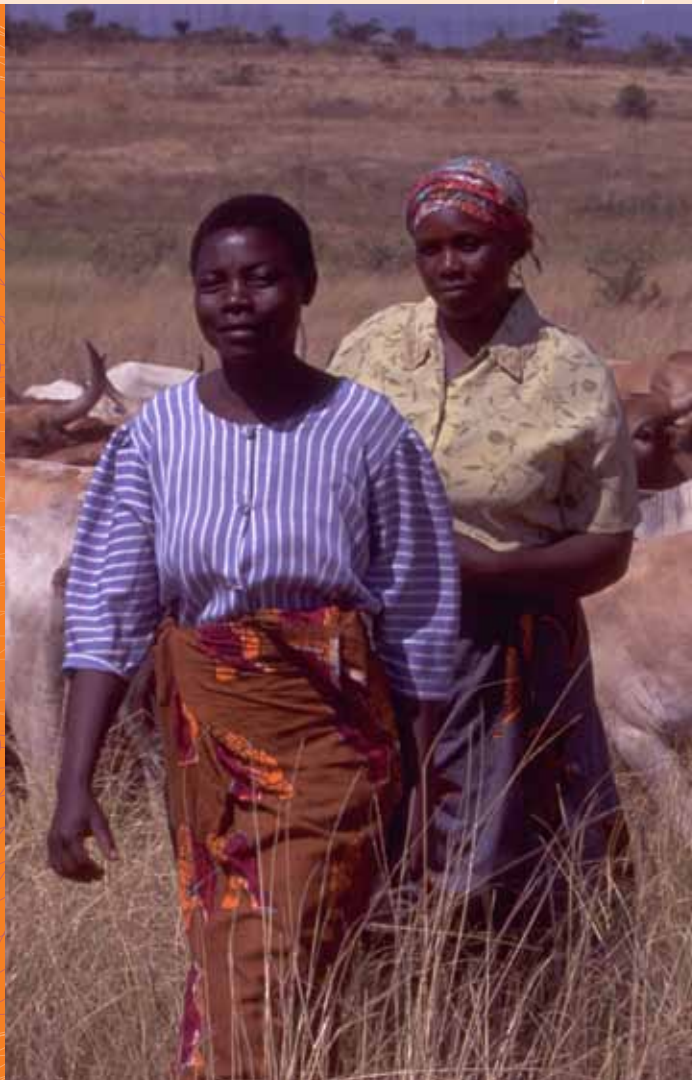


KILIMO SALAMA – INDEX-BASED AGRICULTURE INSURANCE

A Product Design Case Study



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Product Design Case Studies

Overview

The poor and other underserved populations in developing countries have unique financial services needs. However, there is often a mismatch between what financial institutions offer and what underserved populations need or want. This ‘product gap’ may reflect a lack of interest by financial institutions in designing more target products, or a lack of willingness or capacity on the part of financial institutions to design, market and implement tailor-made financial products.

A better understanding of successful products and the processes behind their design, development and implementation may help increase Access to Finance for underserved populations. In line with IFC’s Learning Agenda on responsible financial inclusion, the Product Design Case Studies were established to bridge the gap between product design/innovation and financial inclusion, increase knowledge related to product design and development processes, and focus attention on the end beneficiaries of financial products.

The objectives of the Product Design Case Studies are to 1) develop expertise related to product design and innovation processes through a better understanding of best practices in the field, in-depth research and application of behavioral economics concepts; 2) increase awareness of product design/innovation and the links between product development and financial inclusion; and 3) generate publicity and knowledge sharing around product design and innovation.

IFC has partnered with ideas42 to research and develop the Product Design Case Studies with a particular focus on behavioral economics. The case studies present useful products and product innovations that are scalable across a broad range of markets and offer broadly valuable insights into features of successful products, customer behavior and the product development process itself. The case studies also highlight the benefits for financial institutions of implementing or designing new products, and the corresponding effect on responsible financial inclusion of underserved populations.

