INTERNATIONAL FINANCIAL CONSULTING

MID-TERM EVALUATION OF THE PERFORMANCE OF THE OPERATIONS OF MiCRO IN HAITI

Evaluation Report
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LIST OF ABBREVIATIONS, NAMES & ACRONYMS

Acronym	Definition
AIC	Alternative Insurance Company
CaribRM	Caribbean Risk Managers Ltd.
CDB	Caribbean Development Bank
CLM	*Chemen Lavi Miyò (*Pathway to a Better Life) program
DFID	UK Department for International Development
EQ	Earthquake (for sublimits tables)
FKZ	*Fondasyon Kole Zepòl* (Shoulder to Shoulder Foundation)
HTG	Haitian Gourdes
IFC	International Finance Corporation
Kore W	“Strengthen You” microinsurance product
MiCRO	Microinsurance Catastrophe Risk Organization
MFI(s)	Microfinance Institution(s)
MMI	Modified Mercalli Index
OECD DAC	Organization for Economic Co-Operation and Development Assistance Committee
RN	Rain (for sublimits tables)
SCC	Segregated Cell Company
SDC	Swiss Agency for Development and Cooperation
SDF	Special Development Fund
SFF	*Sévis Finansye Fonkoze* (Fonkoze Financial Services)
Ti Kredi	Little Credit program
TRMM	Tropical Rainfall Measurement Mission
USAID	United States Agency for International Development
USD	United States Dollars
WI	Wind (for sublimits tables)

EXECUTIVE SUMMARY

The Microinsurance Catastrophe Risk Organization (MiCRO) is a segregated cell company that was established for the purpose of bringing the risk capacity of global reinsurance players to bear for the benefit of microentrepreneurs in one of the riskiest environments in the western hemisphere—Haiti. By using index-based insurance structures, MiCRO intended to deliver risk transfer mechanisms to some of Haiti's poorest and most vulnerable microentrepreneurs. This insurance model, based on parametric principles, used a trigger system calibrated to the catastrophic impact of varying levels of rain, wind and seismic activity.

From a developmental perspective, MiCRO was intended to achieve five key outputs. These outputs included the following:

Funding	The insurance facility [MiCRO SCC & Cell A] will have to [be] adequately funded and able to absorb worst-case scenario disaster events.
Admin System	An administrative and management system to sell and distribute insurance will be required.
Client Capacity	Those purchasing insurance must understand how the insurance functions and what it is for.
Risk Transfer	Adequate levels of risk transfer – away from Fonkoze to other institutions (e.g. reinsurance) – must be in place.
Market Breadth	MiCRO broadens coverage to other micro-finance institutions or launches parametric micro-insurance in at least one other Caribbean country

Achievement of these outcomes was intended to lead to two development outcomes. First, MiCRO was intended to allow all of the clients of specific aggregators through which it delivered coverage to be secured. Second, through claims processing, the MiCRO program should recompense victims of natural disasters within two working weeks. These two outcomes were intended to yield the overall impact of better livelihood protection for poor Haitians, and those in poverty elsewhere in the Caribbean.

Starting in 2011, MiCRO functioned as a reinsurer, engaged through a domestic Haitian insurance company, to provide parametric insurance to the borrowers of *Sévis Finansye Fonkoze* (SFF), a microfinance institution (MFI) that exclusively serves female microentrepreneurs throughout rural Haiti. With approximately 36,000 borrowers at the end of 2010, SFF was uniquely positioned as a distribution mechanism to reach female entrepreneurs that, on average, borrowed less than USD150 every six months. The potential for impact was significant, and many of the stakeholders engaged in the design of MiCRO saw the partnership between MiCRO and SFF as a way to address the risks faced by Haitians that were so acutely manifested after the catastrophic earthquake in 2010.

At the outset of its operations in 2011, MiCRO provided a combination of parametric insurance based on weather and seismic indices along with a basis risk component. The purpose of the basis risk component was to address the likely event that parametric triggers were not adequate in determining the extent of potential losses faced by SFF's borrowers. This combined product was innovative, even in the sphere of microinsurance. SwissRe underwrote the risks associated with the parametric component, while MiCRO itself retained the basis risk component against its own balance sheet; MiCRO also received substantial grant-based support from DFID to augment its ability to provide this basis risk component. MiCRO's principal shareholders were and continue to be Mercy Corps, SFF and SFF's sister foundation, *Fondasyon Kole Zepòl* (FKZ).

Through 2012 and the ravaging effects of hurricanes Sandy and Isaac, MiCRO had incurred substantial losses that were far beyond the premia it collected. SFF, however, also incurred substantial losses; through the product offered to its clients known as *Kore W* or "strengthen you," SFF had taken on insurance liabilities beyond those that were backstopped by MiCRO's coverage. Despite concessional resources made available to SFF, its management decided to cancel the *Kore W* product in early 2013, even after it had been rolled out to all of its nearly 60,000 active borrowers. After renewal of MiCRO coverage in April 2013, SFF reduced the insurance in contracted with MiCRO to only the parametric component, covering its own portfolio without any direct benefits to its borrowers.

Even before the original design of the original product was cancelled, the target developmental outputs were not achieved. Of specific note are the following achieved outputs:

- The program launched with just over of USD 2 million, significantly less than the recommended minimum capital outlined in the design study (USD 5 million). Total capital as of the publication of this report still does not come close to the minimum outlined in the design study. MiCRO management identified a major capital constraint in late 2012 that may have prevented the issuance of a basis risk policy in the 2013 renewal, had it been sought by SFF.
- The administrative system at the MiCRO level worked well. However, the administrative system to collect and manage claims was very weak, as it primarily relied on centre chiefs (clients who are elected by other members to serve as a "leader" of 30-60 clients) and credit agents that were under-capacitated to manage insurance. Furthermore, SFF's IT infrastructure was not well suited to manage insurance processing.
- Evidence indicates that client capacity to understand the advantages of insurance. However, this capacity may be partially attributed to the highly favourable terms of the *Kore W* product. These terms were so favourable that they may have distorted client opinion against any sort of insurance that is not highly concessionary, though only anecdotal evidence to this effect was gathered in the evaluation.
- Risk transfer was not adequate, as SFF incurred uninsured liabilities to its clients through the discrepancy between *Kore W* aggregate liabilities and the limits provided in coverage provided by MiCRO. This is ultimately what drove SFF to cancel the basis risk and client-direct insurance in favour of portfolio coverage in April 2013.
- MiCRO was insufficiently marketed to other aggregators in Haiti, and it never engaged any other MFI or other financial institution as a client.

Aside from the assumption of insurance risk that led to unforeseen claim expenditures for SFF, the analysis undertaken in this Mid-Term Evaluation concludes that the following root causes contributed to the failure of the program to achieve the intended developmental results:

1. MiCRO's myriad stakeholders held divergent philosophies on the purpose of MiCRO
2. Initial capital targets were never met, despite the clear call for substantial capital in design documentation

3. Insufficient piloting led to a misunderstanding of the risk context
4. Relatively high administrative burdens were placed on stakeholders with little to no technical expertise, particularly SFF
5. Many stakeholders contributed to the program, but there was no clear “champion” with both the technical expertise and resource capacity to lead the program
6. Risk models used to design even the basis risk component were not well correlated with losses on the ground
7. MiCRO never successfully engaged alternative clients and therefore served a relatively limited risk profile

This report was commissioned by CDB to evaluate the MiCRO program and to distil lessons learned to inform MiCRO’s continued activity in Haiti and in other new markets, as well as inform microinsurance programmes globally. Among others, the following recommendations are key takeaways from the MiCRO program:

1. Ensure philosophical and strategic alignment through proper documentation.
2. Scale insurance product to match actual capital available, rather than anticipated contributions.
3. Undertake piloting that includes managing all types of loss events covered before launching a microinsurance product.
4. Provide industry-standard technical assistance to key operational stakeholders from the design phase through piloting and implementation.
5. A technical lead, such as a reinsurer or a reinsurance broker, should head the program’s design and implementation.
6. Undertake ongoing research to enhance risk data availability.
7. Formulate a comprehensive business plan.

