

## MILK Brief #15:

# “Doing the Math” – Catastrophe Insurance in Haiti<sup>1</sup>

### Studying Fonkoze’s Catastrophe Microinsurance in Les Cayes

Haiti has suffered more than its fair share of disaster in recent years, and each hurricane season threatens to set back the fragile progress made since the 2010 earthquake. Small-scale entrepreneurs, owning little more than a house, a stall and a small inventory to sell, risk losing their entire livelihoods each time a storm or earthquake strikes. Haiti’s extreme vulnerability to natural disaster makes an important case for the need for catastrophe microinsurance. Fonkoze, a leading microfinance institution in



*The home of one respondent who was affected by the Les Cayes floods*

Haiti’s financial access landscape, has led the market in offering a catastrophic risk mitigation product to its clients.

In this paper, the MILK Project examines the case of Fonkoze’s *Kore W*, the first microinsurance product of its kind to reach scale in Haiti. In March 2012, we traveled to Les Cayes, Haiti, where severe rains had submerged entire neighborhoods six months earlier, in October 2011. We interviewed 71 individuals who had been impacted by the rains, quantifying their losses, their financing strategies and their progress since the disaster.

This methodology allowed us to explore the financial value the *Kore W* product offered to these clients after the shock occurred. We examined the extent to which the claims payments matched the costs of the storm, helped clients avoid stressful financing mechanisms, and helped clients’ businesses bounce back after the disaster. We also assessed how quickly, efficiently and equitably the product was delivered and analyzed clients’ impressions of the product’s value.

### *Kore W*: How it Works

In 2011, Fonkoze co-founded the Microinsurance Catastrophe Risk Organization (MiCRO) to develop *Kore W*<sup>2</sup>, a catastrophe insurance product for its microcredit clients. *Kore W*, or “support you” in Haitian Creole, triggered by damages to a client’s house, place of business, or merchandise in the case of rain, wind, and earthquake damage. If the client’s claim is approved, Fonkoze forgives any outstanding loan balance, pre-approves a new loan, and extends a cash payout of approximately **USD125**. The *Kore W* product is mandatory for all of Fonkoze’s 60,000 microcredit clients, and as of October 2012, it counted approximately 19,000 claims beneficiaries<sup>3</sup> since its inception (Fonkoze, 2012).

In an effort to accommodate clients’ differing abilities to pay, *Kore W* premiums vary by loan size and type. Most clients pay a premium equivalent to 3% of their loan. Clients pay the full premium upon receipt of their loan, and these premium payments cover approximately 55% of the cost of the product to Fonkoze. The structure of MiCRO’s insurance is unique, combining a parametric or index policy (which uses weather monitoring to trigger payments from MiCRO to Fonkoze) and a basis-risk policy (which allows Fonkoze to assess household damage at the credit center level). This model capitalizes on the

<sup>1</sup> This MILK Brief was prepared by Barbara Magnoni and Laura Budzyna with field work by Jonathan Bauchet and with the support of Fonkoze (January 2013).

<sup>2</sup> The *Kore W* product was a combined effort of Fonkoze, Mercy Corps, Swiss Re, CaribRM and Guy Carpenter.

<sup>3</sup> This number corresponds to claims beneficiaries *before* Hurricane Sandy. After that storm, the number nearly doubled to 36,000.

social cohesion of their client base: groups of 30 to 50 clients elect a “center chief” from among themselves, and this center chief is responsible for assessing the damage at each client’s home after the disaster. This assessment is then verified through group discussion with all clients at the center meeting. This high-touch method helps to mitigate the “basis risk” inherent in index-based products, ensuring that all clients who have suffered damage receive a benefit.

### Assessing the Value of *Kore W*

This study **quantifies clients’ costs and financing strategies** and examines whether *Kore W* met its clients’ financial needs while helping them to avoid making more difficult risk management decisions. In past Client Math studies of calamity insurance in Ghana and the Philippines, the MILK research team has uncovered some relevant patterns. First, these studies found that while family and friends are important contributors in the aftermath of disasters, their **contributions are usually insufficient** to cover the magnitude of costs. This is due in part to the fact that the shocks studied were covariate: family and friends are also likely to have suffered similar damages, and as a result were less able to provide help. Additionally, family and friends generally have low incomes and may not be willing or able to offer support for frequently recurring events. This suggests that microinsurance can fill an important gap. Second, clients in both the Ghana and Philippines studies reported **long delays** in the payout process. In the interim, the insured used many of the same strategies as the uninsured, including stressful mechanisms like cutting spending, selling assets and depleting savings.<sup>4</sup>

Fonkoze published an evaluation of *Kore W* in May 2012 based on a preliminary analysis of the Client Math data collected by MILK. This evaluation found that, before receiving the payout, clients turned to family and friends and cut spending. MILK’s analysis looks at **how much financing came from these other sources** and **why the insured opted to use these strategies**. The Fonkoze evaluation also found that the payouts took too long to distribute – an average of 46 days – which reduced the value of the product to the insured. **We quantify the cost of this delay, by taking into account lost profits and wages during this time period. We also look at how this delay may have affected clients’ financing strategies and use of the payout.** The Fonkoze evaluation reported high levels of client satisfaction with the product, and indeed, observed significantly lower than average dropout rates from the microfinance program in regions where clients had received insurance payouts (Fonkoze, 2012). We observed similarly positive responses from clients.

In our sample of 35 insured respondents, the combined *Kore W* cash payout and loan forgiveness covered only **53% of total losses**, and the cash payout alone **covered only 20% of total losses**. **The majority of clients’ losses were indirect**, due to lost profits and wages during the period when clients were unable to run their businesses. *Kore W* did not explicitly cover these costs, and the delay in payment likely intensified them. We observed that the uninsured sold more assets than the insured, depleting their in-kind savings in order to stay afloat. The insured people we interviewed were **able to avoid selling assets**. Finally, even with the insurance payout, clients did report **tightened spending** in the aftermath of the storm, suggesting that a faster payout might have prevented some of this belt-tightening.

