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SHAWN COLE

PETER TUFANO

BASIX

In the spring of 2004, N.V. Ramana, managing director of KBS Bank in Mahbubnagar, India, was thinking carefully about the organization's recent experience offering weather insurance to farmers. Weather insurance provides policy holders a cash payout in the event of low rainfall during the summer growing season. KBS Bank was part of the BASIX group, a group of companies providing micro-credit and other ``livelihood promotion'' services to the rural population.

The new insurance policy had been marketed in two villages in 2003. Because of the novelty of the product, Mr. Ramana had deployed some of BASIX's best sales force (Customer Service Agents, or CSAs) to sell the policy. Only 140 farmers had elected to purchase the policy, paying a total of approximately Rs. 81,000 ($1850) for coverage of 115 acres of land.[1] As BASIX earned only a 15% commission on policy sales, the revenue was negligible, especially when compared to staff time spent developing the product and familiarizing farmers with the new product. However, the decision of whether to continue to offer the new product would depend not only on this pilot, but on the long-run potential of the product to advance BASIX's mission and its clients' interests.

Mr. Ramana, 46, was a graduate of the Indian Institute of Management – Ahmedabad, and had joined BASIX in 2001 after a distinguished career with ITC Group, one of India's most successful agribusinesses. He was confident of the theoretical merit of the insurance product, but was still unsure whether BASIX clients would see the value, given that the product was both complicated and unlike anything farmers had seen before. Further product development would require a substantial investment of time from BASIX's top management. Finally, Mr. Ramana was worried that BASIX could confuse, or worse, alienate some of its customers if they had negative initial experiences with this product. When initially marketing the product, a common question from BASIX clients was "If I purchase the policy and it does not pay out, do I get a refund of my premium at the end of the year?"

BASIX Overview

BASIX was founded in 1996, by Vijay Mahajan, a graduate of the Indian Institute of Management, Ahmedabad, with the mission of "promoting a large number of sustainable livelihoods" by providing financial services and technical assistance to the rural poor. Start-up capital was provided by Mr.

1 In April 2004 1 USD was worth approximately Rupees 44.

Professors Shawn Cole and Peter Tufano and prepared this case. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Mahajan and other promoters, as well as substantial long-term debt from the Swiss Agency for Development Cooperation, the Ford Foundation, and the Sir Ratan Tata Trust. BASIX grew quickly, and consistently turning a profit, became one of the largest microfinance institutions in India. Most of its revenue came from lending, but it also provided technical advice to borrowers, and had recently begun to offer life insurance products as well.

Based in Hyderabad, India, BASIX served over sixty thousand borrowers, who lived in approximately four thousand villages across thirty districts.[2] The majority of its activity was concentrated in Southern and Central India, particularly Andhra Pradesh, though BASIX was in the process of expanding to additional states. "BASIX" was the brand identity of a group of five closely integrated companies. BASIX's corporate motto was "Equity for Equity," and four of these five companies were for-profit firms. Weather insurance was initially provided by one of the group firms, the KBS Local Area Bank Limited, but BASIX planned to distribute the product via its flagship financial company, Bhartiya Samruddhi Finance Limited, as well, by 2005.

Borrowers from BASIX had a choice of loan products, which were typically term loans at an annual percentage rate of approximately 24%.[3] Most loans were to an individual, though BASIX would also group several clients together, making clients jointly liable for all the members of their group. The average individual loan size was approximately Rs. 8,800. This number was declining as BASIX reached out to more and more (poorer) customers. The typical loan duration was 11-24 months, with monthly repayments matched to cash flow: crop loans would mature after harvest, while small enterprise loans required regular monthly repayments.

Almost all of BASIX's operating income came from interest on these loans (income statements are given in **Exhibit 2**). BASIX estimated its cost of capital to be approximately 9%, onto which they added two percent as provisioning for future loan losses. Its other primary expense was staff salaries. BASIX had an on-time repayment rate of 93.3% on its loans at the fiscal year end 2003, and expected a long-term loan loss rate of approximately 2%. Reported repayment rates for "typical" microfinance institutions ranged from 97-99%. BASIX's relatively lower rate could in part be attributed to the fact that a few areas in which they operated had recently been hit with repeated droughts.

