. However, as we have seen in this chapter, the benefits largely outgrow the costs.

Relatively less important in the first stage of the product and distribution development of cattle microinsurance is the placement of incentives, expanding the risk coverage to protect farmers against climatic stress and implementing bundling possibilities. However, this does not imply that they do not contribute significantly to the potential financial growth of insurance companies in the cattle microinsurance field. Placing the right incentives is relatively easy to implement as it concerns solely a small proportion of the total premium received. However it is not necessary that it is implemented immediately as it is just useful to stimulate group heads and paravets. Expanding the risk coverage and bundling possibilities of cattle microinsurance is an important future step as it makes the product even more relevant for farmers. For example, insurance companies should consider implementing an index-based cattle microinsurance product to protect farmers against climatic risks. Insurance companies should also research the possibilities of bundling cattle microinsurance with, for example, fodder microinsurance. As these are innovative concepts in the cattle microinsurance field, more research should be done to these types of products before they can be implemented at the BoP in rural India. As conclusion, we can derive from this matrix that even though only

the most important solutions are highlighted in this chapter, a division can still be made in priority of product features. Insurance companies should begin with using RFID technology and implementing mandatory risk-management packages when penetrating the cattle microinsurance market at the BoP in rural India as these product features are crucial for the sustainability and profitability of cattle microinsurance.

Box 7: Summary of Part 7 – Solutions to closing the gap between the supply of and demand for cattle microinsurance at the BoP in rural India.

The solutions for cattle microinsurance at the BoP in rural India are based on the gap analysis performed in part 6. The primary focus of the solutions is on the distribution model; an efficient distribution channel is crucial for the growth of cattle microinsurance and the most significant gaps found are linked to this aspect. An innovative distribution model has been developed which links insurance companies directly to communities within well-established and operationally sustainable organizations such as SHG Federations and Dairy Co-operatives. Insurance companies are responsible for educating the group-heads, developing the microinsurance policy together with the group-head and carrying the financial risk. Group heads of communities are in charge of educating the farmers, leading the application and claim settlement procedures and scheduling appointments with paravets for risk-mitigation measures. Paravets act as a link between the group head and the beneficiaries, supplying all the necessary health, valuation and ear-tagging services. Due to the localized efforts of group heads and paravets, awareness of cattle microinsurance and trust in the insurance companies should be enhanced. Further, due to the high level of trust and social monitoring within the highly-knit communities, fraudulent and moral hazard behavior is expected to decrease. As the application and claim settlement processes are internalized within communities, these processes are expected to become more efficient for cattle-holders and less costly for insurance companies. Finally, it is important for insurance companies, together with the group-heads, to customize the cattle-microinsurance policy to the needs of the cattle-holders as these are very location-specific. In particular, insurers should adapt the annual premium, risk coverage and bundling possibilities to the different needs of the target population. This would enhance the value of cattle microinsurance for the cattle-holders and therefore the willingness to pay would increase. Depending on the community, insurance companies should aim to expand the risk cover to theft, temporary and permanent total disability and/or diseases and outbreaks. There also exists a big gap in bundling cattle microinsurance products with other products such as fodder microinsurance; fodder is vital for the productivity of cattle and therefore the amount and quality of it is a great concern for Indian farmers.

Several other solutions have been formed for the product features of cattle microinsurance. As fraudulent behavior and moral hazard are the two biggest problems which insurance companies face at the BoP in rural India, it is very important that they use RFID-technology and introduce mandatory risk-management packages. RFID ear tags decrease the fraud-sensitivity of cattle identification during claim settlement and obligatory vaccinations and de-worming sessions lead to a lower mortality and disease rate of cattle. Last, (non-)financial incentives should be included in the cattle microinsurance policy as it could motivate farmers to act appropriately and stimulate SHG/dairy co-operative heads to better monitor its members and sell more policies. Based on these distribution and product development solutions, recommendations are formulated for insurance companies and government in the next two parts of the research.

PART 8: Recommendations for Insurance Companies



The opportunities for cattle microinsurance at the Base of the Pyramid in rural India

In this part recommendations are given for Indian and multinational insurance companies who have penetrated or are interested in penetrating the cattle microinsurance market at the BoP in rural India.

Section i: Recommendations

If insurance companies want to enter the cattle microinsurance market at the BoP in rural India, their primary focus should be on creating a sustainable and scalable distribution channel which is transparent and trustworthy. Distribution is a critical driver of new business and vital to the growth and competitive advantage of an insurance company. I would recommend the innovative distribution model that has specifically been developed for cattle microinsurance at the BoP in rural India, described in part 6. In order to implement this distribution model, insurance companies will need to adopt a new mindset that sees distribution as a profit center instead of a cost center. In this way the distribution model could act as the lynchpin of success as it differentiates itself from the traditional distribution models in four different ways: 1) insurance companies are directly connected to group heads which manage large pools of cattle-holders 2) customization of the cattle microinsurance policy to the local needs of cattle holders 3) the application and claim-settlement processes are internalized within the communities 4) extensive usage of paraveterinarians.

Within this distribution model I would strongly recommend insurance companies to introduce the RFID-tagging and obligatory risk-management packages as discussed in part six. This could reduce the fraudulent and moral hazard behavior considerably which are insurance companies' biggest concerns when entering the cattle microinsurance market at the BoP in rural India as they lead to soaring loss

ratios. By combining these two product features with the innovative distribution model, insurance companies can exploit several value drivers:

- 1) Transaction costs are decreased due to:
 - Direct link between insurer and group head
 - Group-policy instead of individual policy
 - Internalization of application and claim-settlement processes within community
- 2) Fraudulent and moral hazard behavior are decreased due to:
 - High level of trust and social-monitoring within communities
 - RFID technology
 - Mandatory risk management packages
- 3) Loss ratio is decreased due to:
 - Better healthcare due to extensive usage of paravets
 - Lower fraudulent and moral hazard behavior

As these recommendations would diminish the gap between the supply of and demand for cattle microinsurance at the BoP in rural India, the uptake is expected to increase considerably. Once insurance companies have developed a well-established distribution channel, in which group-heads have the skills to manage application and claim settlement processes, paravets are trained to provide the relevant health-care services and cattle-holders are well aware of cattle microinsurance, insurance companies should consider customizing the cattle microinsurance policies even more to the needs of the cattle-holders. By adapting the product together with the group-heads of communities, insurance companies could effectively serve the actual needs of the cattle-holders. Insurance companies should especially consider expanding their risk-coverage to permanent total disability and bundling cattle microinsurance with fodder microinsurance. By closing the gap between the demand for and supply of cattle microinsurance at the BoP in rural India even further, insurance companies can expect to reach even more scale which is one of their key goals in the microinsurance market. Seeing as the annual cattle microinsurance market is estimated to be worth €300 - €400 million and is expected to grow in the upcoming years, I recommend insurance companies to invest in cattle microinsurance NOW. Not only because it could be a profitable business model for insurance companies if implemented appropriately but also because cattle-holders at the BoP in rural India need microinsurance to secure them against the high financial and income risks.

Section ii: Challenges

There are some challenges linked to these recommendations. First, it is essential that insurance companies adapt to the Indian mentality and culture to make the recommendations viable. Indeed, Prahalad and Lieberthal (1998) state that multinational companies should move beyond the 'imperialist mindset' that developing markets are evolving in a similar manner as a Western-style economy and that everyone desires to look, behave and act like Westerners. The BoP in rural India is not the new market place for old insurance products; adaptation, decentralization and innovation are required to gain market share in the cattle microinsurance field.

Second, most of these recommendations are very time-consuming to implement. Especially implementing the innovative distribution channel and customizing the products to the local needs of the farmers are long-lasting processes. However, it has been argued in this paper that both of these recommendations are essential for gaining financial growth in the microinsurance sector in rural India. For this reason, insurance companies should have a longer-term perspective when penetrating the cattle microinsurance sector. Overall, implementing the recommendations at the BoP in rural India is very capital-intensive but I believe that the benefits will outgrow the costs. Even though accurate cost-benefit or return on investment calculations have not been made, I have come to this conclusion considering the growth of the Indian population and economy, the increasing importance of the dairy market and the pertinent risks faced by low-income households. The future of the cattle microinsurance market is expected to be prosperous. For this reason, capital and time-intensive investments should be made now in order to benefit from the anticipated growth in the future.