### Methodology

In October of 2011, Fonkoze paid **USD 586,974** in claims (loan forgiveness and cash payment) to **2,074 clients** affected by the storms in Les Cayes. In March 2012, the research team randomly selected 35 Fonkoze clients who had received a payment and 10 clients whose claims had been denied. In addition, because all



*A surveyor interviews a respondent in Les Cayes for the Client Math study.*

<sup>4</sup> See MILK Brief #10: “Doing the math” with property insurance in Ghana and MILK Brief (forthcoming): “Doing the math” with calamity insurance in the Philippines.

Fonkoze microcredit clients were required to purchase *Kore W*, researchers sought out people who were not clients of Fonkoze to serve as an uninsured comparison group. Clients helped the team identify 26 uninsured respondents who also owned small businesses but who were not Fonkoze borrowers.<sup>5</sup>

The Client Math methodology first seeks to uncover the full direct and indirect costs of the storm, and then it unpacks the various strategies clients used to cover these costs. We first asked respondents to quantify the physical losses to their home, storefront, and merchandise, as well as indirect losses due to time away from work. Second, respondents reported the strategies they used to finance their losses. Third, those who received a payout offered details about the uses and impressions of the insurance.

### Who were the respondents?

Table 1 offers a demographic and financial snapshot of the three groups in our sample. When analyzing the differences in strategies used by these groups, we take into account not only the ownership of insurance but also these socioeconomic and financial access factors. In this paper, “insured” will refer to clients who received a payment, “non-payment” will refer to clients who had insurance but did not qualify for a payment, and “uninsured” will refer to respondents who had no property insurance.

	Insured (n=35)	Non-Payment (n=10)	Uninsured (n=26)	p
Age	51	39	38	0.0006
% Women	100%	100%	100%	1.0000
Years of Schooling	5.3	6.9	6.7	0.2323
Household Size	5.7	6.5	5.5	0.0060
% Own Home	51.4%	50.0%	23.1%	0.0830
% Married	42.9%	40.0%	26.9%	0.1060
Respondent's Weekly Income (from business)	USD24	USD23	USD16	0.0700
Respondent's Weekly Income (from business and other)	USD37	USD43	USD21	0.1210
Household Weekly Income	USD50	USD87	USD28	0.0000

From a purely demographic perspective, the groups were similar in many respects. All respondents, both insured and uninsured, were women. Household size was similar between the insured and uninsured groups (between 5 and 6 people); the non-payment group had slightly larger households (between 6 and 7 people). The respondents also had comparable levels of schooling, averaging between 5 and 7 years. While approximately 40% of both insured and non-payment clients were married, only 27% of uninsured respondents were married. The insured respondents who received a payout were also older, averaging 51 years compared to 39 for the non-payment respondents and 38 for uninsured respondents.



*A respondent stands under her makeshift storefront.*

Although most of the respondents in the sample were business owners, we see that the insured

<sup>5</sup> It is important to recognize that the sample size of this study is small from the perspective of assessing statistical significance, and thus the figures calculated in the report are not to be generalized to all Fonkoze clients or all uninsured Haitians affected by natural disasters. Small samples are also more vulnerable to outliers, and thus the reader should be cautious not to over interpret apparent differences between groups. Another limitation is potential misreporting; as clients were interviewed six months after the event, their ability to recall exact amounts may be limited.

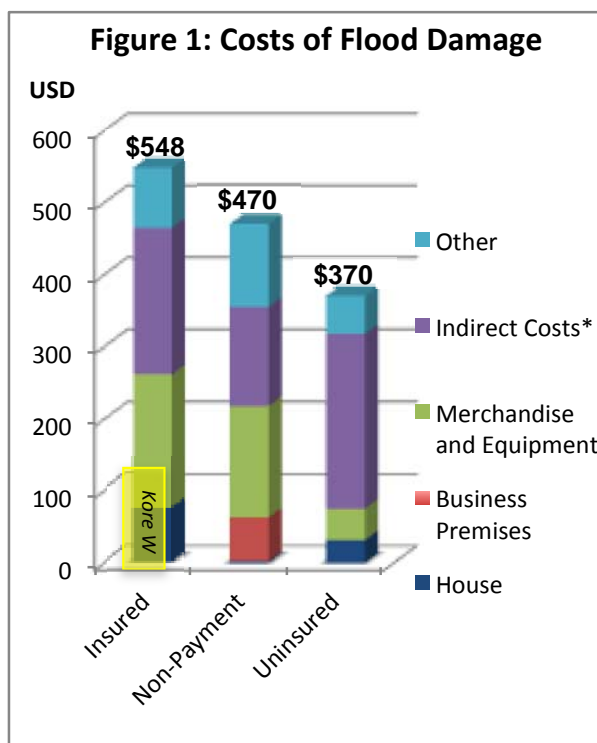
respondents were somewhat more financially secure than the uninsured respondents. The individual business income of both insured groups was higher than that of the uninsured group, and the household weekly incomes were even more disparate. The latter disparity may be due in part to the difference in marital status; more insured households are married and as a result benefit from multiple incomes. The high average income in the small non-payment group is likely a result of a few wealthier individuals' influence within a small sample size.

The discrepancies across the three groups help to explain our caution in interpreting the insured and uninsured groups as “treatment” and “control,” as these baseline characteristics and financial measures will also influence the strategies that respondents use to finance storm losses.

### How much did it cost?

The costs of the storm were devastating for the residents of Les Cayes. On average, respondents incurred direct and indirect costs amounting to over **twice their monthly income**. **Indirect costs** of lost profits and wages during the storm's aftermath made up the largest portion of losses for all groups, followed by **lost merchandise**. While damaged inventory was explicitly covered by *Kore W*, indirect costs were not.