1 INTRODUCTION

This mid-term evaluation of the Microinsurance Catastrophe Risk Organization (MiCRO) was commissioned by the Caribbean Development Bank (CDB) and executed by International Financial Consulting Ltd. While the focus of the evaluation is of MiCRO itself, the full context of the assignment as described below includes a wide range of stakeholders both upstream and downstream from MiCRO SCC.

The evaluation team would like to express its deepest appreciation to the many stakeholders who took the time to share documentation, insights and experiences on MiCRO and its related activities from inception. The evaluation team was struck by the level of passion and desire of all stakeholders involved in this complex structure to help Haitians be better protected from catastrophes and more resilient in their livelihoods.

While MiCRO is currently exploring alternative business ventures in both Central America and in the Eastern Caribbean, neither of these exploratory ventures are established as separate cells within the MiCRO company, nor do they represent any measure of operational activities. As such, this evaluation focuses exclusively on the Haitian component of MiCRO, as per the objectives of the evaluation.

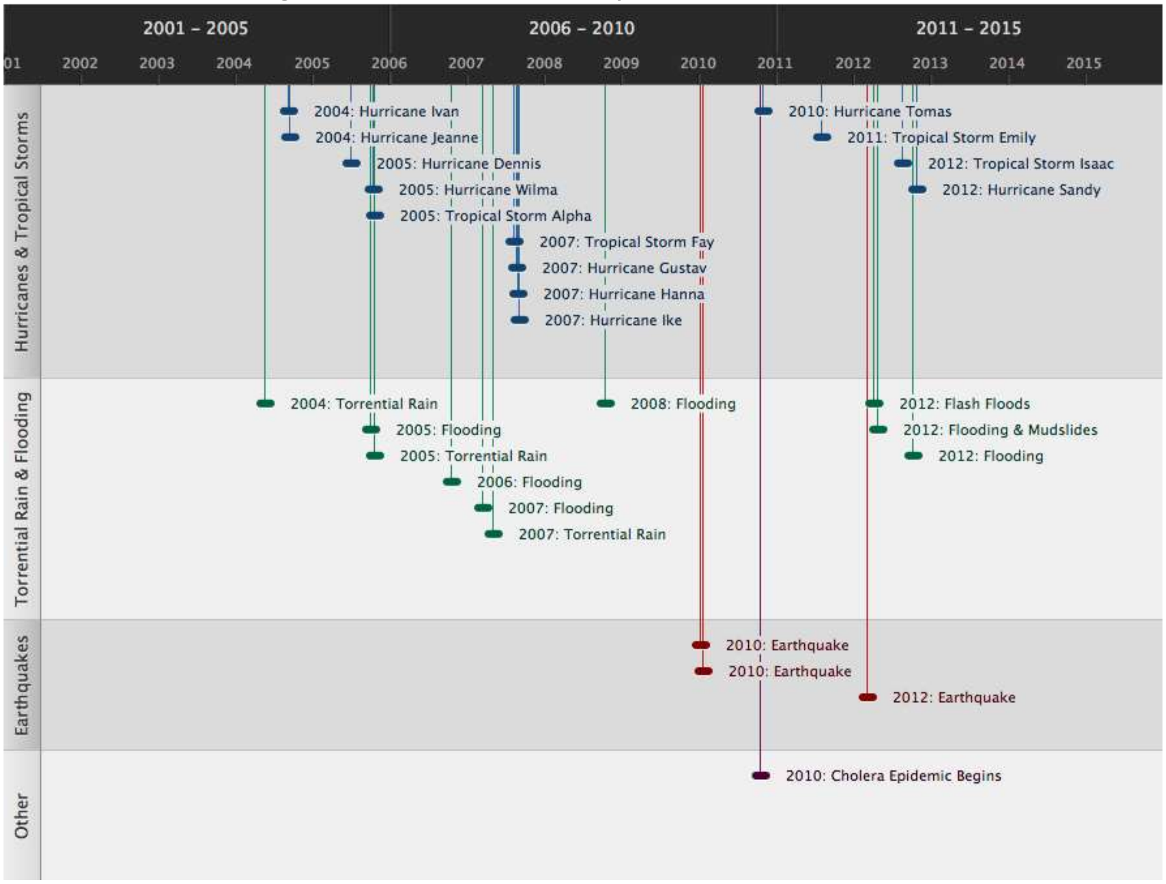
1.1 Context

Haiti is prone to natural disasters, with the most notable being the earthquake in 2010 claiming the lives of an estimated 200,000, injuring over 300,000 and leaving another 1.5 million homeless.[1] It is also believed to have caused USD 7.7[2] billion in damages and this number includes the destruction to formal and informal micro-enterprises. These businesses provide employment for the majority of Haitians and remain the most vulnerable to such phenomenon, operating at subsistence level, facing major growth constraints including lack of access to finance and unable to afford insurance as risk mitigation instrument.

This earthquake, however, is hardly the only natural disaster to devastate Haiti. Given its susceptibility to hurricanes, tropical storms, torrential rain and other natural phenomena, Haiti faces serious natural disasters on an almost annual basis. Figure 1 depicts the major natural disasters endured by Haiti since 2004.

[1] Haiti Earthquake: 4 Years Later. Oxfam International. http://www.oxfam.org/en/haitiquake
[2] Haiti Quake Damage in Billions. The Wall Street Journal. http://online.wsj.com/news/articles/SB10001424052748703798904575069614263432520

Figure 1: Timeline of Catastrophes in Haiti since 2004



In addition to the direct physical, human and economic damage caused by such natural disasters, there is a lingering impact on already weak financial markets. In the wake of natural disasters, outstanding portfolios of banks and other financial institutions are at greater risk of sliding into higher than expected rates of default. This can cause a contraction of new financing volumes because of higher risks and also shrinks capital available for new lending as write-offs increase.

Microfinance institutions (MFIs) are working to change the financial landscape of Haiti. They offer a wide range of financial services that would otherwise be unavailable to these businesses through the banking sector including loans, savings, money transfers and insurance. Their business is, however, highly affected by natural disasters as their clientele mainly consists of individuals and small businesses operating at the lower rungs of the income ladder and are highly vulnerable to disasters.

In a novel attempt to address this vulnerability and increase the consistency and proliferation of microfinance products in Haiti, the Microinsurance Catastrophe Risk Organization (MiCRO) was established in 2011 to reinsure the insurance products provided by MFIs to micro-enterprises in Haiti against natural catastrophe and bad weather. The intention was to provide financial protection to the clients of MFIs, thereby enabling micro-enterprises to remain operational in the wake of natural disasters.

By 2013, MiCRO had an insurance portfolio of USD 11.1 million and had paid out almost USD 9 million in claims.[3] While it was initially intended to work with a range of MFIs, MiCRO exclusively reinsures *Sévis Finansye Fonkoze* (SFF), the original aggregator selected for the launch of the MiCRO program.

1.2 Purpose of Mid-Term Evaluation and Report Structure

This report presents the findings of the evaluation team based on research undertaken from July to September[4] of 2014, including field missions to both Haiti and Barbados in late August. In addition to interviews and consultations through the field mission and undertaken telephonically, the evaluation team received and reviewed over 100 documents from MICRO stakeholders, including operational guidelines, contracts, records of management deliberations, other legal agreements, previous studies, program assessments and other information.