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Kilimo Salama – Index-based Agriculture Insurance

Overview of the Case Study

The objective of this case study is to describe the design and implementation of an index-based agricultural insurance product targeting rural farmers in Kenya. The Kilimo Salama (“Safe Agriculture” in Kiswahili) product has been successful in protecting farmers against risks from drought or excessive rainfall, both of which can have disastrous effects on the harvest.

The following sections present weather-related risks affecting farmers, the steps taken to address these problems by designing a new insurance product, the product development and implementation process, and the impact of this new product thus far. Beyond the focus on product design, this case also discusses lessons learned since the product’s launch, how the product is expected to evolve in future versions, and scalability.

The preparation of this case study was supported by funding from IFC. Rose Goslinga at the Syngenta Foundation accompanied ideas42 and IFC on a site visit in Kenya, and her help was instrumental in preparing this case study.

The Problem: Unpredictability of Rainfall

Farming is a mainstay of the Kenyan economy, representing three quarters of employment in the country. Nearly half of all farming output in the country is for subsistence purposes¹. Therefore, many farmers’ livelihoods are entirely dependent on their harvests, both for the income generated by selling crops and for feeding their families. Unfortunately, there is little certainty in subsistence farming since the size of the harvest is largely determined by the timing and amount of rainfall. One drought resulting in a bad harvest can lead to a lack of savings to invest in next year’s planting—a vicious cycle from which it is difficult to recover. This precarious situation is prevalent in Kenya and other developing countries. Whereas individuals experiencing other financial shocks can often turn to family or friends to help them in a time of need, lack of rainfall occurs in a localized area where everyone is affected, making it more difficult to turn to peers for help (Gine et al, 2010).

¹ Country Profile: Kenya, Library of Congress, Federal Research Division, June 2007.

Moreover, farmers traditionally have little access to formal banking services to save their incomes or to borrow to overcome weather-related shocks. Savings would enable farmers to smooth their consumption and investment over time by keeping income from the plentiful harvests for use during a dry season. However, even with this ability to hedge there are still inherent risks in farming. Even with sufficient income to cover seeds, fertilizer and other inputs necessary for planting, the outcome is still susceptible to rainfall. Of course, farmers know this and work towards lowering risk for things that they cannot control. For instance, they commonly plant a variety of crops to diversify their harvests and effectively lower risk. However, the fact remains that the most important element—rainfall—is completely out of their control.

Traditional insurance products available to farmers address this risk with mixed success. Most insurance is indemnity-based, meaning the company insures against crop loss or damage. This process involves the farmer buying insurance, reporting damage after it occurs, filing a formal claim and receiving a visit from an insurance agent to determine the validity of the claim. After the validity of the claim is established, the farmer receives a payout. The requirement of personal visits to remote, rural areas makes this costly and burdensome for the insurer. Indemnity-based insurance also leaves more room for tampering and fraud on the part of both the farmer and the insurer.

Indemnity-based insurance offers the advantage of covering losses from any type of damage, since the cause is not the only determinant of a payout; any cause from drought, flood or other natural disasters would be indirectly covered if the resulting crops are damaged. However, this advantage is far outweighed by the lack of certainty surrounding the claims process and higher cost to both the farmer and insurer. Many farmers have a negative impression of insurance due to stories of their peers being scammed by insurers—partly because of actual fraud but also because of poor communication. Moreover, due to the high costs of implementation, a typical insurance plan must have higher premiums than small-scale farmers can afford in order to be profitable.

The Innovation: Index-based Agricultural Insurance

Kilimo Salama, an index-based insurance product that covers farmers' inputs in the event of drought or excessive rainfall, was developed by the Syngenta Foundation for Sustainable Agriculture (SFSA) and launched in partnership with Safaricom (the largest mobile network operator in Kenya) and UAP (a large insurance company based in Kenya).