For insured respondents who received a payout, total losses amounted to **USD548**,<sup>6</sup> and for those who did not, total losses were reported at **USD470**.<sup>7</sup> Uninsured clients reported total losses of **USD370**. These figures are equivalent to **2.7 times** the monthly household income for insured clients and **3.3 times** the monthly household income for uninsured clients. Non-payment clients, who were wealthier, suffered losses amounting to **1.4 times** of their monthly household income. The complete breakdown is illustrated in Figure 1.<sup>8</sup> The discrepancies in income and business size help to explain the difference in losses; the insured, with higher incomes and more access to credit, may have had more to lose than the uninsured, in terms of both inventory and potential profits.



**Damage to House.** Most respondents (57% of insured, 50% of non-payment and 77% of uninsured) reported damages to their home, including damage to roof, walls and electrical systems. The insured who qualified for a payout reported spending an average of **USD74** on repairs, while the uninsured spent an average of **USD32**. Interestingly, the non-payment respondents reported spending only an average of **USD2** on repairs. It appears that these clients suffered only minor damages to their homes, and thus did not qualify to receive a payout. It is important to note that these numbers refer only to repairs that clients *made and paid for*; the actual *value* of damage to the homes is likely much higher across the board.

<sup>6</sup> In the “lost profits and wages” category, we have eliminated three outliers, which significantly skewed the average storm costs.

<sup>7</sup> It is curious that the non-payment clients reported significant costs and were not approved for the payout. We observe that these clients suffered little to no damage to their house, and perhaps for this reason they were not deemed eligible. The damage assessment, which is subject to some subjectivity, may not have captured the full magnitude of their loss.

<sup>8</sup> The reader should be cautious in interpreting the graphs of costs and financing sources in this brief, as they do not reflect only the direct effect of insurance purchase, but rather the combined effect of insurance coverage and any characteristics that may predispose a respondent to be a Fonkoze credit client. Although we made efforts to ensure that the insured respondents were similar to the uninsured respondents, it may be that the Fonkoze credit client base is systematically different from non-clients, and this could account for some of the difference between insured and uninsured in these graphs.



**Damage to Business Premises.** While *Kore W* covers damages to a business's external structure or stall, few respondents in this study experienced such damages. Only two respondents in our sample had a separate storefront for their business; most sold goods out of a cart or their homes. The one uninsured respondent who owned a stall from which she sold goods reported no damages to the stall. One non-payment respondent reported **USD607** in damage to her stall.

**Lost Merchandise and Equipment.** Damaged inventory and other business supplies represent one of the most difficult shocks that respondents experienced, hampering their ability to operate their businesses in the storm's aftermath. As such, damaged inventory comprises the largest physical portion of losses. In our sample, 91% of insured and 73% of uninsured respondents report losing merchandise and equipment (only 50% of non-payment respondents reported lost inventory, perhaps another reason they did not qualify for a payout). To replace those items, insured clients spent **USD187**, non-payment clients spent **USD155** and uninsured respondents spent **USD44**, respectively. It is noteworthy that of the 18 uninsured respondents who lost inventory, only six replaced it in the aftermath (33%), while of the 29 insured respondents who lost inventory, 18 replaced it (62%). This is one powerful measure of the ability of the insured to "bounce back" and restart their business.

**Other Items.** Overall, 38% of respondents reported losses other than those mentioned above, many specifying lost farm animals and damaged gardens. Unlike a person's house and inventory, the loss of these items alone does not qualify a client for a *Kore W* payment. According to Fonkoze, clients have suggested in focus groups that *Kore W* begin covering animals and gardens, as they also represent valuable assets and contribute to livelihoods (Fonkoze, 2012). The average cost of other losses was **USD83** to insured clients, **USD115** to non-payment clients, and **USD53** to uninsured respondents.

**Indirect Losses.** Respondents also suffered a series of indirect losses, including foregone income due to time away from work and costs to set up alternative businesses. Although *Kore W* was designed to cover loan forgiveness and provide some emergency expense relief and not to cover these indirect costs, it is noteworthy that these expenses made up the majority of respondents' financial losses during the storm.

- **Foregone Profits.** After the storm, 83% of respondents were forced to close their businesses temporarily. This period of inactivity lasted an average of 35 days. The potential income lost during this time was far from inconsequential. By multiplying days of inactivity by a client's typical daily profits, we calculate that insured clients lost **USD190**, non-payment clients lost **USD128**, and the uninsured lost **USD242** during this period.<sup>9</sup> *Kore W* does not cover these costs, nor did respondents finance the losses themselves.
- **Lost Wages.** In many cases, clients' family members also missed work in order to help with storm repairs. Overall, 30% of households had a family member *other than the client* miss work, ranging from 1 to 60 days of lost wages. On average, this cost insured respondents **USD8** in wages and uninsured respondents **USD24** in wages. (Lost wages for non-payment respondents averaged only **USD1**, because two of the three who reported missed work did not report a daily wage for the person who missed work).
- **Setup Costs.** A handful of respondents – seven insured, one non-payment and one uninsured – set up new businesses to try to cover costs in the interim. Generally, respondents incurred losses while setting up these new endeavors. While the one uninsured respondent did not lose money during this process, the non-payment client lost USD81 and the seven insured clients lost on average USD26 (leading to an average of USD5 in losses associated with setting up a new business across the entire insured sample).