Following the liberalization of the insurance market in India, BASIX had recently begun bundling a life insurance policy with its standard loan, covering approximately 55,000 borrowers. This policy provided coverage of 1.5 times the amount of the initial loan. BASIX had worked hard to convince the insurers that the mortality risk of borrowers was relatively low, which kept the cost of the policy low. Life insurance had proved very popular among borrowers, and BASIX had begun to sell stand-alone policies to non-borrowers as well.

By 2004, BASIX had around 200 CSAs. In order to reach rural clients, BASIX delivered financial services directly to the villages: each CSA would visit his 15 assigned villages several times a month, building a relationship with clients and prospective clients. CSAs were responsible for screening loan clients, making loans, and ensuring on-time repayment. Some had recently begun to sell insurance as well.

Because BASIX served remote locations, it had little competition: very few of its clients could borrow from a formal commercial bank, and other microfinance corporations were not yet operating

[2] District is the administrative unit below a state. India has approximately 550 districts.

[3] While these interest rates seem high by U.S. or European standards, they are the norm in microcredit, where the size of the loan is small and transaction costs are high. BASIX lent at 12% to organizations, such as "self-help groups."

in most areas that BASIX served. Prior to BASIX's arrival, much of the credit in a village was provided by local moneylenders. Moneylenders were local residents who would provide informal (typically legal) credit for purchase of farming inputs, or in case of emergency. The interest rates on these loans were generally high, up to 10 percent per month or higher. BASIX had begun to experience competition in some of its microcredit markets, but few, if any, of these organizations were offering insurance, and BASIX estimated it would be at least five to ten years before another organization offered retail weather insurance products to its clients.

BASIX Clients

BASIX strove to serve clients across the income spectrum: financial services were often unavailable even to commercial farmers in the rural areas BASIX served. Agriculture was the primary source of income for most households in rural Andhra Pradesh. A typical farming household might consist of five members: a couple, perhaps one of their parents, and two children. They might own 3 acres of land, on which they would grow groundnut (peanut) or castor seeds. Three acres of groundnut would yield approximately one metric ton of seeds (1000 kg), which a farmer could sell for 25-35 Rs. / kg. The wholesale price was often much higher, but most farmers sold through middlemen who earned substantial margins. A household may have farm animals as well, and grow some food crops (maize or sorghum) for their own consumption. Major household expenses included farming inputs (seed and fertilizer), food, clothing, and fuel.

BASIX had recently commissioned a study of its clientele. **Exhibit 3** reports the share of households from BASIX in various income bands. While more detailed information on BASIX clients is not available, Panel B reports average characteristics of agricultural households in the districts in which BASIX operates.[4]

As the table indicates, agriculture is an important source of income for much of the population. Nationwide, agriculture accounted for 25% of the GDP, but 70% of employment. Farmers in Andhra Pradesh and Tamil Nadu grew a range of crops, including rice, groundnut (peanut), and jowar (sorghum). Many farmers in these areas had limited or no access to irrigation, making rainfall levels an important determinant of agricultural productivity. Indeed, the quality of the monsoon (the heavy rains experienced as a result of seasonal wind patterns in the Indian subcontinent) was an important determinant of overall economic growth each year in India.

India has two growing cycles, *Kharif* (June-November) and *Rabi* (December-April). The monsoon comes during the *Kharif* season, and it is in this season that most crops are grown. There is little to no rain during the *Rabi* season—irrigation is typically required and is often unavailable, though some crops will grow using the retained moisture in the ground following a good monsoon. Financing is a particular concern for farmers, as they have to pay for seeds, fertilizer, and labor before they realize any income from the crop. Indeed, farmers spend much of the year in debt, as many with limited wealth purchase seed and fertilizer on credit, repaying the seller after harvest.

[4] The BASIX bands correspond to monthly income, while the figures in Panel B correspond to monthly expenditure. In practice, income is likely to be close to expenditure, particularly for the lower income ranges.