Kilimo Salama is a tool for farmers to avoid the risks associated with rainfall variability that directly affect their livelihoods. This insurance product is index-based, meaning payouts are determined by comparison to historical, regional rainfall patterns. During the planting season, actual rainfall is measured using a solar-powered weather station in the area. If the rainfall is determined to be too little or too much then there is a payout, the amount of which is based on the deviation from the rainfall index. This is a large departure from indemnity-based insurance, which is based on crop damage after the harvest. Kilimo Salama insures farming inputs, not outputs, and insurance payouts are independent of actual crop damage, meaning a farmer may receive a payout without experiencing crop damage and may not receive a payout when they do have crop damage.

Index-based insurance is not unique to Kilimo Salama; this type of innovation has become increasingly popular in the developing world in recent years. There are similar products linked to major disasters (e.g. earthquakes in Mexico using the Richter scale as an index), livestock and, most commonly, drought (Barnett et al, 2008). Kilimo Salama, however, has distinguished itself by distributing and marketing its product with remarkable success.

From a behavioral perspective, index-based insurance is akin to a lottery or gambling on the weather. To sell traditional insurance, a potential customer must be convinced that there is a reasonable probability of a loss that must be covered. On the other hand, the customer only needs to believe that the weather is variable and unpredictable in order to find index-based insurance attractive. Research suggests that both views will be affected by the recency of weather events via the “availability heuristic” (Kahneman et al, 1973). The availability heuristic is a rule of thumb people apply when making judgments about probability whereby excessive weight is placed on recent or easily recalled events. To the extent variability in weather is easier to recall than a loss due to weather, index-based weather insurance ought to be easier to sell than traditional insurance.

From an economic perspective, index-based insurance provides a buffer to protect the farmer against shocks that is similar to having savings. However, savings would be less convenient for weather protection if the farmer has not accumulated sufficient amount to cover their losses in the event of a drought. For example, in an area with a drought one out of every ten years, an insured farmer would pay a 10 percent premium in each of ten years and receive 100 percent back in the year of the drought. Actual payouts are not binary, but the same element of saving for a (not so) rainy day applies. However, an uninsured farmer would have to compensate for 100% of the losses by depleting their savings or borrowing. The insurance allows them eliminate the drought risk and spread the costs of protection over a longer period.

Design and Implementation

Product Design

Kilimo Salama was developed by the Syngenta Foundation for Sustainable Agriculture (SFSA), a non-profit organization established by Syngenta, a large agri-business company based in Switzerland. Syngenta gives the Foundation an annual endowment to develop research and products to support small-scale farmers in developing countries. The Foundation employs 15 to 20 people who act independently of the Syngenta Company but may partner with it on projects, allowing them to utilize the company’s expertise. Kilimo Salama involves such a partnership: the Foundation developed the idea and Syngenta Company provided access to its product distribution network of local agri-dealers. The product development team was led by Rose Goslinga, Agricultural Insurance Initiative Coordinator at the Syngenta Foundation. Kilimo Salama is further supported by the Global Index Insurance Facility, a program managed by IFC to facilitate the expansion of index-based insurance globally.

The problem that the product sought to address was the vulnerability of farmers to weather unpredictability. In particular, a drought or excess rain can devastate crops, not only ruining a farmer’s harvest in that year but also affecting prospects for recovery in the future. Lower

income from a smaller harvest leaves farmers with little to spend on next season's inputs. One bad season can thus have consequences for several seasons if the farmer is not protected by insurance, but adequate insurance coverage for small-scale farmers is not widely available.

The Syngenta Foundation wanted to develop an insurance product that could reach small-scale farmers yet still be economically sustainable. The idea for the product came as a reaction to traditional indemnity-based insurance, which requires personal visits by the insurer to assess the damages from a farmer's claim. The costs associated with this model are unsustainable for small-scale farmers since their premiums are low while the transaction costs are high. Indemnity-based insurance also has a bad reputation among many farmers because of the perceived potential for fraud.

The Foundation found that an index-based product best suited their needs. This product was relatively new at the time but had been tried in some developing countries, including Rwanda, India and Malawi, to insure against drought. The product is structured so that premiums and payouts are calculated by comparing actual data to an index based on historical data. Typically, this is done through the use of rainfall measurements from local weather stations compared to a "trigger level"—the minimal amount of rainfall necessary for normal plant growth. This design was seen as advantageous since it relied on objective measurements to determine damage. Index-based insurance is also cheaper than traditional insurance since it requires no personal visits to assess damage.