Understanding the breakdown of these costs helps us begin to approach the question of the extent to which *Kore W* is meeting clients' needs in terms of quantity and coverage type. We find that the majority of *covered* losses were from damaged merchandise. However, a large proportion of indirect costs remain

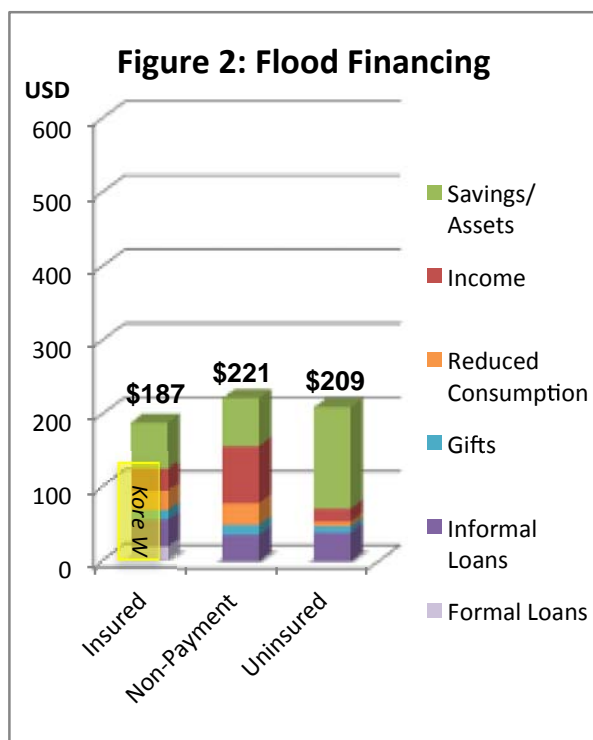
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<sup>9</sup> Excluding outliers mentioned in Footnote 6.

uncovered and, as discussed below, unfinanced by the respondents. Overall, the cash payout covered 48% of their physical losses to business and merchandise, but only **23% of insured clients' total losses**. When we add in the loan forgiveness portion, the total benefit still only covers **53% of client's total losses**. These additional indirect costs were due to extensive time away from work, likely made longer by delays in evaluation, processing, and payment of claims. Nonetheless, the benefit of remaining in good standing with the MFI and receiving a pre-approved loan in the following cycle are important features of the product that address key components of the loss.

### How did individuals cope?

Both insured and uninsured respondents used a variety of mechanisms to cover the damages to their homes, inventories, and incomes (see Figure 2). However, the total amount of financing was substantially lower than the reported costs: overall, respondents financed less than half of their losses. In total, insured clients raised **USD187**, non-payment clients raised **USD221**, and uninsured respondents raised **USD209**. It appears that respondents financed the physical losses but did not recover lost income.



**Informal borrowing was a common tool, but insufficient to cover the loss incurred.** Informal borrowing was a far more common response than formal borrowing, with 51% of insured respondents, 30% of non-payment insured respondents, and 58% of uninsured respondents borrowing informally to cover storm costs. The breakdown of informal borrowing sources can be seen in Table 2.

	Insured	Non-Payment	Uninsured
Friends	28.6%	20.0%	38.5%
Family	5.7%	10.0%	11.5%
Moneylender	8.6%	0.0%	0.0%
Other	11.4%	0.0%	19.2%
<b>Any Informal Loan</b>	<b>51.4%</b>	<b>30.0%</b>	<b>57.7%</b>

Respondents in all groups were more likely to borrow from friends than from family, although both present a cheaper, no-interest alternative to other informal sources. Borrowing from moneylenders was not a common response; only a small proportion of insured

respondents and none of the uninsured respondents borrowed from moneylenders. "Other" informal loans were slightly more common in both the insured and uninsured groups, as several respondents specified buying on credit at local stores.

The average amount of money borrowed informally was slightly higher in the uninsured group than the insured groups. Informal loans averaged **USD36** among both the insured and non-payment groups. Among the uninsured, informal loans averaged **USD39** (eliminating one outlier). Even when eliminating this outlier, the difference in loan size across groups is significant ( $p=0.035$ ).

Friends and family are often among the easiest places to turn to in a time of crisis, but these types of informal loans are not always the preferred mechanism. To gain greater insight into the preferences around turning to friends and family, if the respondent reported borrowing from friends or family, the surveyor followed up by asking why. The most common responses were that friends and family do not charge interest and that friends and family trust that they will be paid back. However, of the 28 individuals who borrowed from friends and family, 20 reported that they would have preferred not to.

**Formal borrowing was rare, despite the product's design to pre-approve loans for insured claimants.** A far less common response was to borrow formally: only one insured respondent reported borrowing from Fonkoze to cover storm costs. It is unsurprising that the uninsured group did not borrow formally, since it appears that few had access to formal credit before the storm. Although the insured respondents were eventually pre-approved for a new loan, they would not have been notified of this pre-approval until the claims process was complete: a reported average of 58 days after the event. The delay in this pre-approval prevented them from borrowing formally in the interim. The one insured respondent who did borrow formally reported taking out a loan of USD620, which she used to replace her USD620 worth of inventory losses. This averaged to **USD18** across the insured sample (see Figure 2).

**Gifts and transfers were simply unavailable.** In terms of dollar amount, gifts made up the smallest proportion of financing for all three groups. On average, however, both insured and non-payment respondents received **USD14** in gifts, while uninsured respondents received an average of **USD9** in gifts. Only 25% of respondents received any type of gift or transfer to help finance their losses, usually in the form of remittances or cash. This may be due to the covariate nature of the shock; friends and family also suffering from the storm were in no position to offer financial help. Additionally, given the frequency of storms and natural disasters in Haiti, it is also plausible that friends and family do not want to be seen as a resource for every event and as a result offer limited support when these frequent catastrophes strike. These rationales may also influence the limited availability of loans from friends and family noted above. No respondent reported receiving any in-kind gifts or help from the local government.

**Income played a small role.** In spite of the lost workdays, 46% of insured, 50% of insured non-payment, and 31% of uninsured respondents were able to use a limited amount of household income to finance storm-related expenses. On average, the insured group used **USD29**, the insured non-payment group used **USD77**, and the uninsured group used **USD18** of income. These differences mirror the different earning capacities of the three groups and suggest that the uninsured were less able to finance the costs with their smaller incomes.

