



## MILK Brief #18:

# “Doing the Math” - Property Microinsurance in Coastal Colombia<sup>1</sup>

## Studying MAPFRE Colombia’s Property Microinsurance

Global climate change is accelerating, and year by year low-income families and entrepreneurs in affected areas become more vulnerable to losses from catastrophic events such as hurricanes, tornados, and floods. Given the increasing severity, frequency and unpredictability of such events, insurers often see catastrophic risks as the “last frontier” for microinsurance, even as microfinance institutions avidly seek such coverage to protect their clients and loan portfolios. While property microinsurance products represent a significant portion of microinsurance worldwide (Roth et al., 2007)<sup>2</sup>, to date there have been very few rigorous studies of their value. The MILK Project has begun to examine the costs and benefits of these products

The “*ola invernal*” (“winter wave”) phenomenon, worsened by La Niña effects, brought an unusually severe rainy season to Colombia in late 2010. Torrential rains and flooding killed 174 people, wounded 225, and left over 1.5 million people homeless. Damages amounted to over six billion US dollars.<sup>3</sup> The MILK Project partnered with MAPFRE Colombia in the department of Magdalena, using its Client Math methodology to explore the value proposition of a comprehensive property microinsurance policy for borrowers of the MFI Fundación delamujer.<sup>4</sup> MAPFRE’s product was a modular, voluntary insurance product, whereby Fundación delamujer clients could mix and match structural and contents damage coverage as well as coverage for 3 months of loan payments or of incidental loss of income. This design aimed to make the product relevant and accessible for even the lowest income clients of Fundación delamujer, who could choose the cheapest coverage options for lost income and loan payment.

Fundación delamujer clients in the towns of Ciénaga, Pueblo Viejo, and surrounding communities were particularly affected by the *ola invernal* of 2010, as they are surrounded by water—the Caribbean Sea to the north, and the Great Swamp of Santa Marta to the south and west. Several parts of these towns were heavily flooded between October 2010 and January 2011, causing widespread damage to the homes and businesses of the towns’ residents. This study explores the role of microinsurance in helping low income entrepreneurs and their families cope with the physical damage and interruption to their activities caused by a flood, seeking to understand how the insurance product fit into the range of financial tools available to those families for recovery.

One compelling justification for microinsurance covering loans, often cited by practitioners, is that it can improve access to credit among low-income populations and preserve that access when clients suffer a shock. The relationship between credit and insurance, however, can be quite complicated. In some cases, insurance and credit may play roles that are redundant. Giné and Yang (2009) suggest that low demand for weather index products covering farmers’ loans may be due to an implicit “insurance” resulting from the limited liability of the loan contract. The explicit insurance product thus becomes redundant (See also Akter and Fatema (2011) with similar findings for an agricultural microinsurance product covering flood risk). These outcomes, however, depend entirely on the loan product in question and the way in which it is administered.

In other cases, insurance and credit may indeed play complementary roles. MILK’s study of a flood microinsurance product in Ghana<sup>5</sup> found that the Obra Pa product, covering outstanding loan principal

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<sup>1</sup> This brief was written by Barbara Magnoni and Derek Poulton (February 2013).

<sup>2</sup> Roth et al. (2007) estimate that property products cover 7.8 million lives, while the potential market is up to 30 times larger.

<sup>3</sup> “2010 Colombia Rainy Season,” Wikipedia. [http://en.wikipedia.org/wiki/2010\\_Colombian\\_rainy\\_season](http://en.wikipedia.org/wiki/2010_Colombian_rainy_season).

<sup>4</sup> Formerly known as “Fundación Mundial de la Mujer Bucaramanga” until the name changed in 2011.

<sup>5</sup> MILK Brief #10: Doing the Math with Property Insurance in Ghana.



and interest as well as a USD 114 cash payout, offered value to microentrepreneurs who did not always have the option to restructure their loans. MILK's study of MicroEnsure and TSKI's calamity microinsurance in the Philippines<sup>6</sup>—which pays a USD 230 lump sum—yielded slightly different results. There, insured families did not borrow formally immediately after the flood, but appear to have felt more comfortable borrowing informally, knowing that an insurance benefit was on its way. Finally in a Client Math study in Haiti,<sup>7</sup> MILK found that Fonkoze's mandatory Kore W product helped many insured clients avoid selling off assets, though it does not appear to have preserved their use of formal credit, at least in the short-term following the flood.

In the present study, we find that **MAPFRE's product fell short of helping families fully recover from flood damages and lost income.** Most clients purchased only material damage coverage, passing over the lower-cost outstanding loan or lost income coverage. The fungibility of money and timing of payments makes the story of clients' financial responses particularly complex. Immediately after the floods, many clients fell into loan arrears, endangering their credit history in a country with a strong and transparent credit bureau. In response, Fundacion delamujer re-lent to most of its insured and uninsured affected clients. When the insured group's insurance payout came two or three months later, however, rather than encouraging clients to use the cash to rebuild their homes and businesses, the MFI encouraged them to pay off any additional outstanding debt first. Many clients then took on additional loans. Since the flood significantly diminished clients' productive capacity, this helped struggling clients protect their credit history in Colombia's credit bureaus, and thus maintain credit access in the long term, an important consideration for the credit-reliant. However, this arrangement also prevented clients from using the insurance benefits to replace the material damage and lost income that their insurance supposedly protected against. Despite its complexity, we find that this strategy arguably increased benefits for both clients and the MFI. Upon analyzing maximum sums insured and real claim payment amounts, we find that rerouting benefits for damage coverage to loan pay offs, while confusing and upsetting to some clients, actually offered more clients a way to cover their losses with a higher insured payout per premium dollar than the other options offered by MAPFRE.