Household Risk Management

Poor households in rural India face uncertain income. Formal, salaried jobs are very rare: instead, most rely on a combination of agriculture and wage labor. Sickness may lead to reduced wage income and medical costs. Livestock may die or fall ill. Much local agriculture depends on the monsoon rains: in the past several years the quality of the monsoon had been very poor at least twice, producing little rainfall and adversely affecting agricultural output. Other years had brought crop disease, devastating insects, floods and earthquakes.

Most villages are quite far from a bank, and saving cash was risky. Those with wealth accumulated assets such as gold or livestock when they could, and would sell these assets in times of trouble. The most valuable asset for many households was land: however, the land market was quite illiquid.

Households could sometimes borrow money from a money-lender or bank in times of difficulty, or turn to friends or relatives for support. However, the amount households could borrow was limited, and Andhra Pradesh made international headlines in 2003, after a series of droughts, when thousands of farmers committed suicide as their yield failed and they could not repay their bank debt.[5]

Financial Risk Management Services

BASIX founders had seen providing risk management tools as an integral part of the BASIX mission. The firm's research indicated credit was necessary but not sufficient to promote livelihoods. By 2000, they were comfortable with their lending business, and began to explore how they might help households manage risk. BASIX felt that two of the most important unmet needs were for insurance against livestock death and crop failure.

The government of India had sold crop insurance to farmers for at least twenty years. Most policy holders were clients of government-owned banks, who were required to purchase the policy as a condition of borrowing. Only a very small fraction of BASIX clients qualified to borrow from government banks and non-borrowers had difficulty purchasing the insurance.

In theory, the government crop insurance company would measure yields at several "test farms" close to the policy holder, and pay compensation if the yield fell below the target. Yet, many of those who held the crop insurance reported to BASIX that it was not satisfactory. First, the insurance company (owned by the government of India) did not always pay out in the event of loss (farmers complained that politically connected farmers tended to get the lion's share of benefits). Second, even when policy holders were paid, it could take over two years for them to receive payment.

BASIX first offered a crop insurance product in 2000, with a pilot program involving three villages. The goal was to build a system of multi-level mutual insurance, in which farmers pooled risk. Each participating farmer paid a premium (meant to be paid annually). A fraction of these funds were kept in a village-level account, while the balance was deposited in a "multi-village" account. Farmers within the village would determine whether to accept or reject claims made by fellow policy-holders. If losses in a particular village exceeded the amount in the village account, the village would

[5] "India Prime Minister Pledge Over Suicide Farmers," BBC News. http://news.bbc.co.uk/2/hi/south_asia/3855517.stm, accessed 2/5/07.

draw on the multi-village account. BASIX was liable for claims that exceeded the level of accumulated assets.

This initial model was not as successful as BASIX had hoped. First, administrative costs of the program were higher than anticipated. Second, farmers expressed reluctance to pay the high premium the program required.

The Idea of Weather Insurance

At a conference on financial services in 2002, Mr. Mahajan met Ulrich Hess, a World Bank employee who was developing a new financial product, index-based rainfall insurance, and suggested BASIX work with the World Bank. It was hoped this new product would be able to solve some of the problems that had hobbled the initial program.

The basic idea was quite simple: BASIX would designate a rainfall station (a meteorological site used to measure rainfall and temperature) close to its clients.[6] The clients would pay an insurance premium. The insurance contract would cover a period roughly co-incident with the growing cycle of crops planted by farmers in Andhra Pradesh. If measured rainfall were particularly low over that period, the insurance policy would pay a cash payment to policy holders. If rainfall were over a pre-determined limit, the policy holders would not receive any remuneration. Because the policy was based on an objective measure (the rainfall stations were run by the government, and their integrity was not questioned), it was hoped that claims settlement would be fast and efficient.

A product of this type was without precedent in a developing country[7], yet part of BASIX's mission was to innovate. Mr. Mahajan knew that it could take years to develop a successful product, but was optimistic that senior management would work together to overcome any hurdles.

BASIX worked with a ICICI Lombard, a large private insurance company based in Mumbai,[8] to develop this index insurance product. The insurance company itself was a joint venture between a large private bank and a foreign insurance company. The insurance company planned to reinsure the risk on international capital markets, and began to develop a relationship with a Swiss reinsurance corporation that had expertise in weather derivatives. BASIX would act only as a sales agent, earning commissions: all payouts would be made by the private insurance company.