It should also be taken into consideration that even though the community-based structure of the distribution recommendations have considerable advantages, there are also some drawbacks. One negative experience with an insurance company, group head or paravet in a small well-knit community could have a long-lasting effect on the trust of clients in insurance services. Second, insurance companies should consider that unfortunately the risks of fraud have not disappeared with the innovative distribution model. Insurance companies should remain attentive that group-heads and paravets do not deceive them. For this reason, social-control is essential in making the distribution model sustainable.

Mart Consultancy and BoP Innovation Center strongly believe in the recommendations given. However, if insurance companies want to implement the recommendations at the BoP in rural India, more research should be done to some of the product or distribution features such as bundling cattle

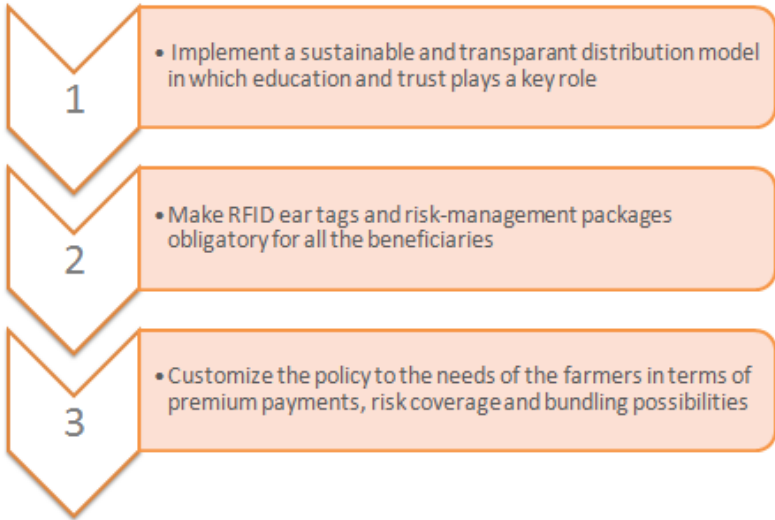
microinsurance with fodder insurance and finalizing the exact commission and incentive payments for the different stakeholders. The cattle microinsurance market at the BoP in rural India is a relatively new and inexperienced field, thus insurance companies should be prepared to face unforeseen obstacles and be very flexible in anticipating to developments along the way.

Section iii: Roundtable Session

In order to test the research findings, a roundtable session has been held on “The opportunities for cattle microinsurance at the Base of the Pyramid in rural India” at the BoP Innovation Center. A group of experts in the microinsurance field and people from diverse insurance companies have been invited to join the presentation (see appendix 5.1 for the invitation list). During this session I have presented a summary of my findings in order to trigger insights, knowledge and experience sharing.

The roundtable session provided to be a valuable exercise, complementing the primary and secondary research. The interactions and exchange of views were very useful in putting the findings and insights from the field in perspective. As a result of the presentation, a more in-depth interest has been evoked amongst the different attendees in cattle microinsurance at the BoP in rural India. Together with a couple of players from diverse sectors (dairy, insurance and government sector), further steps are being taken.

Chapter Review: Necessary steps to be taken in order to successfully penetrate the cattle microinsurance market



PART 9: Recommendations for Government



“The big question is when India and China begin to grapple with their subsidies.” David Fyfe

This study is not particularly focused on the role of the government in cattle microinsurance as it focuses primarily on recommendations for insurance companies. However throughout the research, I did come across several aspects where the government can improve to stimulate the growth of cattle microinsurance at the BoP in rural India. Most importantly, the subsidies that are currently in place are deterring the long-term growth of cattle microinsurance. It was efficient to subsidize the premium of cattle microinsurance during the market development as it helped to increase the uptake. However, improperly applied and enduring subsidies distorted the market. Throughout the years, firms became dependent on these subsidies and the cattle microinsurance product became financially unviable on its own. As firms are facing less financial pressure to be competitive, product innovations and distribution improvements are lacking in the cattle microinsurance field. Therefore, I would advise the government to move away from subsidies on premium payments and support the growth of cattle microinsurance in more efficient ways.

There are three developments within the cattle microinsurance field that could be established as public goods: data-warehousing, the national standard valuation chart and innovations. The government could subsidize the creation of a database, in which data on location-specific claims history, diseases, mortality rates and costs can be stored. The government could help assemble this data, update the data frequently and enhance the availability of such data. Insurance companies can benefit enormously from such a database as it can result in actuarial pricing, customization of products to local needs and agro-climatic conditions and a reduction of risk coverage costs.

Second, the government should subsidize the creation of a national standard valuation chart. Currently, insurance companies depend on the veterinarian to know the actual value of cattle. However, determining the value of cattle is relatively difficult as it depends on location, agro-climatic conditions, age, health, production capacity and feeding patterns. India can learn from developed countries where standard valuation charts are available to the public. Also, depending on the veterinarian to determine the value could lead to an increase of fraudulent cases. If the farmer and veterinarian collide, cattle can be overvalued leading to huge losses for insurers. Therefore, India should derive lessons from the developed countries where standard valuation charts for cattle are available to the public.

Third, the government should support the testing of innovations in product development and distribution methods by insurers and distributors. The initial costs faced by insurance companies in developing microinsurance products are too high to make it attractive. The government could introduce a risk pool fund, which would cover microinsurance scheme risks beyond an assured claim ratio. State governments could also fund experts to provide technical support to insurance companies in designing microinsurance products. Also, by introducing annual innovation awards in the microinsurance field, product and distribution improvements could be further fostered.

The Indian government should also continue to stimulate the training of paravets in villages. There is a crucial shortage of veterinary services in India, leading to operational inefficiencies. In the ideal situation there should be one veterinary for every 5000 cattle, however in some Indian states the ratio is 1:1000. Due to the poor rural infrastructure, it often takes a considerably long time before veterinarians reach the respective villages. It is obvious that the growth of cattle microinsurance, the livestock sector as a whole and the rural population depends heavily on the availability of good quality health services. It is therefore crucial that noteworthy improvements are made in this sector.

**Part Review:
Recommendations for
government**

- Government should move away from subsidies on premium payments; current subsidies are deterring long-term growth of cattle microinsurance
- Data-warehousing, national standard valuation chart and innovations should be developed as public goods
- The Indian government should continue to stimulate the training of paravets in villages

PART 10: Conclusion of Research



Namaste!

This research study on the demand for and supply of cattle microinsurance at the BoP in rural India has been executed because the market is still untapped and underdeveloped. Less than 7% of the total cattle population and less than 0,6% of the cattle holders are insured in India. According to Indian institutes, international academics and researchers and the UNDP, one of the key issues pertinent to the weak market is the mismatch between the offering of the cattle microinsurance and the needs at the BoP. Therefore I explored *how* the existing supply of cattle microinsurance products differs from the demand at the BoP in rural India in terms of product design and product distribution. Further, I investigated how to fill the gap between these elements.

A qualitative research study has been conducted; case-studies of various cattle microinsurance schemes, in-depth interviews with different stakeholders and FGDs have been executed. By conducting a qualitative, bottom-up market research, I could gain a better understanding of the needs of the people at BoP which is very useful for the product and policy design of insurance companies and governments. Further, by being able to identify with the local context and behavior, the collected data could be analyzed more properly, enhancing the accuracy and sustainability of the results. I have found that the field studies have contributed significantly to this research as public authorities and managers at insurance companies have a very different perception of the risk-mitigation needs at the BoP in rural India. This is most likely because microinsurance is still a relatively new product and little research has been done. Another reason for the low awareness of the needs at the BoP is that Indian insurance companies do not believe in this market; the only reason why they are currently distributing microinsurance is because the government obliges them to do so. These insurance companies are not interested in making it a value-adding product and therefore do not try to adapt the product to the needs of the people. This research study has succeeded to counter the misperceptions of many insurance companies and local authorities.

Insurance companies and government authorities were relatively surprised to hear that there is a considerable interest in cattle microinsurance from the consumer-side. They expected only health and life insurance to be a valuable and sustainable microinsurance product. However, I have found that even though health insurance is most demanded, property insurance is in general more important than life insurance. As cattle are the most valuable property for many Indians at the BoP in rural India, there is a large need to insure this asset. Nonetheless, there are still too many gaps within cattle microinsurance in rural India for it to be a successful product.