1.2.1 Objectives Of The Evaluation

The overarching objective of the assignment "is to determine, as systematically and objectively as possible, the relevance, efficiency, effectiveness, impact and sustainability of the [MiCRO] program." Specifically, this encompasses the following sub-objectives:

1. To assess the achievements of the program against its stated outcomes, including a re-examination of the relevance of the outcomes and of the program design;
2. To identify significant factors that facilitate or impede the delivery of outcomes; and
3. To lead to recommendations and lessons learned for informing the ongoing implementation and for future programming.

The explicit purpose for the evaluation is to draw out learning opportunities from the pilot program. This report does not intend to hold parties to account for decisions that negatively affected the MiCRO program. Thus, the report does not ascribe specific shortfalls in program design and implementation to particular stakeholders, but it rather attempts to explain the genesis and consequences of such decisions in an objective sense to promote learning.

The terms of reference, which are provided in Annex A, further define the most important objective of the evaluation as the provision of information to support decision-making around the replication of the approach with other aggregators (MFIs) in Haiti or in other countries. While the primary audience for this report is the Caribbean Development Bank (CDB) and the UK's Department for International Development (DFID), it is expected that the evaluation will be of interest to a wider number of partners and stakeholders, including development partners undertaking or planning related initiatives in other parts of the world. This report is also relevant to all stakeholders who played a part in the MiCRO program, including the Fonkoze family, the Alternative Insurance Company of Haiti, Mercy Corps, Swiss Re, the Swiss Corporation for

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[3] MiCRO. International Finance Corporation.
<http://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/industries/financial+markets/retail+finance/insurance/micro>

[4] The draft evaluation report was delivered in September; a two-step revision process resulted in the final report being accepted in November 2014.

Development and Cooperation (SDC), the International Finance Corporation (IFC) and the International Labour Organization (ILO).

In terms of approach, the terms of reference further specified that the evaluation should take a detailed look at five key aspects of the program namely:

1. the **design** of the program;
2. the **implementation** of the program;
3. the **outcomes** achieved by the program implementation;
4. an **analysis of the outcomes** that informed adjustment of the program and in terms of measured outcomes against the baseline; and
5. the **lessons learned** from the experiment.

Each of these program aspects was further defined by a series of evaluation questions or parameters. Through the evaluation process, the evaluation team was expected to use these questions, working through the five program aspects outlined above, to develop a comprehensive understanding of the program's achievement against its stated objectives.

Drawing from the analytical findings using this chronological methodology, the team then undertook a global assessment of the MiCRO program through the lens of the OECD DAC Evaluation Criteria. For this evaluation, the team has also applied one additional criteria—Dynamism—relating to the degree to which lessons learned have led to real-time adaptations of the program implementation. Specifically, the team sought to address the following evaluation criteria and overarching questions:

- **Relevance:** Is MiCRO valid and well-suited against needs?
- **Effectiveness:** Does MiCRO attain its stated objectives?
- **Efficiency:** Is MiCRO the least-cost approach to achieve outputs?
- **Impact:** What are MiCRO's positive and negative effects?
- **Sustainability:** Is MiCRO self-sustaining financially?
- **Dynamism:** To what degree have lessons learned been integrated?

This midterm evaluation was launched by CDB to monitor and evaluate the performance of MiCRO to-date. More specifically, the evaluation is intended to provide both a review of the past performance of MiCRO, but the evaluation is also intended to provide forward-looking recommendations to inform ongoing implementation of MiCRO as well as future programming related to microinsurance. Furthermore, the midterm evaluation is mandated by the trusteeship conferred upon CDB in its custodianship of the multi-donor trust fund used to backstop MiCRO's provision of insurance.

1.2.2 Evaluation Methodology

Drawing from the objectives and methodology defined in the terms of reference, the evaluation team undertook a five-phase approach to reach its terminal findings. After the project was launched during formal meetings with CDB, the evaluation team authored an inception report that outlined the intended research process, which was submitted to CDB on 31 July 2014. The overall approach is depicted in Figure 2.

Figure 2: Evaluation Approach

After the inception report was accepted, the team then launched into the subsequent research phases, during which, the team engaged with the full complement of stakeholders relevant to the MiCRO program. These stakeholders, which are further described in Chapter 2, range from donor governments to private insurance brokers to micro-entrepreneurs in rural Haiti. While the micro-entrepreneurs, particularly female micro-entrepreneurs, in Haiti are and the primary target beneficiary of MiCRO, the relative complexity of the program to give them this support in a sustainable and effective way draws upon the expertise of stakeholders across the Caribbean and further abroad.

Specifically, these stakeholders fall into three levels in regards to their role or relationship with the MiCRO program.

1. At the top level, **donors** play a role in enhancing the capital base of the program and driving international aid resources towards the program.
2. **Operations stakeholders** play the key role of executing and otherwise enabling the operations of the MiCRO program.
3. **Beneficiary stakeholders** comprise insured microenterprises as direct beneficiaries as well as the clients and suppliers of these microenterprises as secondary beneficiaries.

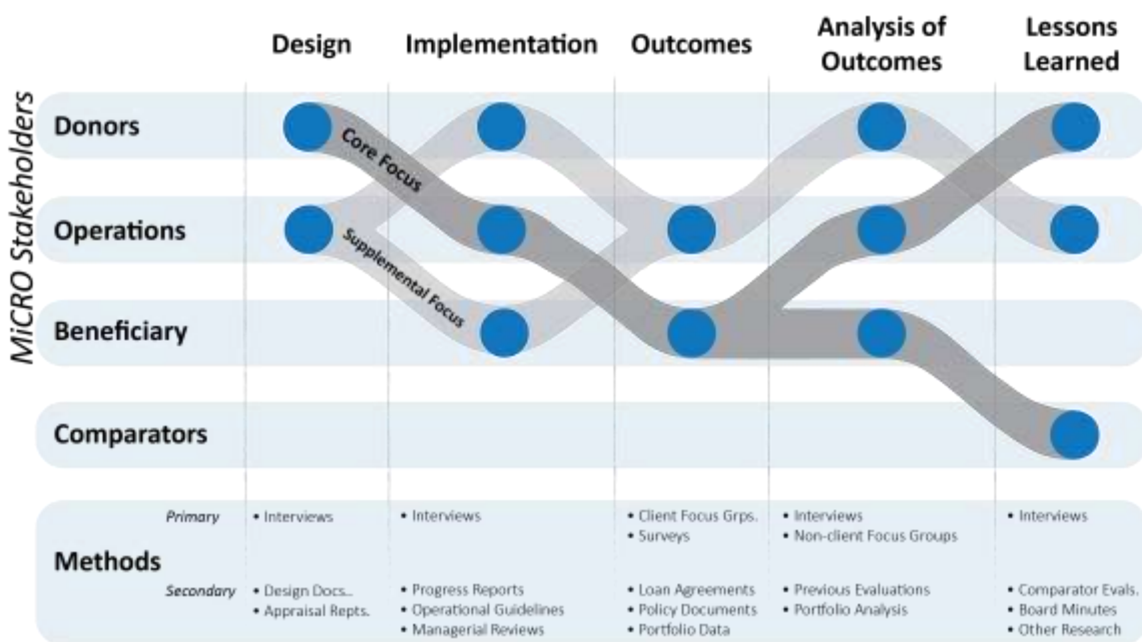
Each of these stakeholder groups has a specific relevance within the evaluation, particularly in regards to the five program aspects defined in the terms of reference. The evaluation team devised a plan to establish the primary and secondary research foci for each program aspect, as well as research methods to ensure that the team was able to extract necessary data through the second and third phases of the assignment.