## Methodology

The primary aim of this study is to better understand the financial tools used in response to the flood by low-income people with and without insurance. Using MILK's Client Math methodology, we interviewed 36 Fundacion delamujer borrowers who had bought the voluntary property microinsurance, and 34 who had not purchased it. All respondents were from the same communities in and surrounding Ciénaga, Magdalena affected to various degrees by the flood.<sup>8</sup> Because of safety concerns related to traveling in the area, respondents in both groups were invited by the MFI to a community center, where they answered a 40-minute questionnaire and received refreshments and a small gift for their time. Our surveys began with an exploration of the full cost of the external and internal damages incurred to respondents' property and repairs made as well as other indirect costs such as lost income, followed by questions about how these costs were financed just after the flood. We then asked the insured about the insurance benefit, how it was used, and what they would have done without insurance. The surveys ended with questions about both the insured's and uninsured's perceptions of insurance.<sup>9</sup>

The property insurance product, "Seguro para Hogares y/o Microempresas," was a voluntary catastrophic product, intended to cover the home and/or the site of the microenterprise against a wide variety of events. It offered three types of modular coverage.<sup>10</sup> The first, building damage, insures up to a maximum value against fire, lightning, explosion, winds, hail, water damage, avalanche, car or plane crash, earthquake, strike, mutiny, and even terrorism. The second, internal damage, covered either the household effects or the equipment and inventory of a microenterprise, against the above-mentioned events, as well as qualified theft or "internal damage" from causes such as electric surges. The third

<sup>6</sup> MILK Brief #17: Doing the Math: Calamity Microinsurance in the Philippines.

<sup>7</sup> MILK Brief #15: Doing the Math: Calamity Microinsurance in Haiti.

<sup>8</sup> Five respondents in the insured group were excluded from the main analysis included in this study due to questionable results that suggested poor recall about their damages, insurance coverage and payouts. We also excluded one insured and one uninsured respondent for unusually high damages that significantly skewed the averages.

<sup>9</sup> For a description of the Client Math methodology, see MILK Brief #9: What is Client Math?

<sup>10</sup> The product is no longer available.



category, “additional coverage,” provided relief from interruption of activities and for microcredit loan payments for up to three months. The insurance benefits were all paid in cash through Fundacion delamujer. Premiums and sums insured are summarized in Table 1. Payment of benefits was subject to various levels of deductible, depending on the type of claimed event.

Table 1: Sums insured and premiums “Seguro para Hogares y/o Microempresas”				
BUILDING				
Coverage A	Strong Construction <sup>11</sup>			Weak Construction
Basic (material damage, earthquake, tremor, volcanic eruption, strike, mutiny, civil unrest, malicious acts, terrorism)	Max sum insured USD 2,717		Max sum insured USD 5,435	Max sum insured USD 1,630
<b>Annual premium</b>	USD 6.20		USD 12.39	USD 13.70
CONTENTS				
Coverage B	Strong Construction			Weak
Basic (as above)	Max sum insured USD 543	Max sum insured USD 1,630	Max sum insured USD 2,717	Max sum insured USD 543
Qualified theft	Max sum insured USD 109	Max sum insured USD 326	Max sum insured USD 543	NA
Internal damage	Max sum insured USD 109	Max sum insured USD 326	Max sum insured USD 543	NA
<b>Annual premium</b>	USD 4.57	USD 7.01	USD 11.68	USD 4.57
ADDITIONAL COVERAGE				
Coverage C	Either Construction Type		Strong Construction Only	
Monthly payment for interrupted activity up to 3 months.	Monthly amount USD 217		Monthly amount USD 435	
Monthly amount for micro-loan payments up to 3 months.	Monthly amount USD 82		Monthly amount USD 109	
<b>Annual premium</b>	USD 3.26		USD 4.57	

As we highlight below, the complex structure of the policy confused many clients. Also, clients could use fungible cash pay-outs for any immediate priorities regardless of the intended coverage. Most clients had purchased Coverage A and/or B above (covering building and/or contents damage) but used most of the benefits to pay off their current Fundacion delamujer loans (similar to the purpose of Coverage C). Very few clients had actually purchased Coverage C to combine it with other modules. After paying back their outstanding loans, they then borrowed again from the MFI and used some of these loans to partially re-build and replenish their businesses. In the end, this helped clients avoid credit problems and maintain access to loans, though it also possibly exacerbated their income loss and slowed recovery. A direct cash benefit (used as such) in addition to the loan payment might have enabled a faster and cheaper recovery.