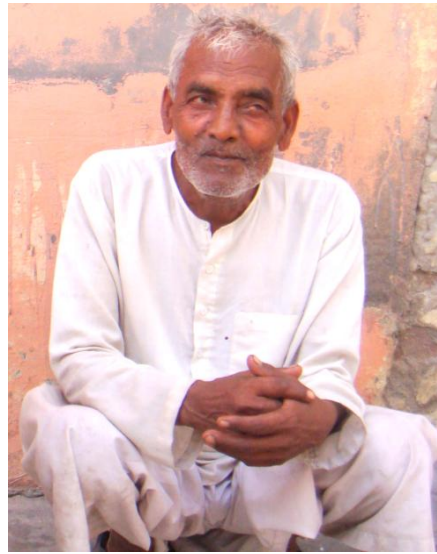
Two different types of gaps have been found in the cattle microinsurance market: production gaps and distribution gaps. Within the product features there are considerable gaps in the degree of customization, the limited risk coverage, inadequate bundling possibilities, poor identification methods and meager risk-mitigation measures. The distribution gaps consist of a lack of awareness and trust, and inefficiencies in the application and claim settlement processes. Recommendations are formulated based on the gaps found, with a primary focus on the distribution model as an efficient distribution channel could close many of the gaps found. For example, insurance companies and authorities underestimate the potential of the people at the BoP to understand the insurance concept. They do not understand that potential consumers don't trust insurance companies due to the history of bankers and insurers cheating Indian farmers. Therefore non-traditional measures should be taken to explain the concept of insurance to farmers and enhance their trust. For example, by taking advantage of the highly-valued communities within the Indian culture; everyone knows each other, treats each other each with respect and trusts each other.

In the innovative distribution model, communities of structured organizations such as SHG Federations and Dairy Co-operatives are targeted. Group heads and paravets play an important role in educating the farmers, leading the application and claim settlement processes and providing risk-mitigation measures. RFID technology and mandatory risk-management packages should be introduced in order to decrease the fraudulent and moral hazard behavior at the BoP in rural India, the two biggest concerns of insurance companies when penetrating the cattle microinsurance market. Insurance companies are expected to experience lower transaction costs, lower loss ratios and higher volumes with this innovative distribution model and two complementary product features. This would make cattle microinsurance at the BoP in rural India an attractive and profitable business model for insurance companies to invest in. When the distribution model has been well-established, insurance companies should consider customizing their cattle microinsurance policy more extensively by expanding the risk-coverage of cattle microinsurance and bundling cattle microinsurance with other microinsurance policies in order to meet the different needs of the cattle-

holders. Currently, the majority of the insurance companies are solely providing microinsurance as a bundled product with a loan which is distributed by MFIs. However, cattleholders at the BoP in rural India are not interested in this bundled product as they have often had bad experiences with MFIs or don't need a loan at the time they need insurance. Another problem is that MFIs are not incentivised to explain the insurance product and therefore farmers sometimes don't know for what they are exactly insured. The Indian government could also play a more pro-active role in the the cattle microinsurance market at the BoP in rural India by stimulating data-warehousing, subsidizing the creation of a national standard valuation chart and encouraging innovations.

Taking into consideration the challenges of the recommendations and the limitations of this study, the results could be valuable for the growth of the cattle microinsurance sector. By providing more insight into the demand for and supply of cattle microinsurance at the BoP in rural India, further steps can be taken by state-governments, insurance companies and microinsurance distributors. It should be considered that implementing most the recommendations given in this research paper will be relatively time-consuming and capital-intensive for all the stakeholders. However, this research study has found that there *is* interest in cattle microinsurance at the BoP in rural India, these cattleholders *have* the potential to understand the concept if it is explained in the proper way and with the right product and distribution developments, cattle microinsurance can be a scalable and sustainable product . Investing in cattle microinsurance could eventually lead to financial growth for (multi-) national insurance companies and result in a decline in the vulnerability to poverty for BoP households in rural India. However, microinsurance will have completely succeeded when it is finally no longer needed. As the former Chair of Delta Life, Monzurur Rahman, said, "We want to see the day when there is no more microinsurance, just insurance."

PART 11: Limitations and Future Research



“India’s future lay in her villages” Mahatma Gandhi

India is so massive and diverse that it is not possible to claim that this study represents the whole country. The risk-patterns, needs and preferences amongst the farmers differ considerably in the different regions, requiring location-specific product developments and distribution solutions. Due to a short duration (3 months) of the primary research phase, there are a relatively small number of farmers interviewed and they are not randomly selected, limiting the statistical relevance of this study. The qualitative nature of this analysis could influence the results of this study due to biases of the researcher or the respondents. However, the findings of this study were shared with a wider, international audience during the roundtable session, where they were broadly accepted. Therefore, one can take the findings of the study to be robust, providing a strong basis for further investigation.

Another limitation to this research is that a stimulating regulatory environment is required for most of the recommendations to be viable. The government is attempting to support the microinsurance business by implementing microinsurance regulations, quota obligations and premium subsidies. However, in this paper we have discussed several improvements that can be made. For example, instead of subsidizing the premiums of policies, data-warehousing and innovations should be supported financially by the government. Also, governmental support is necessary for offering paraveterinarian services in communities. It would be very beneficial for insurance companies if state-governments would subsidize the training of paravets and vaccinations nationwide as it implies that insurers wouldn’t have to bear these development costs. Overall, a stimulating regulatory

environment is essential for insurance companies to develop and experience economic growth in the cattle microinsurance market.

A final limitation of this research study is that it is very difficult to generalize these findings cross-sector or cross-country. Of course, some lessons can be derived from this research study (especially the research methodology) and be used in different settings. However, the recommendations cannot be implemented in other countries or sectors without doing additional local research. The culture, agro-climate and working conditions are very complex and the needs and demand at the BoP differ significantly. Academics, researchers and companies should realize that the BoP cannot be perceived as one massive, single market. In order to obtain valuable results, demand research studies should be localized which implies that doing research at the BoP is very time-consuming and costly.

Further academic research could be done to the different possible technology solutions, including index-based microinsurance and using GSM and internet connection. Technology could facilitate faster application and claim-settlement processes, decrease fraudulent cases and reduce long-run costs. The cattle microinsurance field in India could derive lessons cross-country and cross-sector, however as described before, it is essential that localized research is done as well.

In order for insurance companies to implement the recommendations effectively at the BoP in rural India, more in-depth and business-related research should be executed. For example, agriculture specialists should be involved in bundling cattle microinsurance with fodder microinsurance and veterinarians should be involved in creating the mandatory risk mitigation packages. Together with an insurance company, a microinsurance network, and two consultancies I am now analyzing which next steps have to be taken, based on the recommendations mentioned in this research paper.

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PART 13: Appendix



Samapti

APPENDIX 1.1 Differences between Traditional Insurance & Microinsurance

Table (i): Differences between traditional insurance and microinsurance		
	Traditional insurance	Microinsurance
Clients	<ul style="list-style-type: none"> • Low risk environment • Established insurance culture 	<ul style="list-style-type: none"> • Higher risk exposure/high vulnerability • Weak insurance culture
Distribution models	<ul style="list-style-type: none"> • Sold by licensed intermediaries or by insurance companies directly to wealthy clients or companies that understand insurance 	<ul style="list-style-type: none"> • Sold by non-traditional intermediaries to clients with little experience of insurance
Policies	<ul style="list-style-type: none"> • Complex policy documents with many exclusions 	<ul style="list-style-type: none"> • Simple language • Few, if any, exclusions • Group policies
Premium calculation	<ul style="list-style-type: none"> • Good statistical data • Pricing based on individual risk (age and other characteristics) 	<ul style="list-style-type: none"> • Little historical data • Group pricing • Often higher premium to cover ratios • Very price sensitive market
Premium collection	<ul style="list-style-type: none"> • Monthly to yearly payments, often-paid by mail-based on an invoice, or by debit orders 	<ul style="list-style-type: none"> • Frequent and irregular payments adapted to volatile cash flows of clients • Often linked with other transactions (eg loan repayment)
Control of insurance risk (adverse selection, moral hazard, fraud)	<ul style="list-style-type: none"> • Limited eligibility • Significant documentation required • Screenings, such as medical tests, may be required 	<ul style="list-style-type: none"> • Broad eligibility • Limited but effective controls (reduces costs) • Insurance risk included in premiums rather than controlled by exclusions • Link to other services (eg credit)
Claims handling	<ul style="list-style-type: none"> • Complicated processes • Extensive verification documentation 	<ul style="list-style-type: none"> • Simple and fast procedures for small sums • Efficient fraud control

Lloyds (2010)

APPENDIX 2.1 Case Studies

CASE STUDY 1:

Centrally Sponsored Scheme (CSS)



Livestock Insurance provided by National Insurance India through Pradan 2002-2007

Executive Summary:

- **Model:** Centrally Sponsored Scheme
- **Organizations:**
 - Pradan is a voluntary organization, established in Delhi, which enhances the livelihood capabilities of the poor in order to overcome poverty.
 - National Insurance India (NIC) is a public insurance company.
- **CSS Livestock Insurance Scheme:** The scheme was launched in 2005 as part of the 10th Five Year Plan. The objective of the scheme is to demonstrate to the farmers the benefits of livestock insurance as protection mechanism for their cattle and buffaloes and to popularize it. The ultimate goal of the government is to attain qualitative improvement in livestock and their products.
- **Sustainability:** Subsidized schemes are not sustainable as they deteriorate the innovativeness and financial investment of insurance companies in microinsurance products. Further, premium is settled at state-level which implies that the product is under-priced in many districts, making it unviable in the long-run.