The evaluation drew on multiple lines of evidence in order to corroborate evidence and validate findings. Sources for data were both quantitative and qualitative, including:

- Contractual documentation for (re)insurance policies
- Contractual documentation related to donor contributions
- Appraisal and design reports
- Evaluations, progress reports, assessments and findings papers
- Internal management reviews, memos and minutes
- Internal operational manuals
- Risk and pricing models, historic data and information about data sources
- Stakeholder interviews, both in person and via teleconference
- Non-stakeholder interviews for comparative purposes, including one other microfinance institution and an unrelated index insurance scheme
- Focus groups for claimants and non-claimants of the *Kore W* program

Using these multiple lines of evidence, the evaluation team applied relevant analytical processes to formulate a detailed understanding of the initial design, implementation and overall impact of the MiCRO program. Figure 3 depicts the flow of the research foci against the five program aspects that the team assessed. Annex B provides a list of stakeholders interviewed for the evaluation, and Annex C provides details on the evaluation approach used with each stakeholder. Annex D provides a bibliography of sources reviewed during the research process.

Figure 3: Research Focus & Methods



1.2.3 Evaluation Team and Locations

A team of international experts undertook the evaluation under the leadership of International Financial Consulting Ltd.'s President. The team comprised one former CEO of a Caribbean-based Reinsurance company, a seasoned re-insurance broker, a (re)insurance actuary with deep expertise in catastrophic risk analysis and a private sector development specialist. The team was 60% female and included one member with Caribbean heritage. Generally, the team worked out of its home offices in North America (US and Canada), but also undertook an eight-day mission to Haiti as well as a three-day mission to Barbados. The team undertook many consultations and interviews through teleconference with stakeholders in the US, UK, Ukraine and South Africa.

1.2.4 Structure of The Report

This report presents the findings of the evaluation, structured to directly address the aspects and underlying evaluation questions raised in the terms of reference. The report is organized based upon the scope defined in the terms of reference for the assignment, and is structured as follows:

Chapter 1 introduces the assignment, its context, and the methodology for its execution.

Chapter 2 outlines the roles, responsibilities and initial flows of resources within the

MiCRO stakeholder network.

Chapter 3 examines the initial design of the program in detail, including capitalization requirements, risk modeling, pricing and administrative responsibilities.

Chapter 4 delves into the implementation of the program in its original design, including specific challenges and obstacles, as well as the evolution of the product provided through MiCRO since inception. This chapter also explores some of the underlying challenges that necessitated the changes made to the program as it was implemented.

Chapter 5 presents the outcomes that were achieved by the program through first presenting independent factors and then dependent factors that drove the levels of payouts made through the MiCRO program. It also explores these outcomes against the stated objectives of the program, change in client behaviour, climate resilience, relevance and overall sustainability.

Chapter 6 undertakes an overall evaluation against the OECD DAC evaluation criteria and related questions, drawing on evidence provided in previous chapters.

Chapter 7 defines the root causes for shortcomings in the program and then provides forward-looking lessons learned and recommendations.

1.2.5 Limitations of the Evaluation

While the team believes this evaluation report to be comprehensive and substantial in terms of the lessons learned that should be applied to future initiatives in Haiti and elsewhere, it is important to note some limitations faced during the execution of the assignment. These constraints also contributed to the structure of the evaluation report, particularly as substantial data sets are not available nor was the gathering of such data within the scope of this evaluation. These challenges are summarized as follows:

Potential Biases of Stakeholders

Stemming from the structure of the program, most of the stakeholders involved have an ongoing interest in the implementation of MiCRO, even though the program itself has changed considerably from its original design. As such, many potential biases from individual stakeholder representatives as well as institutional biases for the stakeholder organizations remain. The team worked to the extent possible to understand and account for these biases in our research process, triangulating and confirming stakeholder views as necessary.

Lack of Externally-Validated Data

While the team was able to undertake interviews and consultations with all but one of the stakeholders involved in the design and implementation of the MiCRO program, there was much additional secondary research undertaken through the over 100 additional documents supplied by stakeholders and gathered by the team. However, none of these secondary sources constituted objective data gathered and analyzed by an independent entity. Rigour and comprehensiveness were clearly evident in most of these secondary sources, and the team sought to triangulate secondary data with corroborating perspectives from stakeholders that had not produced said data.

Duration of Assignment

The research period of the consultancy, as specified in the terms of reference, was to be no more than six weeks from the launch of the consultancy to the submission of the draft evaluation report. While the team had sufficient time to develop a comprehensive research plan, the evaluation could have benefited from a longer timeframe particularly when it came to examining on the ground results achieved for the end-beneficiaries of the MiCRO program—female business owners spread throughout rural Haiti. Given the short amount of time for the evaluation, it was impossible to fully engage with a representative sample of these end-beneficiaries, and it was similarly challenging to develop and test other scientific research methods. The team relied principally on individual interviews with stakeholder representatives from each of the institutions engaged in the design and implementation of the MiCRO program, and often was able to engage multiple representatives of the key stakeholder organizations. Furthermore, there was no time available to pre-test interview guides. Instead, the team relied on its previous experience and open-ended interview approaches to gather as much relevant information as possible, which was later analyzed and triangulated against other interviews and data sources.

Reliance on SFF for Contact with End-Beneficiaries

The team was able to undertake limited consultations with the end-beneficiaries that were facilitated through SFF's own staff. Because these end-beneficiaries were and remain SFF borrowing clients, it was critical for the team's research to not hinder or otherwise diminish the business relationships that have been cultivated over the past years. The topic of catastrophe insurance is particularly sensitive, as the benefits of the original *Kore W* product are well understood and supremely appealing to SFF's current clientele. As such, the team relied on SFF staff that was present during the focus groups to clearly explain that our presence did not mark the re-introduction of an insurance program. SFF arranged for the focus groups that were undertaken with end-beneficiaries. However, at no point did the team feel it was impinged from working freely and without interference on the topic, and SFF themselves were more than willing to provide all client/claim data available.

Sampling Limitations

While it is possible that the presence of SFF staff at the focus groups, and the selection by SFF of the participants of the focus group, may have biased the feedback received, the findings of the focus groups were triangulated against other data available and feedback from other non-SFF stakeholders. Furthermore, focus groups themselves are not a research tool that can be used to inferential purposes and were therefore used cautiously by the team to understand wider trends among SFF's borrowers. A scientific survey of SFF's borrowers that could have been used for inferential analysis was beyond the scope of the assignment and would not have been possible given the duration and scope of the consultancy.