After settling on index-based insurance as the preferred method of protecting vulnerable farmers against weather-related risks, the Foundation needed to find a channel to deliver the product and a country to test it in that met certain conditions: sufficient weather data to develop an index, risk of drought, and lack of government subsidies—farmers would have to pay for the premiums themselves. With these factors in mind, several countries were considered, including Mali, Zambia, Tanzania, Ghana, and Kenya. The Foundation initially believed that the product would be linked to formal credit but found that banks in these countries were reluctant to lend to small-scale farmers. After exploring many opportunities, Kenya was picked as the best site to develop the product once viable partners came on board.

The Syngenta Foundation talked with insurers in Kenya but found UAP in Kenya to be the most suitable partner; their partnership formed the Agricultural Index Insurance Initiative. UAP Insurance employed an agronomist that had already developed products for large-scale farmers, meaning the company had the available expertise the Foundation was looking for. The presence of an agronomist sent a signal that they were serious about developing their agriculture portfolio.

UAP Insurance was also independently exploring the idea of developing products to reach small-scale farmers. From their perspective, this market had been largely underdeveloped, as insuring small-scale farmers was not cost-effective. It had been difficult to reach farmers since they had developed mistrust of the insurance industry from past dealings and also were resistant to paying premiums on inputs. Farmers also took their own measures to mitigate risk, such as diversifying their crop mixes each season. UAP wanted a simple, affordable yet sustainable product, and an index-based approach met UAP's criteria for new product development. Unlike traditional insurance products, this new product would cover only crop inputs and would not require

personal site visits. The product—later called “Kilimo Salama”—went through the company’s formal approval process: a proposal was written, approved by a technical committee and signed off on with final approval by top executives.

Rainfall Measurement and Payouts

The collection and use of weather data is the backbone of Kilimo Salama. Rainfall measurements are used to calculate premiums and payouts, so must be accurate. Additionally, in order to encourage farmers to trust the product the measurements have to be visibly objective. (Indemnity-based insurance fails at this since the agent visiting the farm determines the validity of the farmer’s claim.) To address these issues, the Foundation used many features of other index-based products but also added their own innovations.

Firstly, Kilimo Salama uses state-of-the-art weather stations in each agricultural region (about 15 square kilometers). These stations measure rainfall and other climate information (wind speed, temperature) and continually send the data to a central location.. Since the measurements are automated and there is little room for tampering, data collection is consistent across all regions. The only drawback is that measurements at the station do not always match the rainfall at a neighboring farm. This is inevitable and has caused concern, and farmers are allowed to choose which station best represents their farm’s climate.

As the basis for its rainfall index, the Foundation adopted the widely used Water Requirement Satisfaction Index (WRSI). Payout calculations are determined by this index and by local conditions. The WRSI determines the “trigger amount”—the minimum rainfall required for normal growth for a certain crop. Local conditions were measured using region-specific data on rainfall going back as far as 30 years from the Kenya Meteorological Department. The structure of the insurance contracts is region-specific—payouts depend on the past rainfall in that region and on current conditions on the ground².

The premiums charged to consumers are calculated based on simple assumptions of the frequency of drought in Kenya. Drought cycles in Kenya occur on average every seven to ten years. (In a simple example, a 100 percent payout from the insurer every 10 years would require a 10 percent annual premium to break even.) The payout scheme has undergone several changes but currently Kilimo Salama customers pay an average of 10 percent premiums.

² More detail on the index is available at www.syngentafoundation.org

Product Distribution

One of the largest challenges in developing any financial product is distribution, and this was particularly challenging for Kilimo Salama since it had to reach small-scale farmers with a lack of supporting infrastructure and also remain economically sustainable while using mostly small transactions. The solution to this barrier involved partnering with Safaricom, the largest mobile network operator in Kenya, and using Syngenta’s stockist network for selling the product. Kilimo Salama is the first micro-insurance product to be distributed and implemented over a mobile phone network. This is a groundbreaking innovation in insurance delivery, developed in reaction to the lack of infrastructure in place for distributing such a product.