### Insured and Uninsured: Who are they and how did they cope with the shock?

*Insured and uninsured respondents were Fundacion delamujer customers from the same communities in and around Cienaga with similar income levels.* Most respondents in both groups were in their early forties and lived in family units of just under seven people on average (See Table 2). While insured respondents earned 45% more income themselves than uninsured

Table 2: Socioeconomic statistics of the two groups

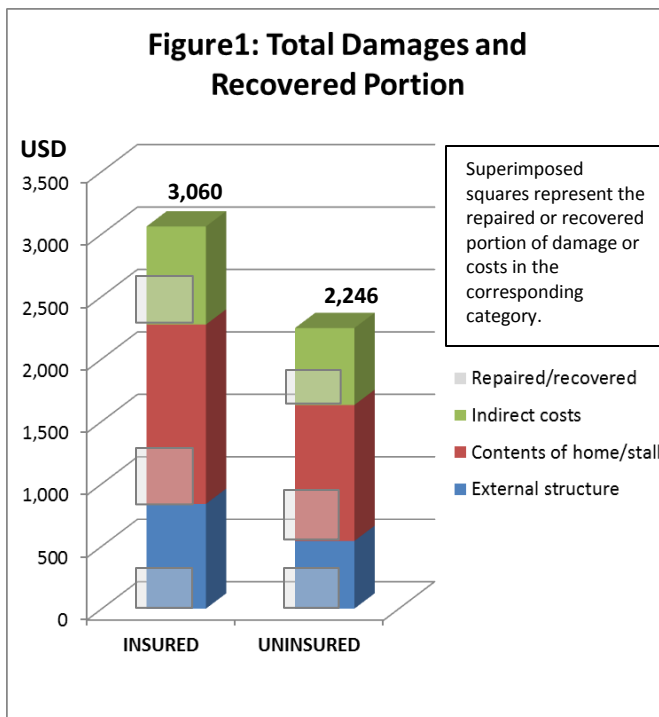
Sample	Insured (n=30)	Uninsured (n=34)
Respondent gender (% women)	66.7%	87.9%
Respondent age (average years)	41.3	42.5
Respondent education (average years)	6.8	8.8
Household size (average)	6.6	6.4
Rural vs. urban (% rural)	72%	58%
Respondent monthly income (average USD)	\$360	\$248
Household monthly income (average USD)	\$609	\$571
Net household monthly income after expenditures (average USD)	\$232	\$243

<sup>11</sup> “Strong construction” refers to buildings with brick, concrete, metal, or wood walls; asbestos, clay, or metallic tiles; and/or metallic or wooden trusses. “Weak constructions” refers to buildings with wood, mud, or plant fiber.



respondents, there was only a 7% difference between the household income levels of the two groups. Uninsured respondents were more likely to be urban and had on average two additional years of education than insured respondents. Two-sample t-tests showed that of these differences, only respondent income was statistically significant at a p-value of 6%, though this may be due to the small sample sizes.

**Total costs of the insured group were higher than the uninsured group, especially for material damages.** Respondents in the insured group incurred USD 3,060 in total costs, compared to just USD 2,264 among the uninsured (see Figure 1<sup>12</sup>), almost five and 3.8 times the average household income of each group, respectively. Total costs, however, varied widely between respondents. Material damages and indirect costs<sup>13</sup> for insured clients ranged from USD 565 to USD 7,862, while for uninsured clients they ranged from USD 489 to USD 6,929.<sup>14</sup> Furthermore, insured respondents suffered much graver external and internal damages overall (USD 2,274 vs. USD 1,548), despite the fact that a greater percentage of uninsured respondents reported wall and plumbing damage than insured respondents. Combined with the observation that insured families were more rural and less educated, this suggests that MAPFRE had some justification in its concern that loan officers may have focused sales efforts on clients in the most flood-vulnerable areas, resulting in adverse selection for material damage coverage and heavy losses for the insurer.



**Lost income and business damage was similar for both groups.** While uninsured families suffered less physical damage, they experienced similar levels of lost income (USD 313 vs. USD 277) and business damage (USD 605 vs. USD 695) to the insured. Most insured respondents who had business damage reported being unable to go to work or transport goods, while uninsured respondents reported more problems with obtaining materials or goods, or damage to inventory. These differences suggest that rural suppliers and urban sellers were isolated from one another for one to two months in many cases. These interdependent urban and rural groups were exposed to different flood-related risks, the latter being vulnerable to interrupted income more than to direct damage.

**Insured and uninsured clients spent similar amounts to repair or replace damaged property, and neither was able to recover the full value of damages.** Insured respondents accessed on average USD 1,225

in total from various sources to finance recovery, and spent USD 364 to repair external structures and USD 486 on average to repair or replace household goods. The uninsured accessed USD 975, spending USD 346 and USD 399 for external and internal repairs, respectively. The similar cost of external repairs reflects the fact that clients prioritized only the most necessary repairs such as external and internal walls,

<sup>12</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 respondents to be insurance clients. Although we made efforts to ensure that the insured respondents were similar to the uninsured respondents, it may be that the insured are systematically different from non-clients in some ways, and this could account for some of the difference between insured and uninsured in these graphs.