**Savings were insufficient; many turned to selling assets instead.** While only 8.5% of respondents used savings, 56% sold assets to cover the costs of the storm. Overall, insured respondents used an average of **USD4** of their savings, non-payment respondents used **USD17** of savings, and uninsured respondents used **USD8** (eliminating one outlier). It appears that this strategy was both uncommon and small in terms of magnitude.

As a result, those who needed additional funds turned to a much more worrisome mechanism: **selling assets**, especially livestock or poultry. Here, the two groups who did not receive an insurance payout were more likely to sell assets: 69% of uninsured respondents and 60% of non-payment respondents sold assets, whereas only 46% of insured clients sold assets. While these asset sales made up a substantial proportion of total financing for all groups, the uninsured sold significantly more assets than both insured groups. Whereas the insured and non-payment clients received **USD61** and **USD47** from asset sales, respectively, uninsured respondents received **USD128** in



*Homes in the affected area are made from a combination of permanent and non-permanent materials, making them vulnerable to flood damage.*

asset sale revenues. Moreover, the relative proportion of asset sales in the overall financing was much higher for the uninsured. Asset sales for the two insured groups made up 28% and 21% of overall financing, respectively, while **asset sales accounted for 61% of total financing for the uninsured**.

Because most households in our sample save in-kind, liquidating these assets in order to use only a fraction of the cash can be seen as an inefficient use of these valuable holdings. Our data confirms this: **respondents used only 33% of asset sale revenues on storm repairs**. The remaining 67% of these revenues were likely used to make up for lost income and to pay back loans.

**Reduced consumption could not be avoided.** Two-thirds of all respondents reported reducing consumption after the storm, and this percentage did not differ substantially across the three groups. Moreover, the type of spending decreases were similar across the groups, with at least half of all groups spending less on food and about a quarter of insured and uninsured groups spending less on education (see Table 3). Note that the percentages within each consumption category do not sum to the total percentage of clients who reduced consumption, because some respondents reduced consumption in multiple categories.

Table 3: Type of Reduced Consumption, by Group			
Percent of respondents who reduced consumption in each category			
	Insured	Non-Payment	Uninsured
Education	25.7%	50.0%	23.1%
Health	17.1%	0.0%	19.2%
Food	51.4%	70.0%	50.0%
Other	25.7%	40.0%	30.8%
<b>Any Reduced Consumption</b>	<b>62.9%</b>	<b>70.0%</b>	<b>69.2%</b>

Among the insured clients, reduced consumption averaged **USD26** (eliminating one outlier). Non-payment respondents cut spending by **USD29**. Uninsured respondents reported cutting spending by only **USD6**; perhaps the greater asset sales in this group obviated the need to do so.

Spending less, or “belt-tightening,” is often seen as a stressful financing strategy, and we have often used it as a proxy for whether insurance payments decrease the stress of a financial shock on households. By this measure, it seems that the insurance did not decrease this stress: in fact, insured clients tightened their belts more than the uninsured. **The long delay in receipt of payment may explain why insured clients reduced their consumption**, especially considering they reported higher losses than the uninsured groups. However, unlike the uninsured respondents who had no expectation of a future payout, the insured clients had some expectation that a payment would come in. This suggests that the insured clients may have reduced spending in order to “stick it out” and avoid cashing in their assets until the payment finally arrived.

One final noteworthy point is the similarity between the strategies of the insured and non-payment respondents. This is likely because both groups expected to receive the same payout. Despite the generally similar strategies, income played a larger role in the non-payment clients’ overall strategy; this reflects both their higher incomes and the fact that their businesses suffered less damage in the storm.

In sum, uninsured respondents depleted more of their in-kind savings by selling asset holdings than did either insured group. Insured respondents, however, reported a substantial amount of belt tightening; the promised payout did not prevent them from cutting food, education and health expenses. Formal loans were very uncommon, as even the insured had to wait for claim approval before they could borrow again from Fonkoze.

### How did the insured use the payout?

We asked insured clients about their experience with the claims process and how they used the payout. The 35 insured clients whose claims were approved each received a cash payout of **USD125** and an



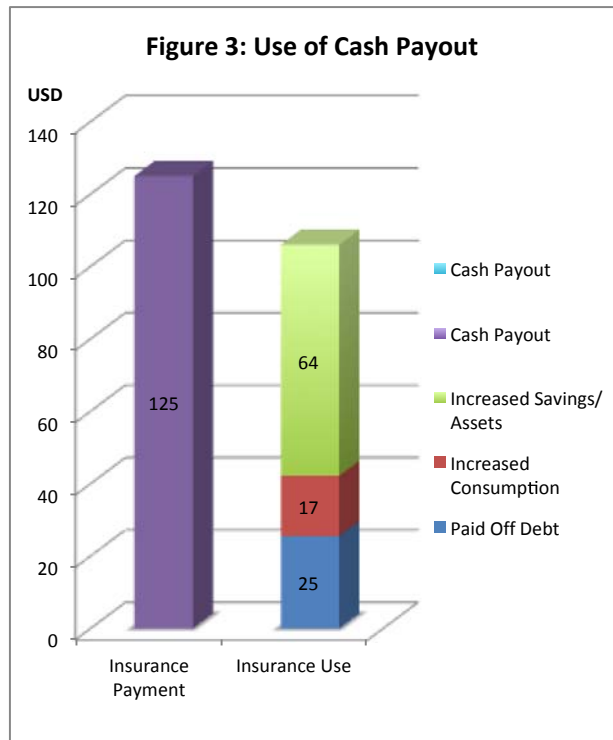
average loan cancellation of **USD168**.<sup>10</sup> This sums to an average benefit of USD293, covering **53% of the losses** for the insured group.