Features of the Scheme with National Insurance Company India and Pradan in Rajasthan

<u>Product Attributes</u>	<u>Product Features</u>
<i>Product</i>	Cattle Insurance
<i>Location</i>	Rajasthan
<i>Animals Insured</i>	Cattle producing more than 1500 liters of milk & Buffaloes. Restricted to two animals per beneficiary for a maximum of three years. Cattle has to be bought through animal husbandry department in order for it to be considered as a “ scheme animal”
<i>Cover</i>	Death due to accident, disease, surgical operations, riot
<i>Age</i>	Milch cows: age of two or age of first calving up to 10 years old
<i>Model</i>	Partner-Agent model
<i>Agent</i>	Pradan
<i>Bundling</i>	Credit-linked product
<i>Premium</i>	4 % for non-scheme animals; 2.25% for scheme animals
<i>Compulsory Product</i>	Yes
<i>Premium Payment</i>	Once a year
<i>Modus of Payment</i>	Agents of insurance companies

<i>Term</i>	1 year
<i>Claim Settlement</i>	Sum assured or Market Value whichever is less
<i>Waiting Period</i>	Usually 4-6 weeks
<i>Certification of animal value/health</i>	Local veterinary surgeon
<i>Other Services</i>	Preventive measures such as de-worming was included in the premium price.
<u>Premium Components</u>	
Service costs (certification value/death)	Around Rs. 150
Agent Costs	15% of premium
<u>Marketing</u>	
<i>Create Awareness</i>	Pamphlets, posters, wall paintings, radio talks, tv-clippings
<i>Create Understanding</i>	Panchayati Raj institutions help educating the farmers
<u>Distribution</u>	
<i>Model</i>	1 st year: A direct model - insurance was distributed directly to the beneficiaries. However, this proved to be very inefficient in terms of distribution costs and loss ratio. 2 nd year: Pradan developed a dairy co-operative with Self-Help Groups. The distribution costs as well as loss ratio decreased significantly.
<u>Agent-Insurance Company Relationship</u>	
<i>Agent's contribution</i>	Small: distribution of product
<i>Insurance contribution</i>	High: designed and marketed product
<u>Success of Product</u>	
<i>Number of cattle insured</i>	> 3000
<i>Claims Requested</i>	13 – 14 (0.0043%)
<i>Claims Settled</i>	3 – 4 (2-3%)
<i>Loss Ratio</i>	High
<i>Profitable</i>	Relatively profitable for insurance companies in the first years as they simply did not pay out claims.
<i>Challenges Insurance Companies</i>	For NIC to be able to distribute subsidized cattle microinsurance products it does have to meet several standards and regulations (e.g. lower premium for group insurances, only two cattle insured per beneficiary). When the scheme stopped, NIC attempted to continue distributing the product but experienced very high loss ratio due to moral hazard and fraudulent behavior.
<i>Future Plans and Next Steps</i>	Even though the scheme ended in 2007, insurance was still supplied by NIC till 2009. The product was voluntary; however 100% of the farmers still demanded it. In 2009, NIC stopped delivering the cattle insurance product as it was not satisfied with the loss ratio. As there was still demand for cattle microinsurance from the farmer's side, Pradan attempted to execute an in-

house insurance product. However Pradan doesn't have the technical capabilities to design such a product.

Is the Centrally Sponsored Scheme:

Solving the problem?	Economically sustainable?
<ul style="list-style-type: none"> ▪ Problem magnitude: Only 7% of the Cattle in India is insured by a livestock insurance ▪ Solution provided: <ul style="list-style-type: none"> • Low premium price microinsurance: As the government is subsidizing 50% of the premium, it becomes accessible for more people ▪ Scale and reach <ul style="list-style-type: none"> • About 300 districts • 93,130 animals insured (2009-2010); Decrease from 533,312 animals insured in 2006-2007 ▪ Perception of solution provided at consumer-level <ul style="list-style-type: none"> • Farmers are not gaining value for their money, making the product unattractive and keeping penetration level of cattle microinsurance low. • Main problems are linked to claim settlement process: long waiting period, very high percentage of claims is being declined, trust in insurers is lost ▪ Perception of solution provided at project-level <ul style="list-style-type: none"> • The scheme has not increased cattle insurance amongst the low-income households as much as expected • It is very difficult to manage the subsidies and keep control over where the subsidies are directed to ▪ Socio-economic impact: <ul style="list-style-type: none"> • It is targeting the high-yielding cattle, thus the lowest-income households at the BoP are being ignored 	<ul style="list-style-type: none"> ▪ At Consumer level: <ul style="list-style-type: none"> • <i>Initial cost:</i> Premium (about Rs. 250- Rs. 350) • <i>Direct cost of services:</i> 0 (farmers do not have to pay for tagging or certificates) • <i>New economic benefit:</i> Formal risk-mitigation measure <ul style="list-style-type: none"> → Farmers are willing to pay for risk-mitigation measures but only if they receive high value in return. Another problem is that the premium is decided by bidding at state level and is therefore overpriced in some areas and underpriced in other areas. ▪ At project level: <ul style="list-style-type: none"> • <i>Funding:</i> 2006-2007 (5000 million), 2007-2008 (1600 million) 2008-2009 (650 million), 2009-2010 (2432.47 million) 2010-2011 (912.17 million) • <i>Premium Amount:</i> 4400.12 million (2003) • <i>Incurred Claim Amount:</i> 4340.47 million (2003) • <i>Loss Ratio:</i> 98.2% (2003) <ul style="list-style-type: none"> → The CSS Livestock Scheme is not economically sustainable. Government cannot and will not continuously fund the cattle microinsurance for rural areas. However, we find that the subsidized products are unaffordable and financially unviable on its own, thus insurance companies must make significant changes if they want to distribute cattle microinsurance policies without public support.

Is the CSS Scheme Scalable and replicable?

- The scheme is being operated in 300 districts only, which leaves much scale to be done
- A robust mechanism to monitor the use of subsidies is absent, making it difficult to scale the scheme nationwide.
- It is very costly for the government to provide these (inefficient) subsidies to the farmers, creating the

question: Should the government scale and replicate this scheme?

c. Learning Points of Case study:

Gap between Consumers and Insurance Companies

Insurance Companies

Insurance companies are obliged to provide microinsurance to the rural areas. As especially the public insurance companies do not want to invest their time, knowledge and capital resources in these areas, they prefer to distribute the *subsidized* insurance products. As the premium price is very low, they believe the quality of the product doesn't have to be high and therefore they do not invest into the product.

NGOs

NGOs are willing to provide services but lack technical expertise to design product.

End Users

Demand is high as cattle are a high proportion of a farmer's income. Consumers missed the cattle microinsurance product after NIC left their community. Consumers are willing to pay extra premium for additional value such as veterinary services (5-6%). Consumers are dissatisfied about the bundling of cattle microinsurance with a loan (which is the case with subsidized microinsurance policies).

CASE STUDY 2:

IFFCO-TOKIO GENERAL INSURANCE CO. LTD.



PASHU-DHAN BIMA: Livestock Insurance

Executive Summary:

- **Organization:** IFFCO TOKIO General Insurance (ITGI) is an Indian private insurer.
- **Project:** In 2009 ITGI executed a pilot in the state ORISSA, offering RFID based tags for the identification of the insured cattle.
- **Sustainability:** RFID ear-tagging seems to be an economically sustainable technology for cattle microinsurance. According to ITGI (and other studies) the benefits of RFID technology significantly outweigh the costs. Even if only 0,5% of the fraudulent claims are prevented due to the usage of RFID ear-tags, the cost of investment can be recovered.