However, several important questions had to be answered before the product could be developed: How should the rainfall index be designed, and what should the targets and payouts be? What would be the price of the policy? Should there be specific policies for each crop, or would a "one-size fits all" policy be easier to sell?

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[6] Rainfall had a local component, and it was felt that rainfall recorded at a station more than 30 km away from a farm would not accurately reflect rainfall at that farm.

[7] Though Mr. Mahajan recalled reading about a similar scheme proposed to the King of the state of Mysore in 1920.

[8] Formerly "Bombay," Mumbai is the financial capital of India.

Product Design and Marketing

As it had done with the previous insurance scheme, BASIX decided to pilot the product in just a few villages, before deciding whether to offer it to all villages in which it operated. These villages were located in the Mahbubnagar district of Andhra Pradesh.

Initial Product Design

BASIX decided to design separate policies for the key crops grown in these two districts, groundnut and castor.

Information from the Food and Agricultural Organization suggested that groundnut required approximately 500 – 700 mm of water per year to produce a good yield. The growing period for groundnut began in May or June, and finished in mid October each year.

The relationship between crop loss and rainfall deficit has been widely studied, and BASIX and the World Bank took this scientific knowledge into account when designing the product. Agronomists summarized a crop's sensitivity to rain loss through the "Ky" factor. Simply put, the Ky factor gives the percentage yield loss that would result from a one percentage rainfall deficit. The Ky factors for groundnut are given in **Exhibit A**. For example, a 10% shortfall in rain relative to the optimal amount during the "Crop development" phase would correspond to an 8% drop in yield, while a 10% drop in rain during mid-season would only lead to a 6% reduction in crop yield.[9]

Exhibit A Yield Response Factor for Groundnut

Stage	Length of Stage (in days)	Ky (Yield Response) Factor
Initial	35	.2
Crop Development	45	.8
Mid-Season	35	.6
Late	25	.2
Total	140	.7

Source: Adapted from Food and Agriculture Organization of the United Nations

Because the importance of rainfall varied during the growing season, the insurance policy implemented a weighting scheme, whereby actual rainfall would be multiplied by period weights (given in the **Exhibit 5**) to calculate the rainfall index.

The insurance policy set a target index of 653 mm of rainfall over the growing period May 11 to October 17, 2003. If rainfall fell more than 5% below this target, policy holders would be eligible for a cash payment. The 2003 policy is detailed in **Exhibit 5**. For example, a policy designed to cover two and a half acres of groundnut cost Rs. 450. If the rainfall index were from 95% of 653 mm or more, no payment would be made. However, for every percentage point below 95%, the policy holder would be eligible for a Rs. 20 payment. The compensation increased for greater shortfalls: each percentage point below 75% would yield Rs. 75 payment (in addition to the Rs. 400 compensation from the 95% to 75% shortfall), and shortfalls below 35% would lead to Rs. 310 compensation for each percentage shortfall. The policy payout was capped at Rs. 14,000.

[9] In fact, the relationship between water loss and crop loss is much more complicated (and in some instances non-linear). Nevertheless, the FAO tables are a good approximation of the actual relationship.

A further complication was that different farmers grew different crops, and each crop had its own rain requirements. Cotton, another crop grown in Andhra Pradesh, required significantly more rain than groundnut. This limited the usefulness of the insurance policy to cotton farmers, who might suffer substantial losses at rainfall levels that did not trigger any payout. While BASIX had considered selling several different policies (suited to different crops), interviews with farmers led to concerns that farmers would have difficulty selecting the "right" product, and instead choose not to buy any policy at all. Thus, in the first year, BASIX designed a groundnut policy and targeted it at groundnut farmers.

Despite energetic marketing, the policy sold fewer than 150 policies. While Mr. Ramana had not set firm targets for the first year, he knew that the product would have to be substantially more successful to cover both the fixed cost of development and administration, and the cost of the field agents' time. Mr. Ramana estimated that it took an agent three hours of time to sell Rs. 600 insurance policy, compared to six hours of staff time to make and service a loan of average size. (Neither of these time estimates include the 'fixed cost' of CSA travel time.)