We found that client opinion was somewhat split with regard to ease of service: 57% found the claims process “easy” or “very easy,” while 35% found it “somewhat difficult” or “very difficult.” The delays, however, were quite severe across the board. **Clients reported waiting an average of 58 days before receiving the payout** (Fonkoze reports an average of 50 days for this event; the higher average reported by clients may be because either they did not know the payment had disbursed or they were unable to reach the bank branch right away). While it is plausible that this delay reduced the value of insurance for many, it also came as a result of the high-touch method of assessing damage: Fonkoze reviewed 10,000 claims in the aftermath of the Les Cayes rains. Though a purely index-based system may have allowed for faster payouts, many of the affected families would not have received a claims payment under this model.

Figure 3 shows the clients’ uses of the cash payout in particular. Once they received the payment, 66% used it to **increase savings and asset holdings**. Rebuilding their livelihoods was the first priority: 17 clients reinvested the money into their existing business, and one client started a new business. In addition, 31% of clients deposited the money directly into savings accounts. On average, clients saved or invested over half the cash payout, or **USD64**.

In addition, 54% used the payout to **repay debt**, amounting to an average of **USD25**. Over half of insured clients borrowed money after the storm, presumably because they did not yet have the cash in hand to make immediate repairs. Once the payout arrived, they were able to quickly repay those who had lent to them. This may have helped to secure their creditworthiness with family, friends and local shop owners. Interestingly, only 14% reported using the cash to **increase consumption**, and this increase amounted to only **USD17**.

The consequences of delays in claims payments are complex. On one hand, the wait forced insured clients to use other, more stressful strategies in the short term, namely, reducing consumption and selling valuable assets. In fact, **63% of clients reported additional financial difficulties due to this delay**. On the other hand, by the time clients received the payment, their immediate needs were covered and they were able to invest the majority of the payout back into their businesses. To test this theory, we ran a correlation between total days waited and the total amount saved or invested to see if those who waited longer for the payment ended up investing more of it. We observed a positive correlation ( $r=0.3871$ ), although the relationship was not strong enough to be significant.

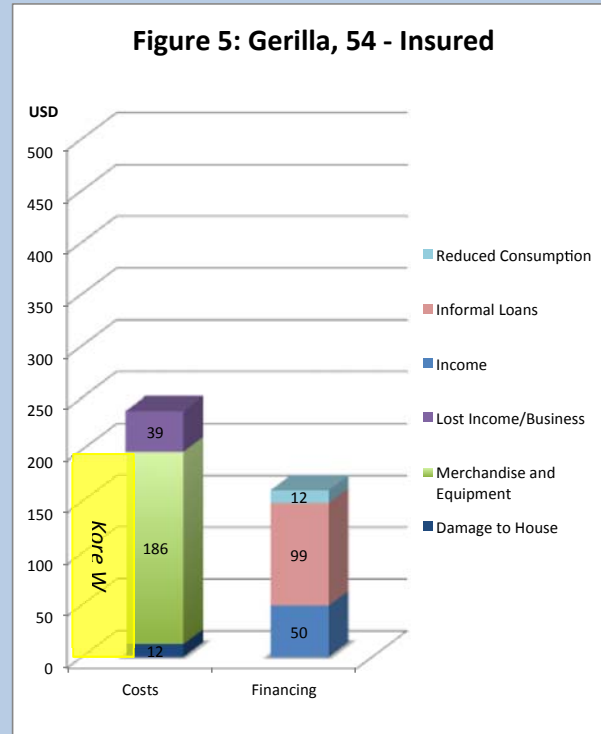
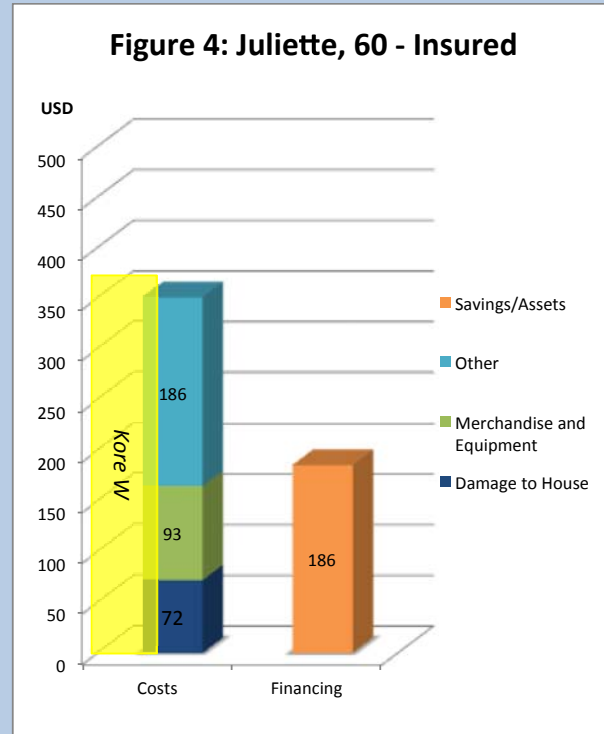


<sup>10</sup> Surprisingly, only nine of the 35 reported that their loans were forgiven. This suggests a gap in clients’ understanding about the loan forgiveness portion of the *Kore W* product.

## A Closer Look at Select Respondents

The data above shows the overarching patterns of costs and financing, but averages often obscure the nuances that individual stories can tell. The following profiles shed light on the trends highlighted above.

### Insured



**Juliette, 60**, lives alone in a small urban home with a dirt floor, aluminum walls, and a shared toilet. She runs a small shop out of her home. She has only one year of education and she owns no assets other than one cow and three goats. When we spoke to her, she had an outstanding loan of USD186 from Fonkoze. In addition to Fonkoze, she borrows regularly from community groups. *Kore W* is the only insurance product she owns.

After the storm struck in September 2011, she paid USD72 to repair the walls and to remove water and waste that had inundated her home. She also lost a great deal of inventory from her store, spending USD93 to replace it. While *Kore W* covered both of these costs, they did not explicitly cover the loss of a pig, whose value she estimated to be USD186.