Features of the Pashu-Dhan Bima Product

<u>Product Attributes</u>	<u>Product Features</u>
Product	Pashu-Dhan Bima
Location	Gujarat, Punjab, Maharashtra, Rajasthan, Orissa
Animals Insured	Cattle
Cover	Death
Age	From 2 nd year/ First lactation till 10 th year
Partnering Companies	Co-operative Bank
Model	Direct-Delivery Model
Bundling	Credit-linked product with the Co-operative bank
Premium	3.5% - 4% of the sum assured
Compulsory Product	Yes
Premium Payment	Once a year
Term	1 year
Claim Settlement	Sum assured
Certification of animal value/health	Bima Sahayakas (relationship executives who work in one-manned micro offices of ITGI, which are 100% subsidiaries of ITGI) and a local veterinary doctor

Registration and Claim Processes

Registration Process	Bima Sahayakas along with a veterinary doctor inspect the cattle. The RFID capsule is then injected by the doctor in the ear of the cattle, and the Bima Sahaka processes the tag number by using the RFID reader. He then takes a photograph of the animal and the veterinarian issues a health certificate
Waiting Period Registration Process	On average 7 days
Claim Settlement Process	In the unfortunate case that the cattle dies, the claimant

	farmer has to inform the Bima Sahayaks. The Bima Shayaks visits the site, identifies the cattle (with the RFID reader), inspects the carcass, and certifies the death of the cattle. A veterinarian has to submit a Post Mortem report along with two photographs of the carcass.
Waiting Period Claim Settlement	15 days
Marketing	
Create Awareness	Primarily Brochures
Create Understanding	Bima Sahayaks explain the process of registration, identification, and claim settlement to the households
Success of Product	
Number of cattle insured	629
Claims Requested	11
Claims Settled	9 paid and 2 are being settled
Loss Ratio	48%
Profitability	Very profitable business for ITGI
Future Plans and Next Steps	ITGI has the intention to increase the scale of RFID tagging; its final goal is to implement RFID tags to all its insured cattle.
Challenges Insurance Companies	Careful planning and coordination between all stakeholders is necessary. Veterinarians must be trained to use the RFID system efficiently.

Is the Pashnu Dhan Bima

Solving the problem?	Economically sustainable?
<ul style="list-style-type: none"> ▪ Problem magnitude: Both insurance companies and cattle-holders are dissatisfied with plastic ear tags. ▪ Solution provided: RFID-Technology ▪ Perception of Consumers: <ul style="list-style-type: none"> - Farmers are very satisfied with the RFID capsule as it causes less pain to cattle compared to plastic ear tags and it is durable. - Farmers experienced a shorter waiting period for claims to be settled as insurance companies could identify the cattle error-free ▪ Perception Insurance Companies <ul style="list-style-type: none"> - ITGI experienced a decrease in frauds due to more accurate cattle identification - Valuable data could be stored on the RFID chip which helps to value the cattle and determine the premiums more precisely. Also breeding can be improved and diseases can be tracked. 	<ul style="list-style-type: none"> ▪ At consumer level: <ul style="list-style-type: none"> - The farmers do not have to pay additional premium for the RFID-technology but do get more value for their money (see perception consumers) therefore it seems economically sustainable ▪ At insurer level: <ul style="list-style-type: none"> - The RFID technology seems to be a cost-effective solution to make cattle microinsurance profitable as ITGI experienced a much lower claims-rate. - Also the farmers have a better perception of the product, increasing the renewal rate. - The cost of investment can be met by the decrease of fraudulent claims (only 0,5% decrease in necessary to meet costs) - The cost of maintenance of the system can be met because the market price of cattle is

enhanced due to the availability of data.

**Is the Scheme
Scalable and replicable?**

▪ **Pre-requisites / requirements for the project to scale:**

- Implementation of the project requires careful planning and coordination between all stakeholders
- Veterinary Services should be available in all the communities to implement RFID tags
- Veterinarians should be trained to use the RFID system in order to collect data on breeding, productivity and health status

c. Learning Points of Case study:

Gap between Consumers and Insurance Companies

Insurance Companies

The trust of insurance companies in its consumers is enhanced as insurance companies possess records of the farmer's caring behavior. For this reason, moral hazard and fraudulent behavior can be detected.

Consumers

RFID technology closes the gap to some extent between insurance companies and low-income households at the BoP because the system allows claims to be settled within fifteen days (due to the access to animal records). As a result, the insured cattle-holders can buy replacement stock and continue livelihood activities within 2 weeks, increasing the value of the insurance product. The RFID system also provides transparency, which enhances the trust of consumers in insurance companies.

CASE STUDY 3:

Vizianagaram Community-Based Livestock Insurance Scheme

Vizianagaram (Andhra Pradesh, India)

Executive Summary:

- **Organization:** The Society for Elimination of Rural Poverty (SERP) is an implementing agency of rural poverty reduction projects in the state Andhra Pradesh such as community institution building, social security measures, women empowerment initiatives and marketing of community-produced products. The Centre for Insurance and Risk Management (IFMR) has been established in 2006 and researches risk-management solutions for low-income households.
- **Project:** In 2003 the IFMR developed together with the SERP this community-based model for a limited number of cattle to study the mortality patterns. From 2007 onwards, the scheme was opened to all SHG members.
- **Sustainability:** As communities are very vulnerable to covariate shocks, the sustainability of this model is tentative.

Features of the Community-Based Cattle Microinsurance, Vizianagaram

<u>Product Attributes</u>	<u>Product Features</u>
<i>Product</i>	Livestock Insurance
<i>Location</i>	Vizianagaram (Andhra Pradesh, India)
<i>Animals Insured</i>	90,000
<i>Cover</i>	Death
<i>Age</i>	First three lactations
<i>Model</i>	Community-Based
<i>Partnering Companies</i>	SERP and IFMR
<i>Bundling</i>	None
<i>Premium</i>	4% of cattle value from 2005-2009; 2% of cattle value 2009 onwards
<i>Compulsory Product</i>	No
<i>Premium Payment</i>	Once a year
<i>Modus of Payment</i>	Village Federation
<i>Term</i>	1 year
<i>Claim Settlement</i>	Sum assured (value of cattle as declared by owner)
<i>Certification of animal value/health</i>	No health certificate of animal valuation necessary

Registration and Claim Processes

Registration Process	Members apply individually for insurance and application is reviewed by village federation or sub-district federation who has the authority to (dis) approve. If approved, registration is done by insurance advisor and inspection is executed by village federation.
Waiting Period	On average 3 days

Claim Settlement Process	In the unfortunate case that the cattle dies, the village federation informs the data centre who directs an insurance advisor to inspect the dead cattle. The insurance advisor issues a death certificate and sends it to the sub-district federation who has the authority to accept or reject the claim. If accepted, the amount is transferred to the village federation by bank draft. Finally, the claim amount is paid in cash to the beneficiary.
Waiting Period	7 days
<u>Marketing</u>	
<i>Create Awareness</i>	Word of mouth
<i>Create Understanding</i>	Insurance Advisor explains the benefits and importance of cattle microinsurance
<i>Institutions</i>	SERP
<u>Success of Product</u>	
<i>Number of cattle insured</i>	90,035 (2009-2010)
<i>Claims Requested</i>	193
<i>Claims Settled</i>	187
<i>Loss Ratio</i>	<40%
<i>Profitable</i>	More than 80% of SHG members involved
<i>Future Plans and Next Steps</i>	The plan is to expand to 6 more districts at the end of this year and to have the whole Andhra Pradesh state covered by 2013. This would imply that in total 10 million cattle will be covered.
<u>Challenges Community</u>	The community acts as a risk bearer and therefore is very exposed to covariate shocks. Further, the community is dependent on the benevolence support of IFMR to design and manage the insurance policy; the community has insufficient knowledge about insurance and their management expertise is very limited. Also re-insurance is not possible as the scheme is not formalized.

Is the Community-Based Scheme

Solving the problem?	Economically sustainable?
<ul style="list-style-type: none"> ▪ <i>Problem magnitude:</i> Bad experiences with insurers ▪ <i>Solution provided:</i> Community-Based model ▪ <i>Scale and reach:</i> 90,000 cattle in the state Andhra Pradesh ▪ <i>Perceived solution community members:</i> <ul style="list-style-type: none"> - Members have more trust in their community-members and local veterinarian than in insurance companies and MFIs/NGOs. 	<ul style="list-style-type: none"> ▪ At community level: <ul style="list-style-type: none"> - Model is most likely economically unsustainable as the community is too exposed to covariate risks - Community-based models are not regulated by government, implying that re-insurance is most likely impossible - Model is dependent on the managing and controlling efforts of SERP and IFMR in order

<ul style="list-style-type: none"> - Members have a better understanding of the product and it is better adapted to their needs as it is controlled by the community. - The application and claim-settlement are more efficient as the processes are localized - The premium could be reduced from 4% to 2% as the community experienced a significant decline in transaction costs, fraudulent claims (due to community-vigilance) and mortality rate (due to decrease in moral hazard behavior). <p>▪ Socio-economic impact:</p> <ul style="list-style-type: none"> • This project has a high societal impact as it helps women SHG members protect themselves against asset losses. 	<p>to prolong.</p>
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Is the Scheme

Scalable and replicable?