A Revised Product

Based on feedback from farmers, who expressed concern about the transparency of the initial product, BASIX and the insurance company had developed a revised policy. This policy, detailed in Panel B of **Exhibit 5**, divided the season into three phases. The contract for each phase was specified by a target rainfall (in mm), and an amount to be paid for each mm of deficit. Each phase also had a "lower bound," at which a maximum payout would be given. For example, if rainfall from 10 June to 14 July were 50 mm, payout would be (75-50)*Rs.15, or Rs. 375. If rainfall were 19mm, however, payout would be Rs. 3000. Data on the distribution of historical rainfall for the periods covered by the proposed insurance policy is given in **Exhibit 6**.

Decision

Rainfall in 2003 had been below the target, resulting in a modest payout. Farmers had reported satisfaction with the speed at which the payout was made, and many expressed a willingness to purchase a new policy for the coming monsoon season.

Yet, Mr. Ramana felt the need for caution: BASIX had spent years earning the trust of its clients, and it was necessary to consider that many had little experience with rainfall insurance. Farmers' limited understanding of insurance was one reason BASIX was not planning on bundling the rainfall insurance product with the loan: Mr. Ramana was concerned that if a farmer's crop failed, but they had been obliged to purchase the insurance, they may refuse to repay the loan.

Mr. Ramana would meet soon with other members of senior management. (Profiles of key individuals involved in the insurance product are given in **Exhibit 7.**) He knew they would ask some difficult questions, not all of which he was sure he could answer. Would the policy sell well? What was the best way to explain it to potential clients? Some had expressed concern that the private insurance company with which BASIX was working may "gouge" its captive clients. Was the policy fair? How would it help BASIX clients? Finally, were there any other important risks, costs or benefits that Mr. Ramana had not considered?

Exhibit 1 Statement of Profits and Losses for Years Ending March 31, 2001–2004 (in 000 Rupees)

Bhartiya Samruddhi Finance Limited

	2001	2002	2003	2004
Income				
Income from Operations	29,695	45,607	64,572	94,375
Income from Investments	631	3,520	7,322	7,039
Other Income	2,239	590	2,515	1,039
Total	32,565	49,717	74,408	102,453
Expenditure				
Interest on Borrowed Funds	11,566	15,615	16,225	18,120
Salaries, Allowances and Benefits to Staff	5,923	9,491	17,305	24,593
Financial Services Changes to Customer Service Agents	1,690	5,121	7,114	9,782
Other Operating Expenses	7,892	10,833	17,463	28,137
Bad Debts Written Off	2,203	4,602	8,771	8,315
Provision of Doubtful Debts	824	970		4,440
Depreciation	291	373	1,482	1,167
Other	0		51	1,099
Total	30,389	47,005	68,410	95,654
Profit Before Taxation	2,175	2,712	5,998	6,799
Provision for current Taxation	900	600	1,700	3,506
Profit after current Taxation	1,275	2,112	4,298	
Credit for Deferred tax			(14)	151
Profit after tax			4,312	3,142
Earlier year provision written back	-	215	-	
Total	1,275	2,327	4,312	3,142

Source: BASIX Annual Reports.

Exhibit 2 Balance Sheet Years Ending March 31, 2001–2004 (in 000 Rupees)

Bhartiya Samruddhi Finance Limited

Assets	2001	2002	2003	2004
Current Assets, Loans & Advances				
Cash and Bank Balances	32,331	121,958	59,357	82,814
Unsecured Loans to Rural Producers	153,219	222,778	307,956	384,910
Less: Securitised Loans Derecognized				21,512
Net Loans Owned	153,219	222,778	307,956	363,398
Interest Receivable on Loans	5,208	7,311	7,611	7,818
Advances Recoverable and other current assets	3,260	6,635	6,144	18,608
Total Current Assets, Loans, & Advances	194,019	358,682	381,068	472,638
Fixed Assets	3,802	5,286	5,826	16,145
Investments	90	43,590	39,940	10,090
Less: Current Liabilities and Provisions	186,314			
Current Liabilities	10,697	24,906	40,828	59,649
Provision for Taxation	900	1,500	1,700	8,660
Other Provisions				
Total Current Liabilities and Provisions	11,597	26,406	42,528	68,309
Net Current Assets	182,422	332,277	384,306	404,329
Miscellaneous Expenditures (not yet written off)	202	152	101	51
Total	186,517	381,305	384,407	430,615