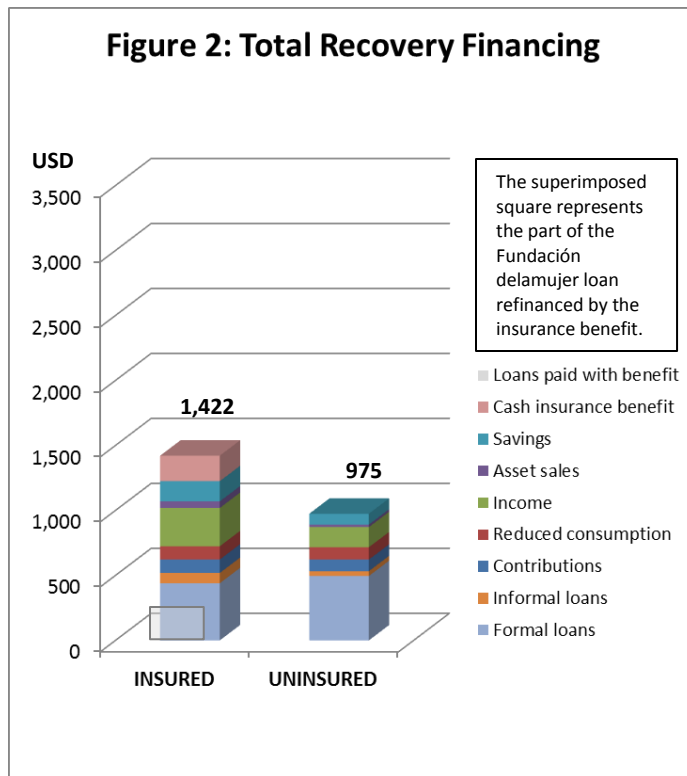
<sup>13</sup> In this study, indirect costs included costs of emergency shelter, missing work, microenterprise losses, and incidental expenses related to the flood such as medicine for water-borne illness, treating accidents, temporary cookware, or transportation to work.

<sup>14</sup> This excludes two extreme outliers—an insured client who reported nearly a year's lost income after her father injured himself in the flood, and an uninsured client who reported suffering huge losses from his small business.



foundations, and general water damage, foregoing other items such as plumbing or electrical damage. Yet since the floods hit insured families harder, external repairs amounted to only 43% of total damages, compared to 64% for the uninsured families. Both groups replaced about 35% of their damaged contents, mostly furniture and electronics, though twice as many insured families had to replace flooring due to water damage.

**Insured and uninsured families used mostly similar tools, in similar proportions,** to cover the cost of repairs, replacements, and recovering income (see Figure 2). This is unsurprising given that the insurance benefits came on average 72 days after the floods, and both groups prioritized only necessary repairs.



The main difference is that **insured respondents used more of their own personal income for recovery than uninsured respondents**, likely because insured respondents had higher personal income in general and because uninsured respondents reported more missed work and business losses overall. **Community contributions were accessed roughly equally**, although more uninsured families than insured families received local government support, albeit in smaller average amounts. **Asset sales contributed little to financing.** Relatively few clients in both groups, slightly more insured than uninsured respondents, sold home appliances or farm animals to finance their recovery (one exception is an uninsured respondent described in the case study section below). This strategy was likely unavailable to many clients due to flood damage. One woman recounted sadly that the floods swept away all her pigs. **While reducing consumption was the second most commonly used source by both groups (75% did so), it also contributed little to the total amount financed.** Both

groups were equally likely (44%) to have formal savings at the time of the interview (which Fundación delamujer does not offer), but average balances were low (USD 52 for insured respondents and USD 33 for uninsured respondents), suggesting why savings did not contribute significantly to overall financing strategies.

**Formal loans were the primary financing tool, used by 73% of insured clients and 85% of uninsured clients.** This likely reflected the limited alternatives available in the community at the time. **Half of insured respondents and 65% of uninsured respondents borrowed from Fundación delamujer** after the floods, though the uninsured borrowed slightly smaller amounts on average. Upon receipt of the insurance benefit, however, of 30 insured clients analyzed, 25 paid off USD 297 of these loans on average, receiving just USD 196 of the benefit in cash on average.

**Respondents preferred formal loans as these were significantly cheaper. Fundación delamujer offered better terms than other formal and informal sources, with a fixed 45% annual interest rate for an average amount of USD 595.** Borrowing costs from other sources varied significantly (See Table 3). Friends and neighbors did not charge interest, but these loans were scarce, likely in part since the flood affected the whole community. In our Client Math study in Ghana, we noted that the expected insurance payout, while delayed, was likely used as a guarantee that clients leveraged to borrow from friends and family. In the case of Cienaga, there is suggestive evidence of a similar dynamic, although in this case less favorable to the insured. While family members of uninsured clients charged no interest,



family members of insured clients charged on average 93% annual interest,<sup>15</sup> possibly because they knew their relative would soon receive an insurance payout.<sup>16</sup> Some pawnshops offered a competitive deal, at 50% annual interest on average, though with much variation. Moneylenders, on the other hand, lent small amounts at extremely high interest. None of these provided a significant source of credit. Only banks offered large loans with an interest rate comparable to Fundacion delamujer, but given the risks, few clients were able to access them. **The relative attractiveness of Fundacion delamujer loans explains part of clients' willingness to use loan benefits to pay-off hanging debt and thus protect access to future loans.**

**At the time of the interviews, insured respondents had slightly higher current loan balances (USD 566 vs. USD 435) with Fundacion delamujer.** This might be due either to their higher personal income supporting higher loans, or refinancing post-flood loans with insurance benefits. Thus it is difficult to attribute the difference directly to insurance. The insured respondents were also more likely to have other loans outside of Fundacion delamujer (41% vs. 27%), though uninsured clients were more likely to use other MFIs and pawnshops.