<p>▪ Pre-requisites / requirements for the project to scale:</p> <ul style="list-style-type: none"> - The community depends on the knowledge, effort and management skills of IFMR to develop and implement the insurance policy, making it difficult to scale to other states. - The communities must be very willing to learn about insurance and co-operate with NGOs and institutions to design the policy - Some community-members must be willing to be trained about insurance to control other community members and lead application and claim settlement processes.

c. Learning Points of Case study:

Gap between Consumers and Insurance Companies

<p><u>Insurance Companies</u></p>	<p>Insurance companies are not always required to implement a cattle microinsurance policy. The question however remains how long the model will sustain economically.</p>
<p><u>Consumers</u></p>	<p>Due to an in-depth understanding of insurance and trust in the supplier, consumers are more willing to purchase cattle microinsurance. Community vigilance is very efficient to decrease the moral hazard and fraudulent behavior of beneficiaries. A decrease in this behavior has a strong effect on the loss ratio and could decrease the premium rate significantly.</p>

APPENDIX 2.1: Total Sample Size In-depth Interviews

State	Name
Insurance Companies	Oriental Insurance Company
	New India Insurance Company
	National Insurance Company
	United India Insurance Company
	IFFCO-Tokio
	HDFC-ERGO
	TATA-AIG
	Royal Sundaram
	Micro Insurance Academy
Government & Academic Institutions	Micro Insurance Network
	NABARD
	ILRI
	Institute Financial Risk Management
	IRDA
Experts	Toon Bullens
	Annette Houtekamer-van Dam
	Kapil Garg
Veterinarians	Dr. Kiran Kumar Bandhari, Hyderabad, NAARM
	Dr. Amrender Reddy, Hyderabad, NCDEX
	Dr. Surender Reddy, Noida
	Dr. Uma shanker, Noida, MART

APPENDIX 2.2: Example of Discussion Guide for Insurance Companies

1. PROFILE

a) Name of the person	
b) Company name	
c) Designation	
d) Area of operation	
e) Place of location	

2. GEOGRAPHICAL SPREAD

a) Presence in no. of districts/state	
b) Pockets of deep penetration	
c) Strength areas	

3. CATTLE INSURANCE

i. General

- a) How many different cattle insurance products do you have?
- b) What proportion of business (premium amount) do you think your company is generating from the cattle micro insurance _____ %
- c) Are you being subsidized by the government? Which products are being subsidized by the government? How much of the premium is subsidized by the government? Are there special requirements you have to fulfil to be subsidized?

Name of the Product	Govn. Subsidy Y/N	Amount of Subsidy	Requirements to receive subsidy	Opinion about subsidy
i.				
ii.				
iii.				

- d) Are there any IRDA regulations that are holding you back in cattle micro insurance development or frustrating you?

ii. Product Features

- f) Which are the most popular policies taken by the BOP segment under the cattle micro insurance? FILL DETAILS OF POLICIES SOLD IN GAP ANALYSIS.

iii. Success of Product

	2010-2011	2009-2010	2008-2009	2007-2008	2006-2007
Policy type					
Policies sold					
Lives Covered					
Premium					
No. Claims Reported					
No. Claims Settled					
Total Claims Paid (Rs)					
Claim Ratio					

4. CLIENTS PROFILE

a) Who are your typical cattle micro insurance consumers? (PROBE for basis on classification – age, education, income levels, asset ownership, policy details etc.). FILL DETAILS IN GRID BELOW.

Type of Consumer	Education	Annual Income	Number/Type Cattle Owned	Primary/Secondary income	Type of Policy	Sum - assured	Premium Amount	Mode of payment (Q/ H/ Y) / one time premium
i.								
ii.								
iii.								
iv.								

b) What is your total client base in (specified) branch? Please provide details as follows:

1. Total no of clients	
2. Av value of savings collected (Rs)	
3. Av value of loan availed (Rs)	
4. Av tenure of loan	
5. Annual Rate of interest	
6. Default rate	

c) How would you describe the differences between each type of rural consumer depending on the level of premiums he pays for the cattle micro insurance?

Premium Amount	% of each type	% with >1 policy	Description – occupation, assets owned, education
I. Very High > Rs. 10,000			
II. High Rs. 5000 – 10,000			
III. Mid Rs. 2000- 5000			
IV. Low <Rs.2000			

5. DISTRIBUTION CHANNELS

a) What are all the distribution channel used for the cattle micro insurance in your company? What are reasons for using specific channel for distribution of cattle micro insurance products?

	BOP segment		Reason for channel selection	Conversion rate in %
	Used	%		
i. Agents				
ii. Direct Sales Agents				
iii. Banks				
iv. Co-operatives				
v. MFIs				
vi. NGOs				
vii. SHGs				
viii. Other (specify)				

b) What is the total infrastructure and manpower (quality and nos.) required for each distribution channel under the cattle micro insurance? What is contribution of the each entity along the distribution channel? Please mention in detail.

Distribution channel followed	Total infrastructure	Total manpower	Contribution
i.			
ii.			
iii.			

c) How do you bring the consumer awareness about the distribution channel? What are the various method followed?

Methods adopted for consumer awareness	Areas/ villages covered	% of reach in BOP segment	% of failures
i.			
ii.			
iii.			

- d) How many locations are covered or what is the channel reach for the cattle micro insurance in your company?
- e) What is the total productivity of each distribution channel under the cattle micro insurance? (cost & turnover/ membership)
- f) What are your future plans for distribution channel?

6. EXISTING CONSUMER

- a) How you first decide which person to approach to sell a cattle micro insurance policy in a BOP segment? (tick mark)

i.	Known Person	
ii.	Referred by existing consumer	
iii.	Profile (Assets owned/ occupation) looks promising	
iv.	Other (specify)_____	

- b) What is the conversion rate? (the number of people visited before a policy is sold)
- c) What is the time required by your company to issue a cattle micro insurance policy from the date of receipt of application form along with the documents and payment? _____ Days
- d) Out of the total number of policy done by your company under cattle micro insurance how many get lapsed? _____%
- e) Reason for lapse
- 1) _____
 - 2) _____
- f) What proportions of lapsed policies are renewed? _____ %
- g) Reason for non-renewal:
- i. Lack of proper credit facility
 - ii. Lack of awareness about policy renewal
 - iii. Lack of trust/ transparency

7. POTENTIAL CONSUMER

- a) How does your company target the potential consumers among the BOP segment for selling the cattle micro insurance policy? PROBE for the parameters involved.
- b) What activities do you conduct in villages to attract the rural segment?
- i. Organizing some melas /exhibitions
 - ii. Door to door approach
 - iii. Tie up with the local banks / NGO etc.
 - iv. Promotion vehicle used
- c) What is the percentage of the potential consumer from rural added every year to your total reach_____

8. SUCCES OF PRODUCT

- a) Is the cattle-insurance product profitable for your company?
- b) Do you believe that the product is solving the problem of meeting the needs of consumers and countering moral hazards?
- c) Do you believe that the product is economically sustainable?
- d) Do you believe that the product scalable and replicable?
- e) What are the key challenges that you faced? What are the key challenges that the distributors faced? What are they key challenges that the consumer faced?
- f) What are the main lessons that you learnt from cattle microinsurance?
- g) Do you wish to invest money in the research for a cattle microinsurance product which is better adapted to the needs of consumers?