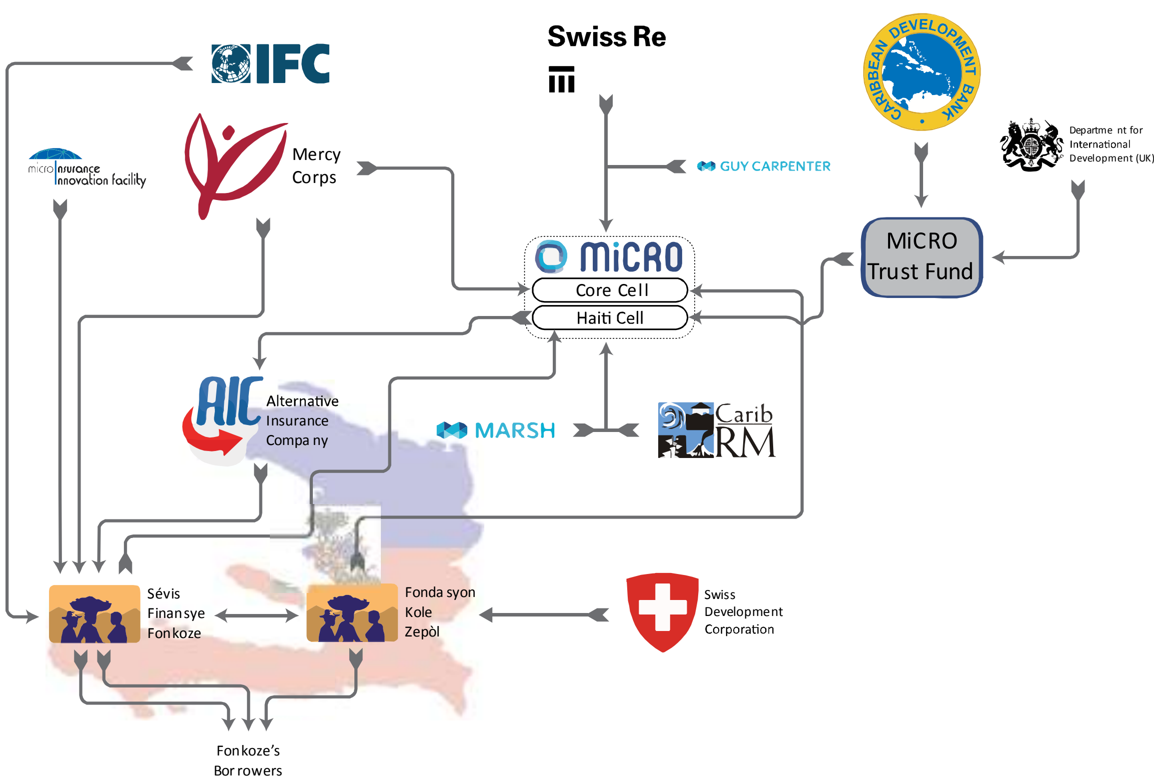
2 ROLES AND RESPONSIBILITIES OF STAKEHOLDERS

This chapter outlines the stakeholder network within which MiCRO SCC operates. As microinsurance and disaster resilience are both key strategic objectives for donor agencies and many of the other stakeholders, the MiCRO program has attracted a substantial amount of external support of various kinds in order to enhance the provision of financial services to the end-borrower.

The stakeholders described in this chapter were engaged at the beginning of the MiCRO program in 2011 with one exception, namely IFC. The team was able to engage with every stakeholder involved in the design and implementation of MiCRO, from the on-the-ground provision of microinsurance through to the arrangement of reinsurance for MiCRO SCC, with the exception of the Microinsurance Innovation Facility at the International Labour Organization.

Figure 4 depicts the comprehensive stakeholder mapping for the assignment; the operational stakeholders in Haiti are discussed in detail in this chapter; other stakeholders are discussed in detail in Annex E. The nature of relationships among stakeholders in terms of their respective roles in the MiCRO program is discussed in Chapter 3.

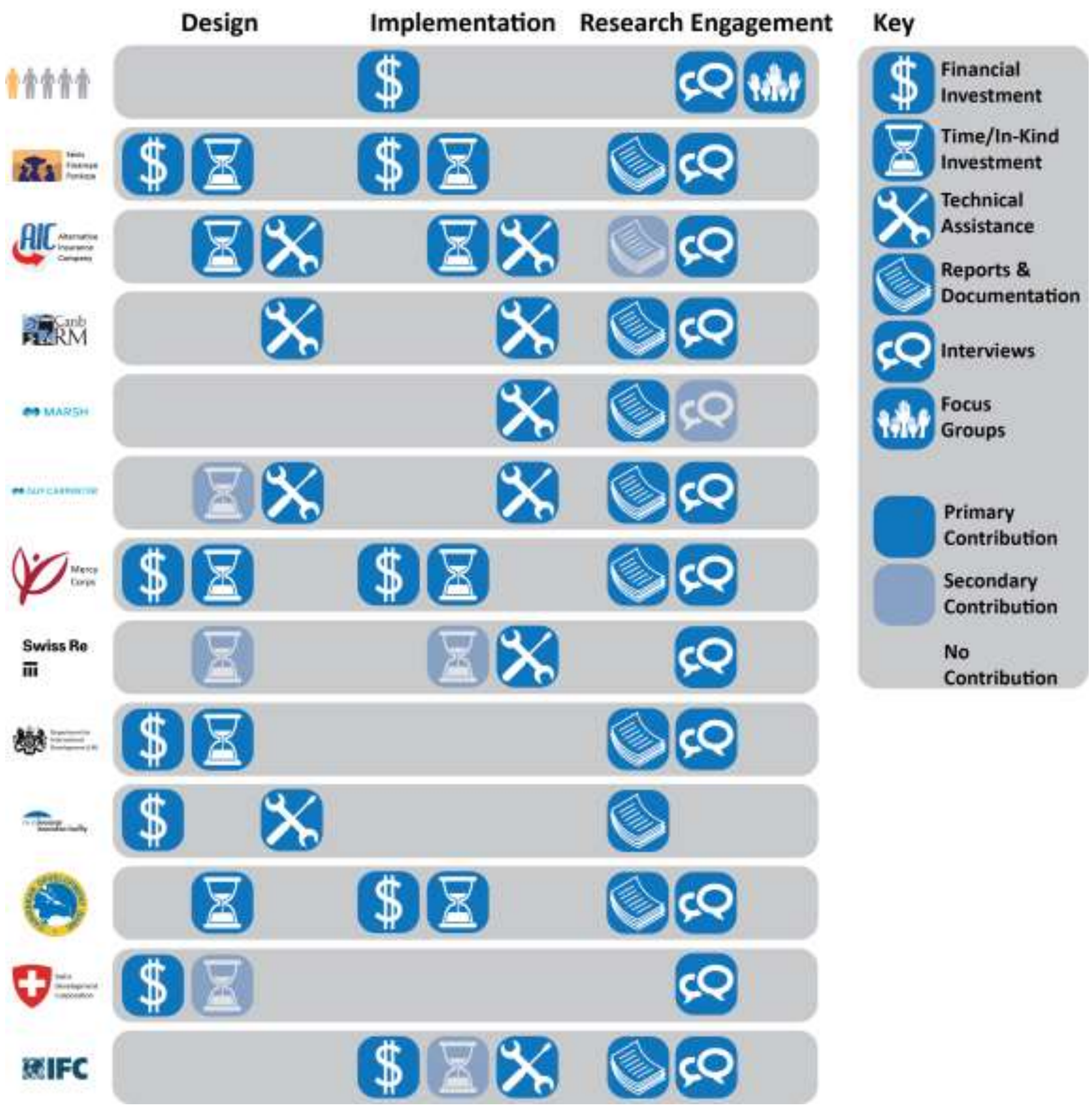
Figure 4: Stakeholder Mapping



The research process outlined in Figure 3 spanned the full gamut of stakeholders, each of which had a unique contribution to both the design and implementation of the MiCRO program. Figure

5 summarizes these contributions, both in design and also through implementation of the MiCRO program. Financial investment means that a stakeholder contributed resources to either the design or implementation of the program. Time/in-kind investment includes dedication of staff to the design or implementation of the program, while technical assistance includes placement of third-party or technical expert staff that was accounted separately from in-kind contributions. In terms of research engagement, reports and documentation include both basic documentation and analytical work. Interviews include engagement with prior and current staff and/or management, while focus groups included group interviews based on specific research guides.

Figure 5: Stakeholder Contribution and Research Engagement



2.1 Beneficiaries

The ultimate beneficiaries of the MiCRO program have, from the outset of the program in 2011, been the client-members of the Fonkoze family—on one hand a microfinance institution and on the other a not-for-profit foundation operating in Haiti. These borrowers are entirely female and are largely the operating Base of the Pyramid-scale businesses throughout the country. These businesses are primarily rural, and, through the duration of the program, SFF's active borrowers have numbered between 36,000 and 65,000 individuals. During the period of 2011 and 2012, insurance cover was distributed directly to these borrowers under the name of *Kore W* ("Strengthen/Reinforce You"). *Kore W* was mandatory for all active borrowers while it was an active product offered through SFF.