The nearly 8,500 agricultural stockists in Kenya were seen as a distribution channel for the product. Syngenta’s distributors helped the Foundation choose 50 dealers that were well-established and had sufficient customer traffic. The dealers were incentivized to sell the product by receiving a portion of the related profits. From a behavioral perspective, this distribution channel makes sense as it should be easier to entice people to sign up for insurance at the time that they purchase inputs. Moreover, charging the premium on top of the input costs, instead of separately, capitalizes on “mental accounting”—customers will bundle the insurance and a bag of seeds as one item to purchase instead of viewing them as two items.

Safaricom is the largest mobile network operator in Kenya with 80 percent of the market. It therefore provided a tremendous network for reaching small-scale farmers. This system makes the product affordable and convenient for farmers since many already have mobile phones. The product is also scalable for the insurance company since the marginal cost of an additional customer is minimal.

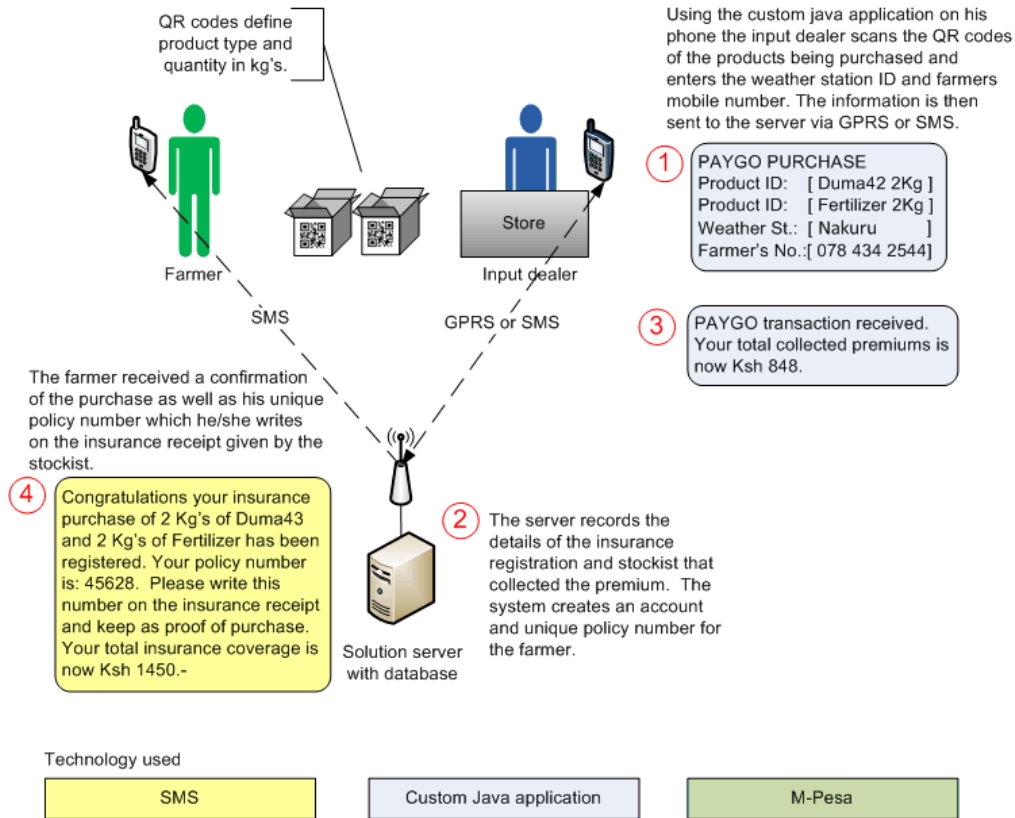
The product approval went through Safaricom’s “gate process” including developing the concept and requirements, attaining executive final approval, piloting and scaling. The final application designed by the Syngenta Foundation and Safaricom uses Safaricom’s mobile banking system, M-PESA, for transferring premiums and payouts. (M-PESA, started in 2007, now dominates the market and is currently used by over 13 million Kenyans.) This system allows customers to deposit or withdraw money, send money to another customer and pay bills.