**Table 3: Sources and Terms of Borrowing**

Source	Insured			Uninsured		
	Cases	Average Annual IR	Average Amount (USD)	Cases	Average Annual IR	Average Amount (USD)
Bank loans	4	51%	774	2	40%	1,467
Family	5	93%	289	4	0%	113
Moneylender	7	161%	155	4	304%	163
Friends/neighbors	1	0%	27	1	0%	326
Pawnshop	2	15%	63	1	120%	54
Fundacion delamujer	18	45%	657	18	45%	533

The financing strategies used by these respondents contrast sharply with those in our Client Math studies of flood-related claims in Ghana, the Philippines, and Haiti. Specifically, access to formal loans was not only more widespread in Colombia, but also cheaper, suggesting it may have been a preferred mechanism among the few available options. In Ghana (where claimants received loan forgiveness and a small lump sum payment), insured respondents covered much of the cost of damage through informal loans and income, rather than formal loans. In the Philippines (where claimants received a lump sum payout), insured respondents used a large proportion of calamity insurance to finance recovery directly, though belt-tightening and aid also played a role. Many Filipino claimants also turned to informal loans. In Haiti, where claimants were perhaps most limited in their options, use of savings and asset sales prevailed. Interestingly, in all three countries, and particularly in Haiti, the MFIs offering insurance were potential sources of new formal loans that went untapped. It appears that preferences around financing mechanisms vary according to country, context and population. Where informal loans are available, they are often the most used. In the case of Colombia, however, informal loans were often either unavailable or quite costly, and formal loans offered a less expensive alternative (See Table 3). Notwithstanding their relative attractiveness, MFI interest rates are by no means low in Colombia. Borrowing from Fundacion delamujer at 45% annual interest may have hampered full recovery by diverting resources toward debt service given that the productive capacity of businesses was reduced by the flood. **Had clients also purchased the Coverage C option which paid for up to three monthly MFI loan payments, they may have afforded a more complete recovery with their cash insurance benefit for a relatively small additional premium cost.**

In all four of MILK's studies of flood insurance, claims payments were slow. ***In Colombia, severe flooding seriously delayed and complicated the insurance claims process.*** Many parts of the community were partially under water for up to two months, and clients often could not reach Fundacion

<sup>15</sup> Annual effective interest rates were estimated based on loan terms reported by clients. Rates for flexible or indefinite informal loans could not be calculated.

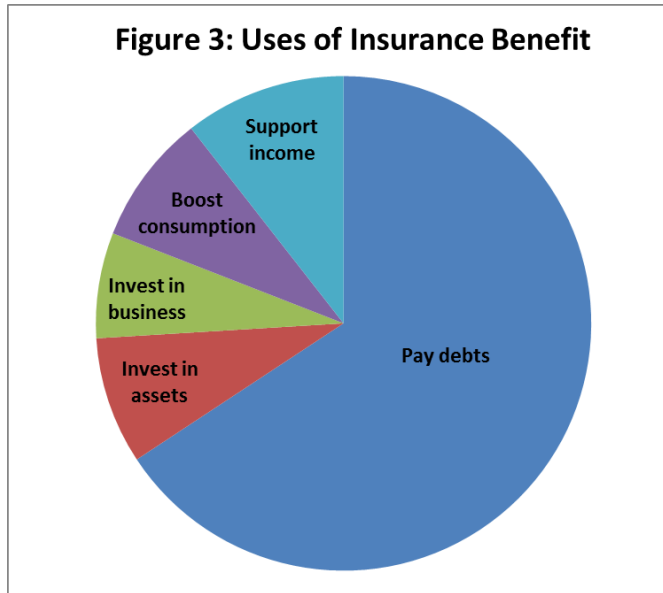
<sup>16</sup> Another plausible hypothesis is that the insurance allowed the insured to access loans from friends and family that otherwise would not have lent money to them, but that these loans were more costly.



delamujer's office to pay loans much less make an insurance claim. Two months after the floods began, MAPFRE Colombia sent an insurance adjuster to survey clients' homes or businesses by canoe, and claims were paid on average one week after this inspection.

**Insurance payouts were overwhelmingly used to clear hanging MFI debt.**

On average, insured respondents received USD 494 in benefits, though this amount varied drastically, from USD 28 to USD 1,423. Although most clients had acquired the insurance plan with Coverage A or B (for material damages) and not Coverage C (to cover lost income or loan payments), Fundacion delamujer encouraged them to use the insurance benefit to pay down existing debt at the MFI. Of 30 insured analyzed, 25 of them paid off USD 297 on average, receiving just USD 196 of the benefit in cash on average. The cash received was divided more or less evenly between investments and general consumption or income support (See Figure 3). These expenditures from the cash benefit fell far short of recovering total damages, lost business income, or foregone consumption experienced from the flood.



Twelve clients used their entire benefit to pay Fundacion delamujer loans, receiving no cash payout. Some of these loans had been disbursed shortly after the flood to finance recovery, while others were in arrears since the disaster first hit. Debt discounting was voluntary but highly recommended by the MFI, and some clients complained that this practice prevented them from using the money for repairs. **Yet in the end, this system helped clients maintain their usual level of MFI borrowing after the flood and protected their access to this preferred source of loans.** At the time of the interviews, eight months after the floods subsided, clients still had current debt levels of USD 809 for insured and USD 605 for uninsured, mostly with Fundacion delamujer. **Thus the overall benefit of the insurance may have been quite different from its original intention. Rather than financing an immediate recovery of physical damages, the insurance benefit typically allowed insured respondents to maintain access to their usual size of loans, which in turn allowed them to rebuild their businesses and then their homes gradually over time.**

### A Closer Look at Select Respondents

The analysis above explains aggregate responses from our interviews, but averages tend to obscure the diversity of experiences. These individual stories add nuance to the trends highlighted above.