At the launch of MiCRO, these borrowers principally fell into two lending groups, either in the solidarity loan program or the Little Credit ("Ti Kredi") programmes.[5] Solidarity loans ranged in size from HTG 5,000 to 50,000 (USD 125 to 1,250) over a six-month tenor, once a borrower had successfully reimbursed a trial solidarity loan of HTG 3,000 on a three-month tenor. Little Credit borrowers qualified for loans of HTG 1,000, 1,500 or 2,500 (USD 25, 38 or 63, respectively). Little credit borrowers ideally, though not frequently,[6] graduates of the Pathway to a Better Life (*Chemen Lavi Miyò*, CLM) program, which focuses on confidence building, enterprise training, asset transfer and health services to prepare future Little Credit borrowers with adequate financial literacy and skills to manage small loans.[7]

These borrowers were (and continue to be) distributed nationwide and are principally operating their business activities in rural and small villages. The overwhelming majority of SFF's branches operate in rural areas, serving markets that are otherwise devoid of financial services. At both the Solidarity and Little Credit program levels, an overwhelming number of the borrowers are still facing absolute poverty with 69% and 84% of the borrowers in each program reporting a household income of less than USD 2 per day.[8] Given this level of poverty, SFF's borrowers are among the most vulnerable in Haiti to the effects of catastrophic events.

2.2 Haiti-Based Operational Stakeholders

The operational stakeholders engaged in the MiCRO program primarily fall into two key sub-categories. First, there are three principal stakeholders operating on the ground in Haiti which include SFF, its Fonkoze affiliate "the Shoulder to Shoulder Foundation" (*Fondasyon Kole Zepòl,* FKZ) and the Alternative Insurance Company (AIC).

Supporting these three Haiti-based operations stakeholders, there are four non-Haiti based stakeholders that make up the second sub-category of operations stakeholders. These include stakeholders based in Barbados and those based elsewhere in the world. These stakeholders include Marsh, CaribRM, MiCRO Segregated Cell Company (SCC), Guy Carpenter and SwissRe. Figure 6 highlights these operational stakeholders in the overall stakeholder mapping.

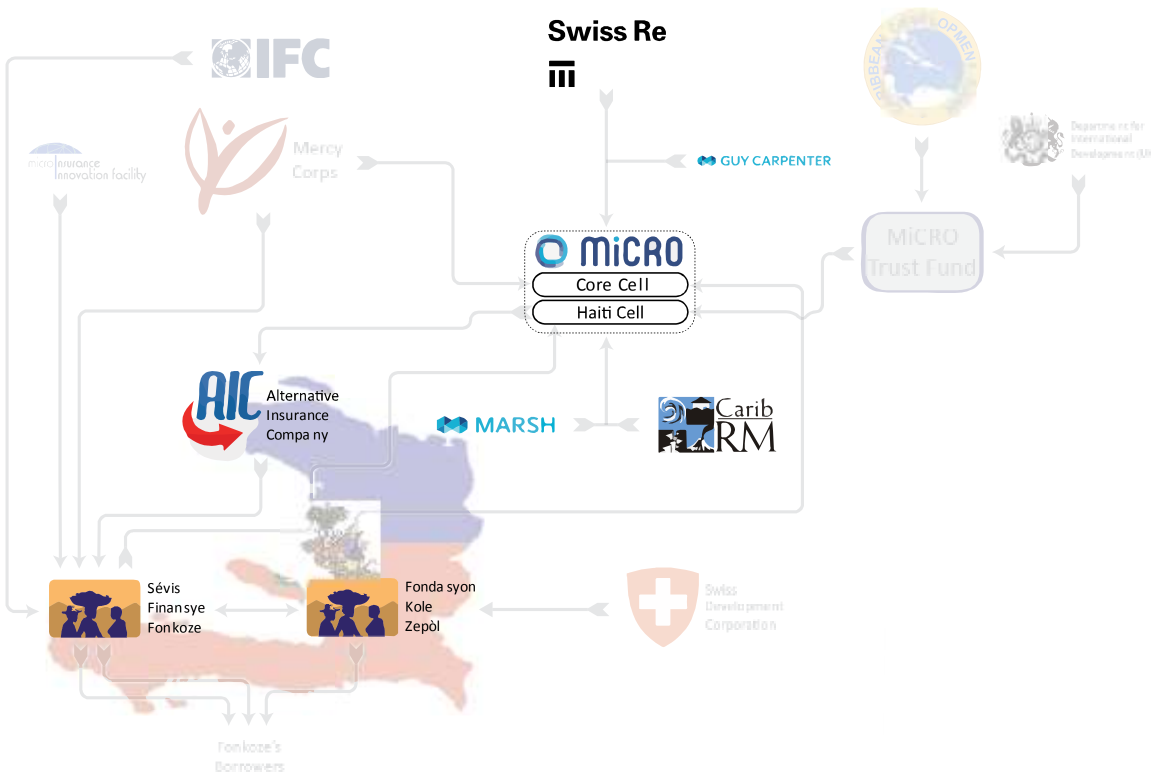
[5] Evaluation of First-Year Results: Fonkoze's Kore W Natural Catastrophe Insurance for Haitian Micro-Entrepreneurs, May 2012.

[6] Stakeholders indicate that between 600-1000 CLM graduates become solidarity clients per year

[7] Fonkoze's Staircase Out of Poverty. From the Fonkoze website < http://www.fonkoze.org/what-we-do/>

[8] Shocks in the Lives of the Most Vulnerable: Protecting Assets, Preventing Over-Indebtedness. Presentation to the Savings and Credit Forum by Anne H. Hastings, 5 March 2013.

Figure 6: Operational Stakeholders



2.2.1 *Sévis Finansye Fonkoze* And *Fondasyon Kole Zepòl*

Fonkoze, in the form of FKZ, was conceived in 1994 under the leadership of Father Joseph Philippe and founded in 1995. The original objective of this foundation was to enhance the economic empowerment of *ti machann*, or women street vendors. By establishing an affiliate not-for-profit entity in the US, US-based investors were able to "sell" notes to the US-affiliate, which were then on-loaned to *ti machann* through FKZ. Note holders could opt to recoup their investment or recycle their loan at the term of the note.[9] While this model helped FKZ establish the practice of microfinance for its target clients and grow as an institution, it became necessary in the early 2000s to expand the capital base of the institution. As such, a placement of USD 2 million in equity in 2002 resulted in the establishment of SFF, a for-profit financial services company based on the Grameen and other models.[10] Stakeholders report that FKZ established and operated some microfinance branches throughout the country even through 2012. However, for the purposes of this report, Fonkoze's microfinance activities are attributed to SFF because these portfolios, hard assets and accounts were all eventually transferred to SFF.

[9] Our History – A Bank the Poor Can Call Their Own: A History of Fonkoze. Fonkoze *Fondasyon Kole Zepòl* via the Fonkoze website <http://fonkoze.org/wp-content/uploads/2013/09/fonkoze_history.pdf>
[10] Ibid.

At the close of 2010, just before the MiCRO program began, SFF had 35,332 active borrowers. Operations expanded by the end of 2011 to 51,330 active borrowers.[11] 2012 saw a change in financial reporting frequency from calendar years to fiscal years ending on 30 September. As of FY2013, SFF held HTG 476.7 million[12] in outstanding loan principal for 64,355 active borrowers[13] across its 46 branches.