Liabilities and Shareholder Funds	2001	2002	2003	2004
Shareholders Funds				
Share Capital	40,495	206,001	206,001	207,001
Reserves and Surplus	3,188	5,515	8,767	22,834
Total Shareholder Funds	43,683	211,516	214,768	229,834
Loan Funds				
Secured Loans	77,755	65,579	97,203	98,458
Unsecured Loans	65,079	104,209	71,390	101,125
	142,834	169,788	168,593	199,583
Deferred Taxation (net)			1,046	1,197
Total Liabilities and Shareholder Funds	186,517	381,305	384,407	430,615

Source: BASIX Annual Reports.

Exhibit 3 Characteristics of BASIX Clients and Population in Districts in Which BASIX Operates

A: Income per Month[a]	< Rs. 2000	Rs. 2001 - Rs. 3000	> Rs. 3000
Share of BASIX Clients in Income Range	21%	16%	60%
B: Expenditures per Month[b]	**< Rs. 2000**	**Rs. 2001 - Rs. 3000**	**> Rs. 3000**
Main Activity of Households			
Share of Households With Primary Income From:			
Own farm cultivation	0.22	0.39	0.50
Agricultural labor	0.44	0.27	0.12
Self-employment (nonagricultural)	0.16	0.18	0.18
Wage labor	0.06	0.06	0.03
Characteristics of Households Whose Primary Income is From Own Farm Cultivation or Agricultural Labor:			
Household Composition			
Average Household Size	3.77	5.18	6.82
Adults	2.38	3.29	4.57
Children	1.39	1.89	2.25
Expenses			
Total Expenditures	1,346	2,399	4,553
Food	945	1,562	2,500
Fuel & Light	98	147	216
Clothing and Footwear	92	174	342
Medical care	49	161	451
Rent	3	7	8
Other	160	347	1,035
Assets:			
Average Landholdings (acre)	1.7	4.1	9.5
Liabilities			
Total indebtedness	3,395	5,482	8,660
Bank loans	241	203	253
Moneylender Loans[c]	1,200	2,863	2,887
Other[d]	1,953	2,416	5,519

Source: BASIX Annual Reports, Indian National Sample Survey.

[a]Panel A gives the share of BASIX clients whose monthly income falls in the following range.

[b]Panel B gives the average household characteristics, expenditures, and assets and liabilities of a household whose monthly household expenditures are in the indicated income range. These expenditures do not include farm inputs. Source: National Sample Survey, 2001.

[c]Moneylenders are private individuals who provide loans to members of the community, at interest rates ranging from 2 to 10 percent per month.

[d]Other sources of debt include loans from friends and neighbors, and suppliers of farm inputs.

Exhibit 4 Data on Districts in Which BASIX Operates

	Mahbubnagar District	Andhra Pradesh State	All States in Which BASIX Operates
Population Information			
Population (2001)	3.5 million	76.2 million	406 million
Number of Villages (2001)	1,477	26,613	263,942
BASIX Operations, 2004			
BASIX Borrowers	4,174	41,511	96,821
Villages in Which Insurance Sold	3		
Individuals Who Purchased Insurance	232		
Of whom, BASIX Clients	143		
Number of Acres Insured	410		
Approximate Total Insurance Revenue, 2004	230,000		
Approximate Share of Population within 30km of rainfall station			23%

Source: Census of India, 2001; Casewriter estimates; BASIX Annual Report 2003-2004.