The process for purchasing insurance works as follows (see diagram in Figure 1):

- The farmer visits a local stockist who offers them Kilimo Salama coverage as a premium on the cost of their seeds or other inputs.
- If the farmer decides to buy Kilimo Salama, the stockist scans a bar code on the bag of seeds using a Kilimo Salama application on their mobile phone. The application on their phone recognizes the bar code and sends the corresponding coverage amount to the insurance company (UAP). The application further tells the stockist how much premium the farmer should pay him.
- The farmer then gets a text message notifying them of their policy number and the items they have insured.

- The stockist collects the premiums of several customers before it is transferred via M-PESA to UAP.
- If a payout is necessary, the farmer receives a text message that they have a claim. They are informed of the amount of the payout, which is directly deposited into their M-PESA account.

Figure 1: Kilimo Salama Purchase Process



Source: Syngenta Foundation

Conducting most transactions over mobile phones is a key driver of this product's success. It provides a cheap distribution mechanism for the insurer and is easily accessible for the customer. In addition to reaching small-scale farmers through mobile technology, Kilimo Salama has been successful in overcoming a key barrier to selling insurance: establishing trust with the customer. Farmers are typically incredulous when presented with the option of purchasing insurance, due to their own experiences or those of their peers with traditional indemnity-based insurance. Kilimo Salama has largely overcome this obstacle by offering to insure small amounts—as little as one bag of seed. This offer gives farmers the ability to “test” the product and escalate the amount of inputs they insure once they are comfortable. In a focus group discussion of over 20 farmers in Moiben, all nine farmers who had bought insurance the previous year said they would buy it again, and most of the remaining farmers said they would buy it for the first time this year. One

farmer summarized his relationship with Kilimo Salama: “Last year we wanted to go slowly, now we want to do it right away.”

Customer Outreach

The product is marketed to farmers over the radio and at group training sessions. The radio announcements were used since this is how most farmers get their information. The advertisements tell of the benefits of Kilimo Salama and which local stockists to visit to acquire the product (in this way, it also helps market the stockists themselves.) Group training sessions are held in each region before the start of each planting season. Where possible, trainers are assigned to the region they are from, as knowledge of the local culture and dialect are critical for communicating to local farmers.

Educating potential customers on the benefits of insurance was another challenge facing Kilimo Salama. As previously mentioned, insurance has a bad connotation for many farmers. Overcoming this obstacle meant that any new insurance product had to establish trust with the customer. Indeed, trust is easier to achieve since the product is offered by a stockist with whom the farmer may have an established relationship. In addition, using local trainers can increase farmer’s trust in the insurance product. The Foundation recognized quickly that interactions with peers can have a profound effect on customers and attract potential users.

Kilimo Salama also has a phone help line where agents can answer questions about the product. This line is open to both existing and potential customers. Again, the Foundation was sensitive to cultural differences for each region in setting up the help line. Agents are trained in how to deal with customers from different regions. For instance, they are taught the proper greeting for each region because if the farmer is greeted improperly, they are less likely to engage with the agent. These cultural nuances are important to master, especially for acquiring new customers.

Changes During Implementation

Kilimo Salama was originally pilot tested in the Laikipia district in Kenya in March 2009 using two weather stations that insured seeds for 200 local maize farmers. It is currently in its third year of operation and has undergone changes with each iteration. The Foundation routinely collects feedback from customers and stockists to gauge their opinions on the product. Kilimo Salama has adapted to the wishes of current users to attract new customers. The following changes have occurred throughout the product’s evolution:

- **Free offer.** Initially the insurance premium was completely paid for by Syngenta Company and offered to farmers for free. However, this did not have the intended effect of enticing farmers to take up the product for cultural reasons: Kenyans are generally distrustful of products that are free. The Foundation dropped this strategy as a result and introduced a 10 percent premium.
- **Pricing.** Since the product’s price was set, the mix of funding the premiums has changed. The 10 percent premium was initially split between Syngenta Company and the farmer, with 5 percent paid by each.