Juliette's cash payout of USD125 and loan cancellation of USD248 were disbursed 45 days after the event, and her center chief was notified four days later. However, Juliette did not withdraw the money until 94 days had passed. She reported facing additional financial difficulties due to this delay. In the meantime, she sold another animal for USD186 to cover her immediate expenses – she says she chose to sell because it was a quick way to get money. Overall, she was happy with the insurance, saying that the process was easy, the premium is cheap, and that she would recommend it to others. She says that insurance has helped her worry less about the future.

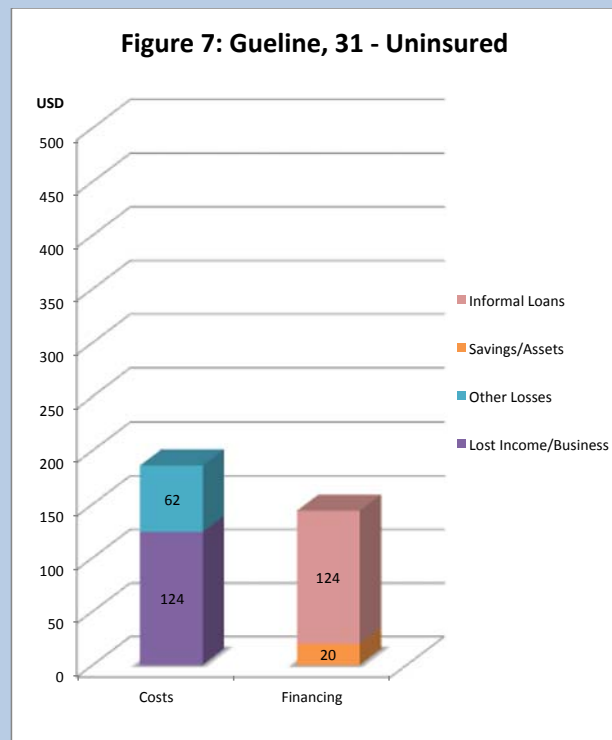
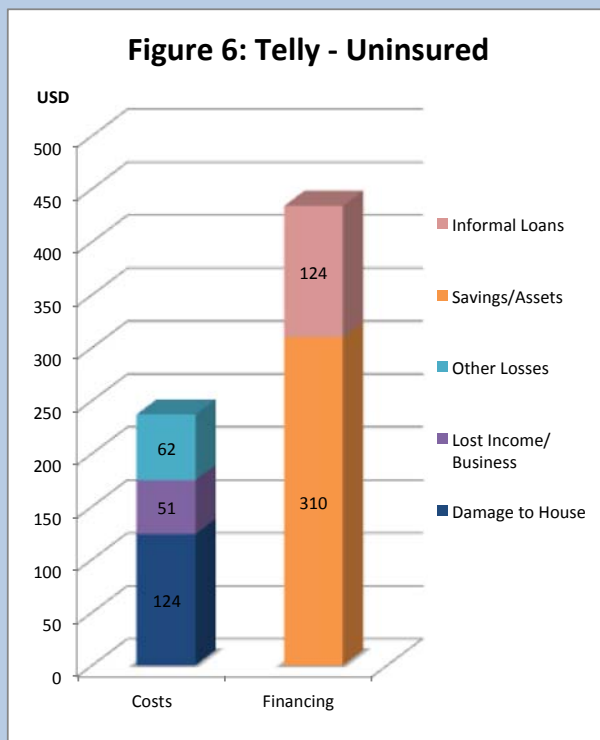
**Gerilla, 54**, lives with her husband and three children. In addition to running her own small business, which generates only USD6 per week, she receives remittances. She rents a wooden house with an open pit toilet, and she owns a television and 10 chickens. She has an outstanding loan of USD74 with Fonkoze.

After the storm hit, she paid USD12 to remove water and waste and USD186 to replace damaged

merchandise. Her largest losses, however, were indirect: she was forced to close her business for 45 days, losing an estimated USD39 in profits. She also set up a new business to generate income in the interim, spending USD62 in setup costs.

Gerilla was only able to finance a fraction of these costs on her own, before receiving the USD125 cash payout and USD73 loan cancellation. She borrowed USD99 with interest from a friend. She also used USD25 of her own income and USD25 of her husband's income, and she reports cutting food expenses by USD12 in total. Although she reports having savings, she was hesitant to use them, preferring to keep them for unexpected expenses in the future. The knowledge that an insurance payment was coming likely made this decision easier. She says if she had not been approved, she would have sold personal belongings rather than tap into her savings. Once the payout arrived, Gerilla repaid her friend USD62 of the USD99 she borrowed. She deposited USD25 in savings.

### Uninsured



**Telly** lives in her rural family home with two other adults and one child. With 13 years of schooling, she is one of the most educated women in the sample. She owns a radio, three cell phones, two chickens and a goat. She runs a small shop that generates just USD6 per week; other family members contribute USD37 to the weekly household income. She borrows from a moneylender and has no savings and no insurance.

The storm damaged the walls and roof of her home, costing her an estimated USD124. She also lost USD62 of radishes she had been growing in her garden. She paused her business for 60 days, losing an estimated USD51 in profits, during which time much of her inventory spoiled. She did not replace this inventory.

To pay for the damages to her home, she borrowed USD124 from a family member, who charged her no interest; she has since been paying it back in increments of USD6. Since this loan did not quite cover her losses, she decided to sell an animal for USD310. This sale far exceeded the value of her items lost, but with no cash savings, she had no choice but to liquidate this valuable asset.

**Gueline**, 31, is married with two children. In addition to being a homemaker, she owns a small poultry business that generates USD6 per week. She has eight years of education. Her family rents a rural home off a dirt road, and they own a radio, two cell phones, and five chickens. She has no current loans and does not borrow regularly; she has neither savings nor insurance.