In terms of its distribution model, SFF relies on the same structures today as it did in 2011 when the MiCRO program began, and in fact since inception of SFF as a distinct entity. Drawing from the Grameen lending model, SFF groups its borrowers in both the solidarity and Little Credit programmes into groups of five members that are on the same lending cycle. These members form a solidarity group, and members cross-collateralize the overall group loan to enhance the likelihood of social pressure leading to loan reimbursement. Solidarity groups elect a group leader (*Maman Groupe*) who oversees loan reimbursement and liaises with the credit center.

These five-member solidarity groups are organized into credit centers that typically consist of 8-15 solidarity groups. Members of a credit center elect a center chief who is responsible for managing the credit center. SFF staff report that centers are not office spaces per se, but are rather jointly agreed locations such as houses, fields or shady trees where center meetings are undertaken twice a month. The first of these center meetings is arranged so that group leaders can submit loan reimbursements on behalf of the members of their group. The second meeting is dedicated to borrower education and other communications activities. Center chiefs are borrowers themselves and equally benefit from education activities.

Credit agents, who serve as the first line of formal SFF employees that manage the loan reimbursement process, visit credit centers for the bi-monthly meetings. Credit agents typically oversee multiple centers, and they visit no more than two or three centers per meeting day because of the geographic separation and requisite travel time to visit them. Credit agents are grouped together under the supervision of a branch manager across Fonkoze's 46 branches in Haiti. Figure 7 graphically depicts the range of supervision for each level of Fonkoze's credit distribution structure.

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[11] Historic Statistics from MIX Market report on Fonkoze Financial Services (SFF) via <http://www.mixmarket.org/mfi/fonkoze-financial-services-sff/>

[12] Craft, Noble & Company, PLLC. Fonkoze S.A. and Subsidiary: Audited Financial Statements and Independent Auditor's Report for 2013, via the Fonkoze website <http://fonkoze.org/wp-content/uploads/2013/08/Fonkoze-SA-SFF-2013-Final-Report.pdf>

[13] Via Fonkoze website <http://www.fonkoze.org/why-it-matters/key-statistics/>

Figure 7: SFF Distribution Size and Structure

This credit distribution system was used for *Kore W* when it was offered in 2011 and 2012. Insurance was provided on an individual basis rather than as a solidarity group policy, but it was distributed as a supplemental component to all new and existing loans starting 1 January 2011. The administrative arrangements for delivering MiCRO coverage to borrowers are presented in detail in Section 3.3.1.

2.2.2 The Alternative Insurance Company

The Alternative Insurance Company (AIC) is a multiline insurance company that provides a wide range of insurance products in the Haitian market. Their products include auto, homeowners, business, funeral, group health, funeral and micro-insurance products. As one of the leading players in the insurance market, AIC was identified early in the inception of the MiCRO program to serve as the front line underwriter of insurance delivered through MiCRO to the Haitian market.

As the regulatory environment for Haiti is still underdeveloped and no specific insurance regulatory body exists, it was important to ensure a high degree of transparency and compliance in the design of MiCRO. Rather than deliver insurance directly to SFF, MiCRO opted to operate through AIC, a locally established, reputable insurance company. This also facilitated a rapid deployment of the insurance mechanism, as it freed MiCRO from the obligation of establishing a front line insurance company in Haiti to deliver coverage to Fonkoze.

AIC, as front line insurer, reinsures all the coverage provided to SFF back to MiCRO. This was the case in the original design of the MiCRO program, as well as in the subsequent evolution to the current structure of the program. In both cases, AIC has never held risk related to MiCRO products.

2.3 Other Stakeholders

There were numerous stakeholders engaged in both design and implementation of the MICRO program from outside the country. The contributions of these stakeholders, as well as research engagement for this evaluation, are depicted in Figure 5. Annex E provides detailed descriptions of these stakeholders in terms of their background and their role in MiCRO.

3 INITIAL DESIGN OF THE PROGRAM

This chapter presents the initial design of the MiCRO program, as it was intended according to design documents, appraisal reports and other inception materials.

3.1 Theory of Change

Following an initial feasibility study undertaken by CaribRM and DFID in 2009 and 2010, a theory of change was established for the MiCRO program. This theory of change is presented in detail in the DFID appraisal documentation assessing the likely impact of the initial investment made by DFID in the multi-donor trust fund housed at CDB. The theory of change is founded on a general background and a specific context of the situation in Haiti, as summarized in Table 1.

Table 1: Background and Context for Theory of Change[14]

General Background	Following disasters, micro credit holders who have lost assets and markets are unable to pay back loans. Coping strategies include selling assets (therefore becoming even poorer) or seeking assistance from others (family, government, civil society, etc.). This assistance may or may not be forthcoming, adequate, or equitable.
Specific Context	In 2004, 2008 and 2010, Fonkoze members lost livelihoods, were unable to pay back loans and could not take out new ones. DFID and other donors provided *ex-post* funding for Fonkoze to recapitalise loans and allow enterprises to be re-established. In the immediate aftermath of these disasters, neither Fonkoze nor their members were certain of what assistance would be forthcoming. This acted as a brake, reducing confidence to take on borrowing, placed micro-economic activity on hold, and resulted in different coping strategies (e.g. selling assets). The DFID funding to re-capitalise loans in 2008 took five months to be agreed.

The investment provided by DFID to the multi-donor trust fund therefore served as the input to achieve a theory of change described using the output-outcome-impact results framework. This theory of change is described sequentially in Table 2. The indicators and benchmarks ascribed to the theory of change were only specified through the end of 2011, the first year of SFF operations. No specific targets regarding donor coordination, beyond the target of program funding, were established. However, it is understood that DFID intended to adhere to commitments regarding the 2005 Paris Declaration on Aid Effectiveness and Coordination in its support to the MiCRO program as well.

Table 2: Theory of Change Results Framework

Input	GBP 955,000 of the GBP 2 million allocated to Disaster Risk Reduction in Haiti in 2010.

[14] As defined in DFID appraisal report.

Output(s)[15]	***Funding***	The insurance facility [MiCRO SCC & Cell A] will have to [be] adequately funded and able to absorb worst-case scenario disaster events.
	Admin System	An administrative and management system to sell and distribute insurance will be required.
	Client Capacity	Those purchasing insurance must understand how the insurance functions and what it is for.
	Risk Transfer	Adequate levels of risk transfer – away from Fonkoze to other institutions (e.g. reinsurance) – must be in place.
	Market Breadth	MiCRO broadens coverage to other micro-finance institutions or launches parametric micro-insurance in at least one other Caribbean country
Outcome(s)[16]	Low income groups in Haiti take up affordable disaster micro insurance measured in terms of: 1. Number of Fonkoze (new) Fonkoze clients insured 2. Percentage of insured borrowers receiving pay-outs within two working works of a qualifying disaster	
Impact	Catastrophe insurance protects livelihoods and allows quicker recovery after natural disasters in Haiti measured in terms of: 1. Percentage of Fonkoze borrowers who report they recovered more quickly from a disaster	

The theory of changed outlined in Table 2 will be referenced throughout the report in the form of discussion boxes to provide an ongoing commentary of the team's analysis, culminating in the findings presented in Chapters 5, 6 and 7. This way, a thread of analysis against the established theory of change can be integrated into the detailed description of design, implementation and outcomes of the MiCRO program.

3.2 Initial Product Offering

MiCRO's product offering was designed to support *Kore W*, a dual purpose insurance product provided by Fonkoze to its microfinance clients on a mandatory basis in association with a loan. The MiCRO coverage followed the terms of *Kore W* which initially were:

1. A write off of the client's existing loan balance, combined with the offer of a new loan for an identical amount to that previously advanced;
2. A cash payment of HTG 5,000 to cover damage to merchandise and housing, and generally to assist in recovery following a disaster.