- **Insuring other inputs.** The first version of Kilimo Salama only offered insurance for maize. After this pilot succeeded, the Foundation added insurance for more types of crops. After farmers were accustomed to using the product for seeds, they began to ask if they could insure other inputs. As a result, in the second year Kilimo Salama offered coverage for fertilizer (from MEA) and other chemicals (from Syngenta).
- **Insuring outputs.** The latest version, Kilimo Salama Plus, now offers coverage for crop outputs. This new product is only offered in certain areas where farmers expressed interest in this feature (e.g. Eldoret). With this new version, farmers can cover all of their input costs and the resulting crops based on the estimated value of the harvest. In this case they pay the full price of 10 percent premium themselves.

Kilimo Salama contributes to responsible financial inclusion by providing an accessible and cheap product to people in the region. The product is offered at a low premium but covers the farmer against potential for immense financial shock emanating from drought. Kilimo Salama is also objective and transparent in measurement of rainfall and determination of payouts—leaving no room for fraud. In fact, the key element of the product is the cultivation of trust with the farmer. The Foundation continually interacts with the farmers and stockists to determine their needs and adjusts the product accordingly. In the future, it will offer more education on the weather to help farmers and more flexible protection.

Results

Impact on farmers

Kilimo Salama has successfully provided protection against rainfall while remaining affordable and accessible to farmers in remote regions. The product has succeeded in meeting its goal of protecting farmers against unpredictable weather. The product has also been successfully implemented through the use of an extensive stockist network and mobile phone payment system.

In 2009, the initial product pilot covering 200 farmers and two weather stations happened to come before one of the worst droughts in recent history. As a result, all of the farmers received a payout totaling either 30 percent or 80 percent of the insured maize seeds; the portion was different for each of the two weather stations. In the following season, 12,000 farmers were covered through 25 additional weather stations. In this season, only 10 percent of farmers (1,200 farmers from 10 weather stations) received payouts ranging from 10 percent to 50 percent of their insured inputs.

Since then, the product has adapted to the needs of its customers by adding more features and flexibility, with the ultimate goal of providing comprehensive protection to small-scale farmers. It now offers protection for seeds, chemicals and harvest outputs. The latter will offer farmers the ability to recover their potential earnings contemporaneously with their damage. If only inputs are insured then the farmer gets compensated for those costs but has to wait until next season's harvest to reap the benefits.

The product has shown remarkable growth and now covers 12,000 farmers and 30 weather stations. Two thirds of these new farmers came from recruiting through microfinance institutions (MFIs) where enrollment in Kilimo Salama is mandatory. Kilimo Salama offers the MFIs indirect coverage by protecting their debtor, the farmer. This practice encourages farmers to take up insurance if they want to receive a loan (Yang et al, 2008). Several farmers in a focus group in Moiben mentioned that they were purchasing insurance because they wanted to take a loan to expand their farm's acreage.

Partner Benefits and Profitability

The product would not have succeeded without the participation of its partners. Each took a risk in backing a new venture that was not guaranteed to be profitable. Indeed, currently the product has not turned a profit for every partner. However, as with other products aimed at the low-income segment, it was not expected to generate an immediate profit.

Safaricom has generated a profit from the product, mainly through its transaction fees for M-PESA. The company has also benefitted from marketing of M-PESA, claiming that Kilimo Salama has helped it to acquire new customers and retain existing ones. Since all participating farmers use M-PESA, Safaricom also benefits from other transactions resulting from a payout: farmers may use the funds to purchase other goods or save the funds for next year's planting (a majority of farmers in the focus group in Moiben said they would do the latter).