APPENDIX 2.3: Example of Discussion Guide for Consumers

NAME OF THE RESPONDENT:						
RESPONDENT'S ADDRESS:						
Occupation:						
Income status/ annum:						
Education:						
No. of cattle rearing: Cows () Goats () Buffalo () Ox () Total ()						
District:	1	2	3	4	5	City & State:
Have you insured your cattle? Yes (Y) / No (N)						
Name the company providing the insurance to your cattle:						
Name the company distributing the insurance to your cattle:						
Duration of Interview: _____ Minutes						
Interviewer:					Date of the interview:	

A. CATTLE

1. What type of cattle do you own?
 - a) Milch Cows/ Buffalo
 - b) Draft Cows/ Buffalo
2. How much do you depend on livestock as a source of income?
 - a) Primary source
 - b) Secondary source (when per month income is less than 25% of total income but more than 10%)
3. What is the income generation from your cattle per annum?
4. Do you have any other source of income?
5. How did you pay for the owned cattle?
 - a) Loan from the banks
 - b) Money lenders form village etc
 - c) Money saved
 - d) Mortgage loans
 - e) Selling old cattle
6. Do you own any cattle on lease? If yes then, please mention the income generation from the leased cattle and lease payment paid to the owner per annum?
7. If you are in a bad economic situation, which assets would you sell to gain money?
 - a) Would you consider selling your cattle?
 - b) Is there another circumstance in which you would consider selling your cattle?

B. Risks

1. What are the major problems faced by livestock in your area?
 - a) Low value of cattle and low productivity
 - b) Feed and fodder
 - i. What kind of fodder is available in your area?
 - Dry fodder (crops)
 - Green fodder (cropped or grazing)
 - ii. If they buy fodder from somewhere
 - How far is the place?
 - What is the approximate price/quintal?

c) Diseases

- i. Normal mortality rates (buffalo, cattle)
- ii. Major diseases in the area due to which mortality happens or productivity decreases that impact the livestock.

- d) Water (scarcity or water born diseases due to unhygienic conditions)
- e) Environment (high temperature, shelter and other related problems)
- f) Credit crunch (for buying better quality animal or for insurance)
- g) Any other

2. What do you think is the best way to reduce risk for all these problems? Give your opinion.

- a) Risk reduction : vaccination and deworming
- b) Risk transfer : taking insurance (voluntary or mandatory product)
- c) Awareness: attending hygiene camps by government /dairy-coop.
- d) Do nothing and bear the risk

3. Are you applying any risk-reducing activities, other than insurance to reduce these risks?

4. How long have you been performing these risk-reduction activities?

5. What are the costs of these activities? Do you consider the perceived benefits higher than the costs?

6. Is this a popular risk-reduction mechanism in your community?

7. Are you satisfied about these risk-reduction activities?

8. Do you get well informed about these risks and risk-reduction methods ? If so, who provides this information?

9. Would you like to receive more information about the risks being faced?

C. CATTLE MICROINSURANCE

3. Since when are you using cattle micro insurance?

4. Are you completely aware of the existing products of the cattle micro insurance? If yes then, mention in detail.

5. What is the source of information about the cattle micro insurance?

- a) TV
- b) Radio
- c) News papers
- d) Word of mouth
- e) Company agents

13. Does the company provide more than one type of policy to you? Are you aware of the differences in the company's policies for the cattle micro insurance? If yes then, how do you know? If yes, then why did you choose for this policy?

14. Have you used a cattle insurance policy in the past? Could you specify what policy this was? What was your experience with this policy?

15. How often the companies visit your village for selling the cattle micro insurance?

16. Does the insurance company/insurance distributor provide any other services at your village besides the cattle micro insurance?

- a)
- b)
- c)
- d)

17. Could you mention the details of the cattle insured now? (SEE GAP ANALYSIS)

18. If insurance company uses RFID; are you well informed/ aware of the RFID technique used by your insurance company? Are you satisfied about RFID technique?

D. PROCESSES

1. Mention the names of the institutions present in/ outside village.

Institutions present in the village	Tick mark	Institutions present outside the village	Tick mark
Dairy co-operative Society		Cooperative Banks, Nationalized Banks	
Primary Agriculture Co-operative Society (PACS)		Private Veterinarian	
Money lender		Government Veterinary Hospital	
		Dairy Union	

2. How and by whom is the animal value and health determined at time of taking cattle micro insurance? Are you satisfied about this process?
3. What was the waiting period from the moment you submitted all the papers till the moment that the company ensured the cattle insurance?
4. Did the unfortunate case occur that your cattle died? If so, did you incur a claim?
5. Are you satisfied about the claim settlement process?
6. Was your claim settled?
7. If so, what was the waiting period from the moment you submitted all the papers till the moment you received the money for your claim?

E. SATISFACTION

1. How is your relationship with the cattle insurance company? Do you trust the cattle insurance company?
2. How do you share the problems related to your cattle with the insurance company?
3. How is your relationship with the distributor of the cattle insurance? Do you trust the distributing organization?
4. How do you share the problems related to your cattle with the insurance company?
5. Are you satisfied about the result of cattle micro insurance
6. Would you purchase cattle insurance again next year?
7. Would you advise your family/friends to purchase cattle insurance?
8. Is cattle micro insurance a popular risk-reduction mechanism in your community?
9. Can you compare insurance to other cattle risk-reduction methods which you have conducted in the past or currently?
 - a. How do these mechanisms compete in costs, perceived benefits, efficiency?
10. Do you currently own any other insurance products, except for cattle insurance, or have you in the past? Can you compare the satisfaction you get from these insurance products with each other? Which insurance product is more important?

APPENDIX 2.4: Example of Discussion Guide for Potential Consumers

NAME OF THE RESPONDENT:						
RESPONDENT'S ADDRESS:						
Occupation:						
Income status/ annum:						
Education:						
No. of cattle rearing: Cows () Goats () Buffalo () Ox () Total ()						
District:	1	2	3	4	5	City & State:
Have you insured your cattle? Yes (Y) / No (N)						
Name the company providing the insurance to your cattle:						
Name the company distributing the insurance to your cattle:						
Duration of Interview: _____ Minutes						
Interviewer:					Date of the interview:	

A. Cattle

1. What type of cattle do you own?
 - a) Milch Cows/ Buffalo
 - b) Draft Cows/ Buffalo
2. How much do you depend on livestock as a source of income?
 - a) Primary source
 - b) Secondary source (per month income < than 25% of total income; >10%)
3. What is the income generation from your cattle per annum?
4. Do you have any other source of income?
5. How did you pay for the owned cattle?
 - a) Loan from the banks
 - b) Money lenders form village etc
 - c) Money saved
 - d) Mortgage loans
 - e) Selling old cattle
6. Do you own any cattle on lease? If yes then, please mention the income generation from the leased cattle and lease payment paid to the owner per annum?
7. If you are in a bad economic situation, which assets would you sell to gain money?
 - a) Would you consider selling your cattle?
 - b) Is there another circumstance in which you would consider selling your cattle?

B. Risks

1. What are the major problems faced by livestock in your area?
 - a) Low value of cattle and low productivity
 - b) Feed and fodder
 - i. What kind of fodder is available in your area?
 - Dry fodder (crops)
 - Green fodder (cropped or grazing)
 - ii. If they buy fodder from somewhere
 - How far is the place?
 - What is the approximate price/quintal?

c) Diseases

- i. Normal mortality rates (buffalo, cattle)
- ii. Major diseases in the area due to which mortality happens or productivity decreases that impact the livestock.

d) Water (scarcity or water born diseases due to unhygienic conditions)

e) Environment (high temperature, shelter and other related problems)

f) Credit crunch (for buying better quality animal or for insurance)

g) Any other

2. What do you think is the best way to reduce risk for all these problems? Give your opinion.

- a) Risk reduction : vaccination and deworming
- b) Risk transfer : taking insurance (voluntary or mandatory product)
- c) Awareness: attending hygiene camps by government /dairy-coop.
- d) Do nothing and bear the risk

3. Are you applying any risk-reducing activities, other than insurance to reduce these risks?

4. How long have you been performing these risk-reduction activities?

5. What are the costs of these activities? Do you consider the perceived benefits higher than the costs?

6. Is this a popular risk-reduction mechanism in your community?

7. Are you satisfied about these risk-reduction activities?

8. Do you get well informed about these risks and risk-reduction methods ? If so, who provides this information?

9. Would you like to receive more information about the risks being faced?

C. CATTLE MICROINSURANCE

1. Do you currently own any insurance products or have you in the past

2. Are you well aware of the existing cattle microinsurance products in the market?

- a. Which cattle microinsurance products do you know?
- b. Would you like to know more about the product?
- c. What is your perception about microinsurance products? Which words come to your mind?
- d. Which organization would you trust enough to accept their advise on microinsurance as true?

3. Have you ever considered insurance as risk-reduction mechanism?

- a. What are the reasons why you have chosen not to insure your cattle?
- b. Is cattle insurance a popular risk reduction mechanism in your community?
- c. What should change in the existing microinsurance offering for you to consider to buy the product? SEE GAP ANALYSIS

4. Do you currently own any other insurance or have you owned insurance in the past?

- a. What was your experience with this insurance?
- b. Do you trust this insurance company?
- c. Why have you chosen for this insurance and not cattle insurance?