Before the storm, Gueline had many more chickens, but the rains killed thirty of them, effectively wiping out her livelihood. When we spoke to her, she had not yet replaced them. She also lost a goat, valued at USD62, which she also did not replace. She closed her business for 20 days after the storm, losing USD124 in income.

Having no access to formal credit, Gueline borrowed USD124 from a family member with no interest. She also sold an asset for USD20 (she did not specify what it was). These strategies were not sufficient to cover her costs, and as a result, she still had not restocked her inventory when we spoke to her. For Gueline, even a generous loan from a family member could not provide enough to bridge the gap.

### Was it worth it?

Observing the devastating consequences of weather-related disasters among its client base and the increasing prevalence of weather risks, Fonkoze and MiCRO developed the *Kore W* product in an effort to help clients cope. Our analysis shows that the USD125 insurance payout did indeed make a difference in helping insured clients to bounce back after the storm. Still, insurance remains a **complement to other mechanisms**: insured clients financed a large proportion of their costs using a variety other strategies. **Asset sales seemed to play the role of insurance for the uninsured**: they yielded a comparable amount (USD128), although with the consequence of liquidating their savings and often reducing their capacity to earn income. With premiums priced at 3% of the loan, the cost-benefit calculation varies by client: the combined return of cash payout and loan forgiveness can range from 7 to 78 times the premium.

To fully understand the extent to which Fonkoze succeeded in providing value to clients through the *Kore W* product, we must revisit the meaning of client value. Client value consists of financial value, the core focus of this Client Math study, but also includes expected value and service components. Answers to the following questions not only shed light on the product's value and ways in which it might be improved but also illustrate the complexity and nuance of the value question itself.

#### 1. Did the product cover the costs reported, both in terms of damage type and dollar amount?

The emergency cash payout of USD125 covered 48% of physical losses to business and merchandise, but only **23% of total losses** suffered by insured clients. The majority of respondents' losses were indirect, due to lost wages and profits during the period when they could not work. Although *Kore W* was not designed to cover this lost income, it does play an important role in helping clients begin to earn income again as quickly as possible. The second largest cost was damaged inventory, which triggered a payment under *Kore W*. For clients who needed to quickly replace inventory to reopen their businesses, the coverage of inventory was extremely valuable. On the other hand, respondents were more likely to have lost a farm animal or crop (which were not covered) than a storefront (which was covered); very few even had a storefront. The loss of animals and crops does not qualify a client for a payout under *Kore W*, as the product is designed for microenterprise and not agriculture.

#### 2. Was the product delivered quickly, efficiently, and equitably?

Due to **long delays** in the payment – a reported average of 58 days from submission of the claim to payment – we observed that clients still had to use difficult financing strategies in the interim. In addition, the losses of potential profits and wages likely worsened due to this delay. However, this delay may have actually increased the amount of the payout that clients invested back into their business, since they had already used other mechanisms to cover more immediate costs and because their loans were paid.

The *perception* of the claims process was not entirely positive, likely because some clients were frustrated by long waits. When asked, clients were split on the ease of the process: 57% found the claims process “easy” or “very easy,” while 35% found it “somewhat difficult” or “very difficult.” In response,



Fonkoze has been working to reduce the payment time since the time of our study, and has decreased delays substantially to an average of 30 days after an event.

Overall, *Kore W* clients agreed that the **distribution of payouts was fair**, whether or not they received a payment. In both groups, 60% agreed “very much” with the results of the assessment process. Only 14% of insured and 30% of non-payment agreed “not at all” with who was chosen to receive a payout. The group verification of damages at the center meetings likely strengthened this impression. It seems that Fonkoze’s high-touch approach to assessing damage involves a **trade-off between speed and equity**. The effort to design a product more closely tailored to clients’ needs when they suffer a shock led to some sacrifices in the ability to respond to those needs quickly.

### 3. Were “difficult” strategies successfully avoided?

The insured **sold fewer assets** than the uninsured, who were often forced to liquidate in-kind savings. However, the insured still **reduced their spending** quite a bit, perhaps as a way to hold out until the payment instead of selling assets. In addition, insured clients **borrowed from friends and family** in the short term. We have seen throughout our Client Math studies evidence that an expected insurance payment can help to leverage these types of loans, which are quick and offered at little or no interest. While turning to family and friends can be a cost-effective strategy, it is not always a desirable one, as many clients noted. Borrowing from family might be embarrassing or frustrating, especially when clients do not know when the payment will arrive. This difficulty is exacerbated in the case of a covariate shock like this storm, which may have also left friends and family more vulnerable.

### 4. Did the insured “bounce back”?

Of the 18 uninsured respondents who lost inventory, only six replaced it in the aftermath of the storm (33%). Of the 29 insured respondents who lost inventory, 18 replaced it (62%). In addition, 86% of insured have a current loan; it seems that they are continuing to actively borrow for businesses. Very few of the uninsured have current loans, although this may be because they were not MFI clients to begin with. Thus, a combination of insurance and credit facilitated the ability of the insured to bounce back, and access to credit may be just as important – or more important – than the insurance payout itself.

### 5. Did clients have a positive opinion of the product?

Of all Fonkoze clients interviewed (both the insured and the non-payment), 91% think *Kore W* was a good addition to Fonkoze’s microcredit package. In addition, 80% of insured/non-payment clients would recommend *Kore W* to their peers, and an impressive 60% say they would buy *Kore W* even if it were not required.

Microinsurance Learning and Knowledge (MILK) is a project of the MicroInsurance Centre that is working collaboratively to understand client value and business case in microinsurance. Barbara Magnoni leads the client value effort and Rick Koven leads the effort on the business case. Contact Michael J. McCord ([mjmcord@microinsurancecentre.org](mailto:mjmcord@microinsurancecentre.org)), who directs the project, for more information.

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