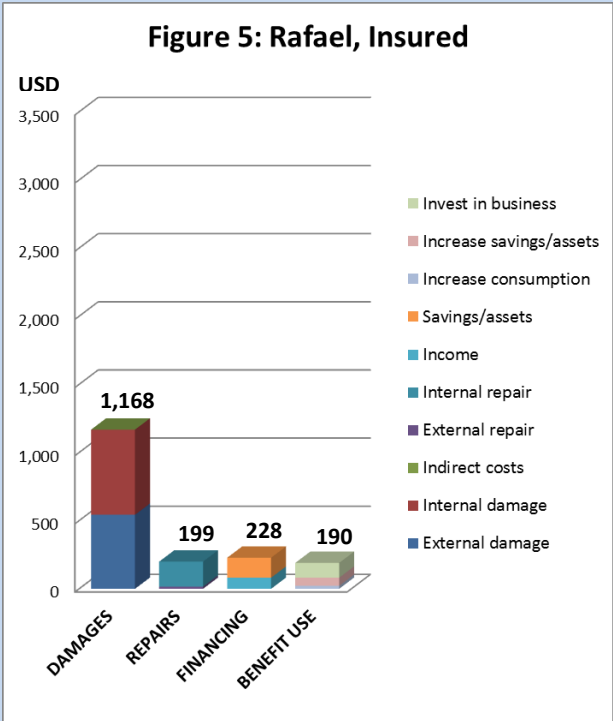
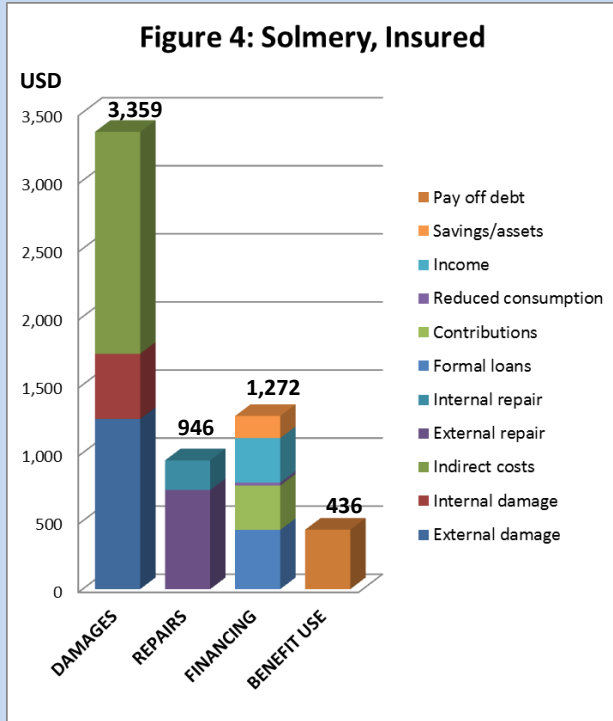
**Two insured families coped with the disaster and used their benefit in very different ways.**

Our first example (see Figure 4) is a 37-year old civil servant who lives with her unmarried partner and four children. Solmery contributes USD 245 to the household's USD 679 in monthly income, of which they spend USD 359 on basic needs. Some of the remainder presumably goes toward loan payments. She has a modest USD 82 in obligatory savings and USD 435 in current debt with Fundacion delamujer. While her family lacks many "basic" household items (e.g., refrigerator, sound system), they have other important assets such as a motor vehicle and a fish hatchery. In addition to the property insurance, she also has life and health coverage as a public employee.

The flood caused damage to the foundation and walls of her home worth USD 1,250 in addition to water damage to the floor, furniture, and sound system worth USD 946. She spent USD 728 to remove water and debris and to repair the structural damages, and USD 217 to fix the floor, but did not replace the furniture or sound system. To finance these repairs, she pieced together USD 326 in aid from the local government, USD 326 of her own income (over the 8 months between the interview and the flood), her



total USD 163 of savings, and part of a USD 435 loan from Fundacion delamujer. She used the rest of the loan to restock some of her USD 1,358 in lost business inventory. Due to the flood she reported USD 272 in lost income, which she did not make up. Two months after the flood, she received her USD 436 insurance benefit for material damages, which she used to pay off debts to Fundacion delamujer. She reports that the long wait was not a burden, and that without insurance she would not have done anything differently. In other words, the insurance did not affect her coping strategies. The main benefit of the insurance was that she no longer had to service the original loan, allowing her to take out a larger one directly thereafter.



Our second example, Rafael, (see Figure 5) is a 30-year old insured man, a farmer and fisherman who lives with his partner, one other adult and two children. He contributes USD 326 to the USD 870 monthly household income (over the 8 month period), of which they spend about USD 451 on basic needs. He has many valuable household assets such as a refrigerator, bicycle, and chickens, but no formal savings. His current debt is USD 380 with Fundacion delamujer. Rafael’s case is atypical in several ways. His home sustained below average damages of USD 543 to the external and internal walls plus general water damage, and USD 625 to various household electronics. He reported no income or business losses due to the flooding. He spent just USD 16 to fix the walls and USD 147 to fix or replace his household items, far below the total value of damages. Unlike most clients, he used only income and savings to cope, eschewing loans that could have helped him fully recover from the damage. With the small USD 190 insurance benefit, he increased consumption by USD 22, replenished his savings by USD 60, and invested USD 109 in his business. Without insurance, he said he might have had to turn to a moneylender. For Rafael, the insurance did help a little to protect his assets, but mostly functioned as an unexpected windfall, which he used to grow his business rather than replace losses.