APPENDIX 2.5: Total Sample Size FGDs

State	Survey Instrument	Type	Sample Size
Andhra Pradesh	FGD	Existing Consumers	8 respondents
		Potential Consumers	6 respondents
	In-Depth Interviews	MFI: <i>Basix</i>	1 interview
		NGO: <i>AWARE, Swayamkrushi</i>	2 interviews
		Dairy co-operative: <i>NALGONDA</i>	1 interview
Uttar Pradesh	FGD	Existing Consumers	5 respondents
		Potential Consumers	3 respondents
	In-Depth Interviews	MFI: <i>Gramin Samaj Vikas Kendra</i>	1 interview
		NGO: <i>Global Organization for GRD</i>	1 interview
		Dairy co-operatives: <i>PARAG</i>	1 interview
Orissa	FGD	Existing Consumers	7 respondents
		Potential Consumers	9 respondents
	In-Depth Interviews	MFI: <i>Koraput Central Co-Operative Bank</i>	1 interview
		NGO: <i>PRADAN, BISWA</i>	2 interviews
		SHGs	2 interviews

APPENDIX 3.1 Chronicle Events in Livestock Insurance in India

Year	Implementing agency/program	Note
1971	—Cattle Insurance Scheme ^l by Small Farmer's Development Agency	<p>Nationalized banks began to finance the purchase of cattle and agreed to collect premium from beneficiaries. Cover was for one year and premium was collected annually. It was a compulsory product.</p> <p><i>Note: As insurance companies had limited infrastructure and generally low income households were not able to take insurance as a major risk transfer tool, it was important to link it with credit to increase the outreach.</i></p>
1983	—Cattle Insurance Policy ^l under Integrated Rural Development Programme (IRDP)	<p>Livestock and asset insurance was extended to the poor along with IRDP subsidized loans (50% subsidy). It was a compulsory product. It was devised by General Insurance Company (GIC) and implemented through its four subsidiary agencies from 1983 onwards. Premium 2.25% (death) + 0.85% for Permanent Total Disability with no age limit.</p> <p><i>Note: The IRDP scheme helped to extend livestock insurance to the masses. Due to the element of subsidy many low income households were attracted into buying insurance. But what was lacking was an equal emphasis on educating masses about the same, and hence, though many households had livestock insurance, they could not benefit from it as they did not even know that they had it. All this led to low loss ratios initially, which increased during the latter period.</i></p>
1983	Livestock Insurance under Market Agreement ³¹	<p>Cattle insurance governed by the Market Agreement as devised by GIC, as well as the rates, terms, conditions etc. were applicable to all the four insurance companies. No subsidy was given and it was a voluntary product for non-scheme animals. Defined premium ranging from 2.85% to 4%. Age specified: milch cow- 2-8 years, buffalo- 3-12 yrs.</p> <p><i>Note: As mentioned earlier, fewer people were willing to take insurance under the Market Agreement as no subsidy was available. But later when the premium amount got to be almost the same for both, and in fact, the premium even decreased for non-IRDPs, there was an increasing trend towards non-IRDP buying.</i></p>
1999	Insurance Regulatory and Development Authority (IRDA)	Inception of IRDA, liberalization of the Indian insurance industry
2001 onwards	Private players registered	ICICI Lombard, IFFCO-TOKYO, HDFC ERGO, Royal Sundaram initiated
2003	Cattle insurance freed from Market Agreement	After 2003, all insurers were given a free hand to decide premium and policy conditions by themselves. It paved the

		way for product and process innovations.
2005	Microinsurance Regulations	MFIs, NGOs and SHGs can act as agents for insurance companies to increase the penetration of insurance in the rural markets. It is envisaged that Microinsurance Regulation will help to address the distribution related issues.
2006	Livestock Insurance Scheme implemented by State Livestock Development Boards (SLDB) and State Animal Husbandry Departments (SAHD)	<p>Under the scheme, the crossbred and high yielding cattle and buffaloes are being insured at a 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 provided to a maximum of 2 animals per beneficiary for a policy of a maximum of three years. The traditional method of ear tagging or the recent technology of fixing microchips could be used at the time of taking the policy. The cost of fixing the identification mark will be borne by the Insurance companies and responsibility of its maintenance will lie on the concerned beneficiaries. In the event of the claim becoming due, the payment of the insured amount should be made positively within 15 days after submission of requisite documents. Insurance companies, whose products are to be provided during the scheme, will be identified by the CEO/ District Level Officer on the condition that the rate of premium should not exceed 4.5% for annual policies and 12% for three year policies. Veterinarians are to be associated with the work of identification and examination of the animals to be covered under the scheme, determination of their market price, tagging of the insured animals, and finally, issuing veterinary certificates as and when a claim is made.</p> <p><i>Note: This scheme shows marked improvement in giving upper hand to states for program implementation and to insurance companies to take cues from the market and deciding the premium amount with final authority to choose insurance by state government officials. Insurance also indicates the government's will to emphasize on farmers rearing HYVs.</i></p>

APPENDIX 3.2 Average Premium Incurred for Cattle Microinsurance

<u>Estimations</u>		
Estimation # of Rural Households	166,4 million*	
% of Households owning Cattle	60,41%**	
Estimated Average Cattle Premium	4%**	
<u>Assumptions</u>		
Possible insurance coverage of rural households	40-60%**	
Average insured milch animal per rural household	1 milch animal**	
Value of insured milch animal	INR 12.000***	
<u>Calculation</u>		
	Min	Max
Number of Insurable Milch Animals in Rural India	40.208.896	60.313.344
Total Premium Incurred for Cattle Microinsurance in Rural India	INR 19,300 billion	INR 28,950 billion
Total Premium Incurred for Cattle Microinsurance in Rural India	EUR 298,060 million	EUR 447,140 million

*India 2010 to 2020 Indicus Analytics, An economics Research Firm

** UNDP Building Security for the Poor

*** Department Agriculture and Husbandry 2007

APPENDIX 3.3 Average Household's income derived from cattle

General Information	
Average herd size	2 animals*
Average milk production/animal	2.5 liter*
Average milking days	280 days*

*National Academy of Agricultural Research Management

Amount of Milk Produced (liter per day per cattle)		
	%	Milk Produced
Total	100	2,5*
Home Consumption	0,46**	1,15
Sold to Market	0,54**	1,35

* Gupta (2007)

Revenue for one cattle/day						
Sold to Market	%	Amount	Market Price		Revenu	
			Min	Max	Min	Max
Informal	0,80*	0,92	20	25	18,4	23
Co-Operative	0,10*	0,115	10	15	1,15	1,725
Private	0,10*	0,115	10	15	1,15	1,725
Total	100	1,15			20,7	26,45

*GoI (2009)

Costs for one cattle / day		
	min	max
Concentrate required for lactating	8	10
Other feed	4	5
Total Costs	12	15

Annual Net Income per average rural household		
	Min	Max
Total Revenue	11592	14812
Total Costs	6720	8400
Total Net Income	4872	6412

Average annual household income: 34,551 rupees. (\$735)

Average Cattle Net Revenue: 33,55% -42,86% of rural household's income

APPENDIX 4.1: Estimated Income incurred by Group Head

<u>Estimations SHG groups</u>	Min	Max
Average number of members in SHG groups	10	15
Average number of SHG groups per group head	4	8
<u>Estimations Cattle</u>		
Average insured milch animal per rural household	1 milch animal***	
Value of insured milch animal	INR 12,000****	
Estimated Average Cattle premium	4%	
<u>Calculation</u>	Min	Max
Average Premium incurred by group head (7%)	INR 1344	INR 4032

APPENDIX 5.1 Invitation List

Hans van Poelevoorde	<i>Ponooc Investments BV</i>
Robert Mackay	<i>Nassau Verzekeringen</i>
Manon Schuurmans	<i>DSM Innovation Center</i>
Simon Kadijk	<i>Donatus Verzekeringen</i>
Toon Bullens	<i>Microinsurance Association Netherlands</i>
Ben Nijkamp	<i>ICCO</i>
Tom Buijtendorp	<i>Eureka Achmea</i>
Ben Siemens	<i>FrieslandCampina</i>
Ton Negenman	<i>Ministry of Foreign Affairs</i>
Micheal Anthony	<i>Allianz SE</i>
Siebren van der Zwaag	<i>The Friesian</i>