Exhibit 5 Insurance Policies, 2003 and 2004

Actual Policy, 2003

Mahbubnagar District: Groundnut
Coverage Period: May 11 to Oct 17, 2003

Relative Weight For Rainfall Index

Days 1-28	25%
Days 29-56	300%
Days 57-160	75%

Policy	**Premium (Rs.)**	**Payment Schedule**		
		Range of Shortfall		
		95%-75%	75%-35%	below 35%
		Payment Per Percentage Shortfall		
Large Farm Policy (>5 acre)	900	30	175	650
Medium Farm Policy (2.5 to 5 acre)	600	25	100	500
Small Farm Policy (<2.5 acre)	450	20	75	310

Index Target: 653 mm

Policy Details: Three policies were available to farmers, depending on the size of their farm. Each policy had a different premium and different payouts. The insurance policy defines a notional target of 653 mm of weighted rainfall over the period May 11 to October 17, 2003. The weights are given above. To determine the amount the policy pays out, the weighted index is calculated in the following manner: (Total rainfall in weeks 1-4) * .25 + (Total rainfall in weeks 5-8) * 3 + (total rainfall in weeks 9-25) * .75. This index rainfall amount determines how much is paid out for each policy. If the index amount is less than 620 (.95*653), the policy will pay out. For each percentage point below 95%, the policy would pay Rs. 30 to a large farmer, until the index fell below 75%, at which point the policy would pay Rs. 175 for each percentage point shortfall. Finally, below 35% of the notional target, the policy would pay Rs. 650 per percentage point shortfall. Thus, if rainfall were at 25% of the index, the policy would pay Rs. 30 * 20 + Rs. 175 * 40 + Rs. 650 * 10, a total amount of Rs. 14,100. Payments were made at the end of the season, approximately thirty days after October 17, 2003.

Exhibit 5 (continued)

Proposed Policy, 2004
Coverage Period: June 10 to October 12, 2004

Proposed Insurance Policy for Groundnut, 2004

Premium (Rs.) 125

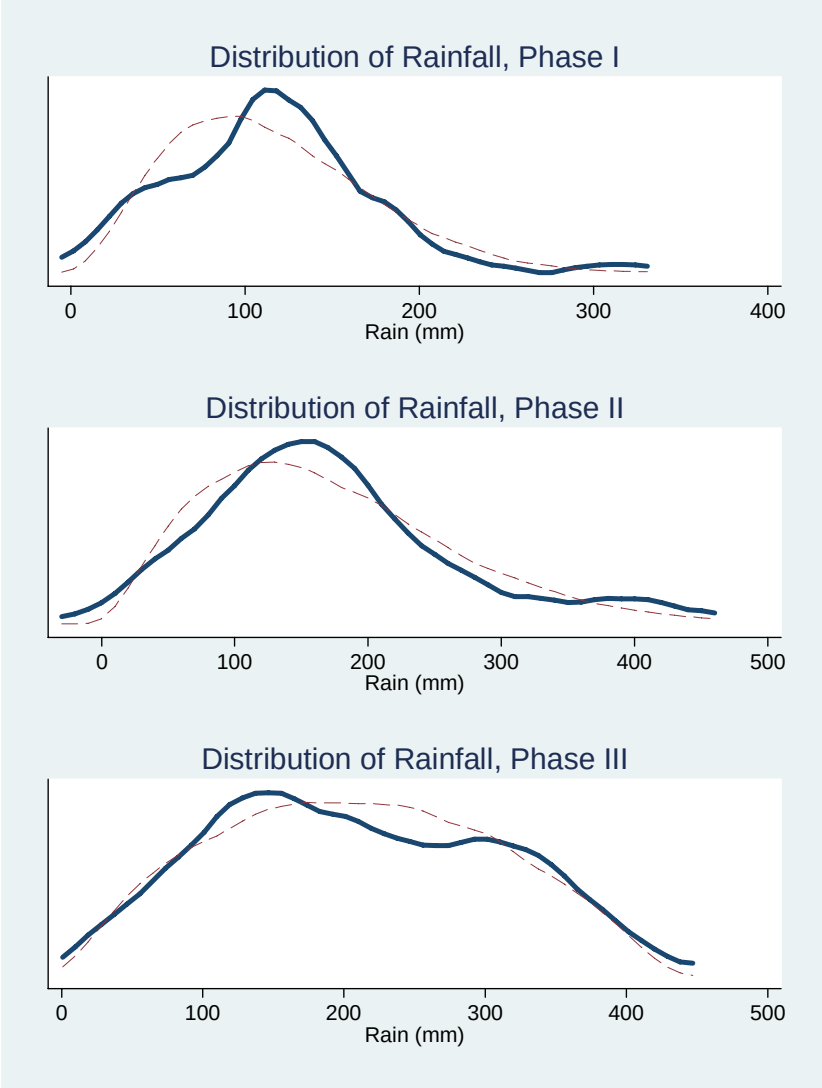
Phase	Period	Normal Index	Payment / mm for Shortfall (Rs.)	Trigger for Max	Max Payout (Rs.)
1	Days 1-35	75	15	20mm	1,500
2	Days 36-70	110	10	50mm	2,000
3	Days 71-115	75	5	50mm	2,500