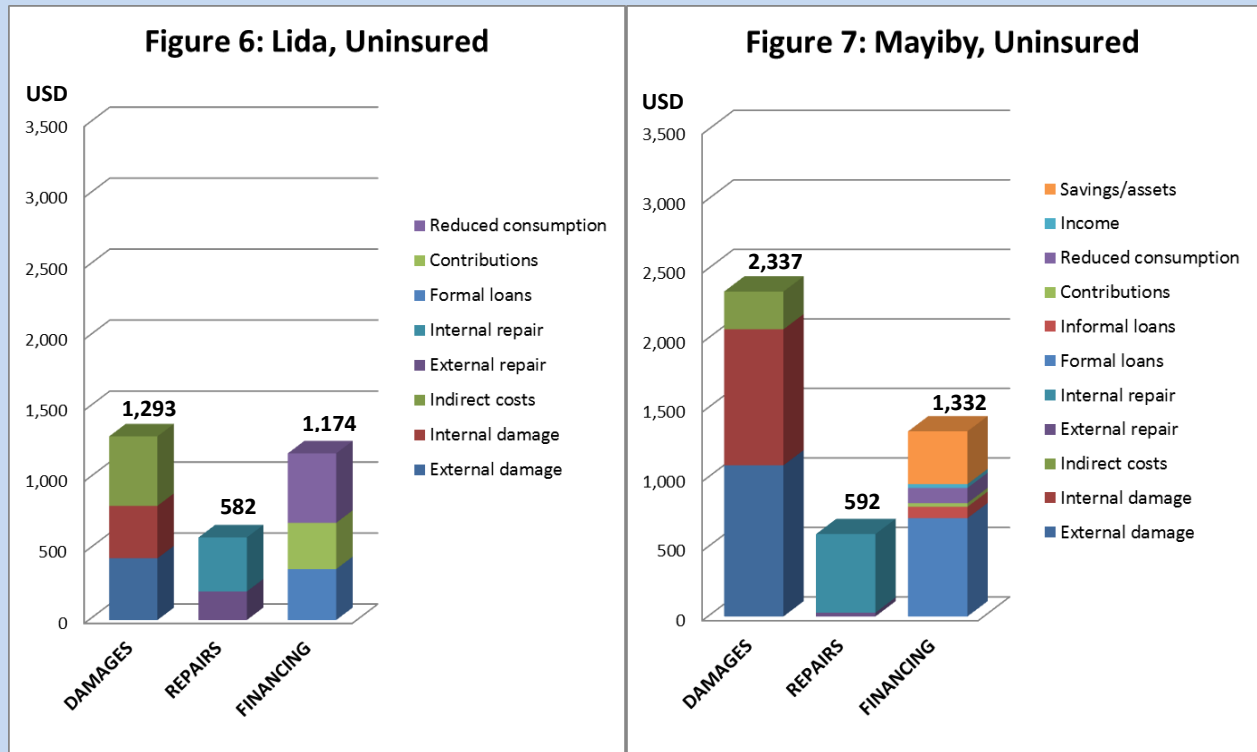
***Uninsured responses to the flood differed little from the insured, though some resorted to more stressful coping mechanisms when faced with a limited ability to borrow.***

Lida, the first uninsured example, is a 35-year-old woman who lives with her partner and their three children. As an independent trader she contributes USD 133 to the USD 377 household income, and also receives government subsidies through “Familias en Acción.” She limits her borrowing to Fundacion delamujer and has current debt of USD 359. She has a zero-balance in her formal savings account. Her family has assets such as a refrigerator, a bicycle, and six chickens although they live in town.





Lida sustained USD 1,293 in losses from the flood—USD 435 in water damage to the foundation, walls and plumbing; USD 370 in damage to furniture; and USD 489 in business losses, since she could not obtain materials or reach her customers. The flood also forced her family to evacuate the home and stay with relatives, for which they paid nothing. Like many clients, Lida repaired only a fraction of the damage (USD 582) with a total USD 1,174 in financing from a USD 359 Fundacion delamujer loan with USD 326 in local government aid and the remaining USD 489 through reduced consumption. She said she did not use assets or ask for monetary support from family because this was unnecessary, while savings were simply not an option. Though most clients reduced expenses somewhat to cope, Lidia’s large and sudden drop in expenditures was likely stressful for her and her family, who may have benefited from a larger loan supported by expected insurance payouts, or better yet, coverage for interrupted income.



Our second uninsured example suffered slightly above average damages of USD 2,337 and combined multiple sources to finance a partial recovery. Mayiby is 38 years old and lives with her partner, one other adult, and four children. She runs her own business in the service sector, earning USD 272 of the USD 815 monthly household income. Her family lacks many household appliances but does have two pigs. Mayiby has USD 87 in savings and USD 815 in loans with Fundacion delamujer, but sometimes uses other MFIs, too.

The flood caused USD 1,087 of damage to the roof, walls, and foundation of Mayiby’s home, plus USD 978 in damages to windows, television, clothing, and furniture. The flood also forced her family out of the home for two full months, during which time they stayed with relatives, she lost USD 272 from being unable to work part of this time. Structural damages were probably too costly to repair, as she spent only USD 27 to remove debris. She did however spend USD 565 to replace or repair the damaged interior items. To finance this recovery she relied mainly on short-term loans—USD 707 from the Fundacion delamujer and USD 82 from family. These were “fast” sources for her. Part of the Fundacion delamujer loan likely went towards restocking her damaged inventory as well. She complemented these with significant asset drawings—the sale of two pigs for USD 109 as well as her entire USD 271 savings—which she did because it was “easy.” In addition, she used in small amounts personal income, government aid, and reduction of food and education expenditures. Mayiby now has just USD 87 in savings and current debt of USD 815 with Fundacion delamujer. Despite resorting to so many methods, Mayiby did not



recover fully from the flood. Her family may have benefited from insurance coverage for the home and/or interrupted activities. Even if benefits had been used to cover debt, this would have enabled her to borrow more, rebuilding her business and repairing more of the heavy structural damage.