UAP has not yet generated a profit but believes the product will be profitable in the future. The company initially struggled to convince customers of the product's benefits. The insurance industry was largely unregulated and many companies collapsed as a result, leaving farmers with unpaid claims. Therefore, the industry has had to regain customers' trust, which takes time. However, UAP predicts that as the product scales up it will become profitable, possibly in 2012.

Stockists that sell Kilimo Salama benefit from the additional exposure the product provides. They are advertised on the radio, which allows them to build relationships with new and existing customers. In interviews with several stockists, all claimed that a minority of customers ask for the product. They also have to take valuable time to explain the product to unfamiliar customers. However, most of those interviewed believed that farmers would buy more inputs in the coming season, partly because a good harvest is expected but also because of Kilimo Salama. One stockist explained, "we expect to sell more this year, they have peace of mind. The risk is causing them to buy."

Lessons Learned

For Design

Kilimo Salama has been successful in part because its key elements were well-established during the design process. The Syngenta Foundation knew that they would need accurate, reputable data collection and a sufficient distribution system for the product to flourish. This experience should be taken into account for other index-based insurance products:

- **Rainfall measurement must be objective:** Micro-insurance products should rely on objective measurements for product reliability. Kilimo Salama uses innovative, solar-powered weather stations that give accurate rainfall measurements and also communicate other useful data for farmers.
- **Establish a local distribution channel:** Kilimo Salama is distributed using local stockists at the time of purchasing inputs, making it easier for the customer to adopt the new product. From a behavioral perspective, this distribution channel capitalizes on existing relationships since farmers are more likely to take advice from someone they know and trust.
- **Mobile banking is a useful delivery tool:** The use of Safaricom’s M-PESA system was key to Kilimo Salama’s success. It allowed the product to reach farmers throughout Kenya with little infrastructure requirement and provided easy access for every transaction. This tool removes “channel factors³” by making it very easy for the farmer to sign up and removing the need for farmers to file a claim. It should be noted that this was successful partially because of Safaricom’s significant pre-existing market penetration. Indeed, more mobile network competition would have provided more of a challenge to product take-up and distribution.

For the Product Innovation Process

Kilimo Salama has innovated and adapted with each new planting season. While its design was carefully constructed, there were difficulties in implementing in the field (as with any product). The issues faced by Kilimo Salama during this process can be instructive for future products:

- **Establishing trust is critical:** A key challenge faced by any insurance product is establishing trust between the insurer and customer. Kilimo Salama discovered this during the product roll-out, as people were reluctant to use any product until they saw that it would pay out. The Syngenta Foundation addressed this barrier by letting customers take as little insurance as they wanted. For instance, a farmer could insure just one bag of seeds so that they could “test” the product before buying more insurance. They may then be more comfortable insuring more, even if there was no initial payout.
- **Use local people where possible:** The distribution and education for a product should use local people that understand the region. Kilimo Salama uses local stockists to market its

³ Channel factors are used in psychology to describe anything that comes between intention and action.

product and local trainers to educate farmers on its benefits. These interactions are critical for engaging with farmers.

- **Short-term profitability should not be a primary goal:** All products aim to be sustainable and Kilimo Salama is no exception. The Foundation sought to offer an affordable product and needed to cut costs wherever possible. The delivery system for Kilimo Salama is indeed very cheap to implement, yet the scale of the market has yet to make it profitable. Products like insurance are contingent on establishing relationships and trust, which take time to cultivate. These elements should not be sacrificed for short-term profitability, and it is these very ingredients that are essential for long-term gains.

Future Improvements

Kilimo Salama provides a valuable example for how to distribute and implement a new product. However, it is still changing and will continue to develop in future years. The Foundation recently introduced Kilimo Salama Plus to cover more inputs and crop outputs in the current season. The results from this are not yet available but should provide a new strategy going forward.

The product continues to expand and has plenty of room for growth in Kenya. While the 30 weather stations currently support 12,000 farmers, Syngenta Foundation claims these stations could support a total of 50,000 farmers. They and their partners all want to see Kilimo Salama scaled up even more.

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