Policy Details: The policy is divided into three separate phases, each one lasting a specified number of days. Total cumulative rainfall in a phase is compared to the target index level. If the total is less than the target, the policy pays the indicated amount for each mm of shortfall. For example, if cumulative rainfall in phase 1 is 58mm, the policy pays Rs. 15 * 17. Within each phase, if the 'maximum trigger' is reached, the policy pays the maximum payout. Thus, for any amount of rainfall below 20mm in phase I, the policy would pay Rs. 1500.

Rainfall is measured as mm / day. Payments would be made at the end of each phase, typically within thirty days of the phase ending date. Though payments were made separately for each phase, the entire premium was collected at the beginning of the period.

Source: BASIX Documents

Exhibit 6 Historical Rainfall Data



	Summary Statistics, Rainfall		Beta Distribution Approximation		
	Mean	Sd. Dev	Alpha	Beta	Scale
Phase I	124.1	56.7	2.8	8.8	472.1
Phase II	191.6	93.8	2.5	10.1	869.0
Phase III	209.3	105.4	1.9	2.05	434.0

The graphs above give the distribution of rainfall near Mahbubnagar from 1951-2003 for the three phases covered by the insurance policy. The statistics above give the mean and standard deviation for realized rainfall. The data were fitted to a Beta distribution. The parameters from this distribution for each phase are given to the right of the summary statistics.

Source: India Meteorological Department; Casewriter Estimates.

Exhibit 7 Profiles of Key Players in the Weather Insurance Program at BASIX

P. Gunaranjan, Insurance Executive	Mr. Gunaranjan, 26, joined BASIX as a Field Executive following completion of an MBA at Sri Sathya Sai University, Puttaparthy. He was promoted to the role of Insurance Executive in 2003. He also holds an Msc in Physics. Together with Mr. Sattaiah, Mr. Gunaranjan collected feedback from farmers in 2003 to redesign the product for 2004.
V. Mahajan, Founder and CEO	Mr. Mahajan, 49, holds an MBA from the Indian Institute of Management (Ahmedabad), and a B Tech from the Indian Institute of Technology (Delhi). Following his MBA, Mr. Mahajan worked as a marketing executive for Philips India, Ltd., before founding PRADAN, a successful NGO focused on rural livelihood promotion.
N. Ramana, Managing Director, KBS Bank Ltd.	Mr. Ramana, 46, holds an MBA from the Indian Institute of Management (Ahmedabad). He worked at the Indian Tobacco Group, Ltd., for twenty years, in the areas of procurement, trading, marketing, and export of agricultural commodities. He holds a degree in Dairy Technology from the National Dairy Research Institute, Kerala.
S Ramesh, General Manager, KBS Bank Ltd.	Mr. Ramesh, 42, holds an MBA from Annamalai University, and a BA from Sri Venkateswara University. Prior to joining BASIX, he worked as a branch manager, inspector, and credit manager at Godavari Grameena Bank. In addition to managing KBS Bank operations, Mr. Ramesh had overseen the sale of the product to Bank customers in 2003.
D. Sattaiah, Associate Vice President, Insurance	Mr. Sattaiah, 40, initially learned his father's trade, goldsmithing, before moving from his village to the district headquarters to earn a Bsc and MBA. Following time spent tutoring math, a brief period at the Life Insurance Corporation of India, and as an entrepreneur producing plastic surgical disposables, he joined BASIX in 1996 as a field executive. Together with Mr. Gunaranjan, Mr. Sattaiah developed and implemented the rainfall insurance product as part of the larger suite of BASIX insurance products.

Source: BASIX