### Was it worth it?

**While the complex product failed to fully deliver on its promised financial value for clients, both insured clients and Fundacion delamujer obtained some value from the insurance.** The indirect flow of financing and variable nature of premiums and benefits complicates an analysis of the costs and benefits of this product. We approximate the financial value of the Home and/or Microenterprise Insurance with some simple observations. Most insured respondents had acquired the most basic Coverage A and B for structure and contents of a “Strong Construction” building, and most clients first acquired insurance around June 2010, only four months before the *ola invernal* hit and just under six months before the claim was finally paid. This amounts to a monthly premium of USD 0.90, or USD 3.60 over the four months. The average payout for respondents with this type of coverage was USD 551. At a benefit-to-premium ratio of 153:1, this is a decent value. However, given the average payout was far below the maximum sum insured (USD 3,260) and the total estimated value of damages (USD 2,671), the product could and should have offered a much greater financial value to claimants. Payouts were insufficient to cover clients’ recovery needs and did not ultimately influence their coping strategies. This is a common theme across MILK’s studies of property insurance. When floods hit, clients suffer costs beyond damaged property: roads are closed, inventory is damaged, supply and demand for goods re-adjusts. ***Insurance products are seldom designed or able to cover all of these impacts. While the implication is that coverage benefits should be higher, given the price sensitivity clients showed in this case, it seems unlikely that higher-coverage products would be adopted well.***

***The MFI’s response allowed it to maximize its own benefits from the event, but this also eroded the commercial viability of the product.*** While clients could have benefitted from the cheaper Coverage C, to immediately alleviate the burden of loan payments for the insured, the MFI (and possibly clients) ultimately benefitted more from the choice of Coverage A from the perspective of both portfolio risk reduction and sales commissions. The maximum sum insured for Coverage A (basic structure and contents coverage) was USD 3,260, a much greater amount than the maximum value of Coverage C (three monthly loan payment replacements) of USD 246. In reality, clients received a lower amount, USD 551 on average, but would have only been eligible to receive on average USD 144 (based on average monthly payments of USD 48) had they opted for loan payment coverage alone. In this way, Fundacion delamujer increased protection for its loan portfolio as well as clients’ access to credit, while obtaining higher premium collections (and commissions) for the more costly product. Most clients were willing to forgo a large portion (and in some cases all) of the cash benefit when the flood occurred, since safeguarding their most attractive source of credit to recover and grow their businesses was a higher priority than repairing their homes. Fundacion delamujer may have understood this coverage to favor them in advance and intentionally pursued a sales strategy that emphasized Coverage A. Considering the losses incurred by the insurer on this product, this strategy likely exacerbated losses, leading the insurer to discontinue the product.

***Modular insurance, while theoretically tailored to meet various potential customer needs, can be excessively complex given the fungibility of coverage benefits and mismatched timing of receipt of these benefits vs. the timing on the financial requirements stemming from the insured event.***

Insured respondents scarcely understood the coverage they had purchased and likely struggled to make a good cost-benefit judgment. Most insured respondents could not accurately report their monthly insurance premiums or their type and level of coverage. Only 8% knew how to make a claim before the flood hit. In one case, the client did not even know the insurance would pay her in the event of a flood. Financial value aside, the high incidence of misinformation certainly diminished the intangible value of the product, particularly in terms of peace of mind. Finally, since cash benefits are ultimately fungible, offering different types of coverage was arguably an unnecessary complication. A simple product allowing clients to choose their level of cash or loan coverage based on an event occurrence could have been more appropriate.



**Despite the delayed and confusing experience with property insurance, clients still reported a favorable opinion of it and insurance in general.** Only 47% claimed that the two-month (or longer) wait was a financial burden, and only 14% said it was a heavy burden. A full 78% said buying the insurance was a good decision, and 50% said it helped them save money (perhaps reflecting the positive financial value derived above).

Insured respondents said insurance protects income (73%) and assets (63%) from unexpected events, despite the fact that they used more income, savings, and asset sales to finance their recovery than uninsured respondents, of whom only 53% mentioned either of those advantages. Those without property insurance focus more on insurance's role in guaranteeing a decent funeral (59%), or reducing general worry about the future (35%). No single respondent said that insurance lacked any advantages, and 28% of insured respondents said insurance had no disadvantages whatsoever. Aside from these, a minority in both groups cited disadvantages such as inefficiency or complexity, though uninsured respondents were slightly more likely to cite high premiums (38% vs. 11%) and exclusions (21% vs. 11%) as disadvantages. These impressions pose a startling scenario—that insurers and MFIs can offer complicated, low-value products such as those reviewed in this study to their customers, and still achieve fairly high customer satisfaction for a small payout due to low expectations, or even worse, misunderstanding of the policy they purchased.

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The MicroInsurance Centre's Microinsurance Learning and Knowledge (MILK) project 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 ([mjmccord@microinsurancecentre.org](mailto:mjmccord@microinsurancecentre.org)), who directs the project, for more information.