These benefits were backed by an insurance policy issued by Alternative Insurance Company (AIC), to SFF, which contained two inter-related insurance coverages:

a) A parametric insurance cover, which paid out for wind, rain and earthquake events when certain trigger points were hit. The initial parameters were nation-wide, and

[15] From "Theory of Change" section of DFID Investment Appraisal
[16] From Logical Framework annexed to Investment Appraisal

they were segmented so that progressively higher triggers yielded larger overall payouts. There were separate limits for the different events, which initially were USD 4 million for wind, USD 3.75 million for rainfall, and USD 7.5 million for earthquake, with a total overall policy limit of USD 10 million. There was no deductible. The triggers for this contract were set with different levels of severity, and the percentage payment varied from 0% to 100% dependent upon which level of trigger was reached.

b) A basis risk cover that had a small deductible of USD 2,500, and Fonkoze retained 15% of all risks. The aggregate contract limit was USD 1 million, with sub-limits for rainfall (USD 372,500), wind (USD 400,000) and earthquake (USD 750,000). This insurance paid out in situations where the total claims paid by Fonkoze exceeded the amount recoverable under the parametric insurance benefit. The basis risk benefit also made provision for an *ex gratia* payment which would be made if there were no possibility of legal obligation for a payment on the part of SFF, and which was made solely to preserve the goodwill of its clients.

AIC reinsured 100% of its risk with MiCRO on identical terms and conditions to those contained in the underlying policy. MiCRO kept the basis risk coverage for its own account, but reinsured the parametric coverage with SwissRe. Claims under the two policy components were assessed dependent on whether SFF's clients had suffered covered damage. If the claim was approved then a cash payment was made and, at the same time, the loan was written off.

SFF itself was liable for any risk that fell outside the coverage offered by these insurance policies. Consequently, once total claims reached the policy limits under the parametric coverage, Fonkoze was liable for an initial payment of USD 2,500 and 15% of the next tier claims under the basis risk cover up to its policy limits. Once these amounts were reached Fonkoze was liable for 100% of any excess.

3.3 Administrative Responsibilities

3.3.1 SFF Responsibilities vis-à-vis *Kore W*

Distribution

Through the SFF credit network, SFF itself was charged with delivering *Kore W* to all of its clients. While the product was mandatory for all borrowers, SFF managed the client and staff education process for the roll-out of *Kore W*. Credit agents worked with center chiefs to disseminate knowledge of the cost and potential benefits in the event of a loss to all members through the first half of 2011. Stakeholders indicate that a special team was deployed by Fonkoze to manage the communications and education required to roll-out *Kore W*, and some of the members of this team later took a role in managing the operations of the insurance scheme including claims processing.

Claims Management

As of the launch of MiCRO, center chiefs served as the primary collection point of insurance claims following a catastrophic event. They also were empowered as the primary means to validate losses made[17] pursuant to the *Kore W* loss criteria, which is discussed in detail in Section 3.2. Credit agents provided support and additional validation in claims evaluation and verification in practice, though this responsibility was intended for center chiefs. Center chief duties related to *Kore W* claims processing included the following:[18]

1. Visit members' houses to see damage
2. Write the name of the member on a claims form
3. Inform credit agent at next visit how many victims there are [according to victim criteria]
4. Ensure that all victims come to next center meeting
5. Adjudicate meetings among members to determine who had worst damage from catastrophic event

***Kore W* training materials also note that center chiefs were to be remunerated for their efforts in visiting center members and reporting claims. For smaller events, remuneration was on a per-victim visit basis. Larger events were remunerated on a per-solidarity-group visit basis.**

Table 3 presents the proposed remuneration scheme from materials used to train center chiefs on *Kore W*.

Box 1: Distribution System Strengths & Weaknesses

Output: Admin System

Through the preliminary design work undertaken by MiCRO and CaribRM, the primary distribution system through SFF for *Kore W* was established.

On the positive side, this **enabled distribution of *Kore W* to all of SFF's active clients**. It utilized existing systems as the main infrastructure for administration.

On the negative side, this system relied on center chiefs and SFF's own credit officers to handle the sales and claims management processes, something **they may not have been qualified to undertake.**

Table 3: Summary of Center Chief Remuneration for *Kore W* Claims Processing[19]

Visits	Payment
1-5 victims	HTG 100
6-10 victims	HTG 200
Per group (larger events)	HTG 50 per solidarity group

3.3.2 MiCRO Management and Operations

Administration

Marsh was engaged to oversee the day-to-day administration of MiCRO as a segregated cell company operating in Barbados. Among other things, Marsh's role was to oversee all financial

[17] Kore W Disaster Response Process. SFF Internal Management Memorandum.
[18] Kore W Guide for Center Chief (translated), March 2011. Internal SFF Training Document.
[19] Ibid.

accounting activities and regulatory reporting, including the arrangement and execution of annual external audits undertaken by Ernst & Young. Marsh also served as the board secretariat and thereby manages the authoring and distribution of all board minutes and decisions. Marsh was charged with managing claims payments processing in the original and current designs of the MiCRO program. Marsh still serves in this capacity.

Technical Operations

CaribRM was engaged as the Technical Operations Manager, a role they still play. The terms of reference[20] for this position provide for four key areas of responsibility, namely operations support, risk transfer, research and development and *ad hoc* technical work. In terms of specific duties, CaribRM as Technical Operations Manager was intended to provide among other things:

- input to the MiCRO Board on strategic planning,
- business plan formulation and refinement support,
- oversight of business relationships engaged by MiCRO,
- creation and management of operational guidelines,
- engagement of placing broker contracts,
- ongoing review of recorded events against risk models for both aspects of the hybrid product,
- an annual review of premium rates to ensure financial sustainability of MiCRO,
- sales efforts on behalf of MiCRO,
- maintenance of an event monitoring and claims filing system,
- coordination of claims processing and settlement from aggregators,
- maintenance of systems and services to meet any obligations entered by MiCRO as the legal Calculating Agent in any risk transfer agreements,
- ongoing research and development in terms of new product and market development

It should be noted that CaribRM was and remains the chiefly accountable party for the creation and maintenance of the MiCRO operational guidelines, including the formulation of terms of reference for vendors. This includes their own terms of reference Operational guidelines are reviewed and approved by the MiCRO board of directors.

Brokerage

Guy Carpenter, following an approach by SwissRe, was engaged and remains the reinsurance broker for MiCRO. This includes the role of seeking best premium rates and ensuring timely premium processing among reinsured and reinsurer. Stakeholders had indicated that Guy Carpenter at the request of the MiCRO Board of Directors had at least once sought pricing and terms quotes from other reinsurers aside from SwissRe, but that no other competitive bids were identified; in essence, SwissRe was the only company that was willing to both invest the time to underwrite a proposal and provide competitive premium and terms. However, no discussion of alternative reinsurers is mentioned in the MiCRO Board of Directors meeting minutes.[21]

3.4 Governance Structure

[20] Terms of Reference, Technical Operations Manager. Operations Manual: Annex 1 – Terms of Reference for Service Providers. MiCRO Operations Manual. v1.0, 12 February 2012 by CaribRM.

[21] Based on MiCRO Board Minutes and Resolutions from 29 March 2011 to 15 May 2014 as provided by Marsh on 29 August 2015.

From inception, MiCRO featured a Board of Directors comprising a mixture of shareholder representatives, donors, active stakeholders and external experts. The purpose of the Board is to approve and oversee all policies related to the administration and operations of MiCRO, including those related to annual business plans, vendor performance measures, financial structure, risk management, annual budget, investment allocations and external audits, among others.[22] Furthermore, the Board is mandated to always consist of members of the three founding institutions—Fonkoze and Mercy Corps as shareholders, and CDB as a representative of donors—and up to two other directors may be appointed.

3.5 Program Resourcing

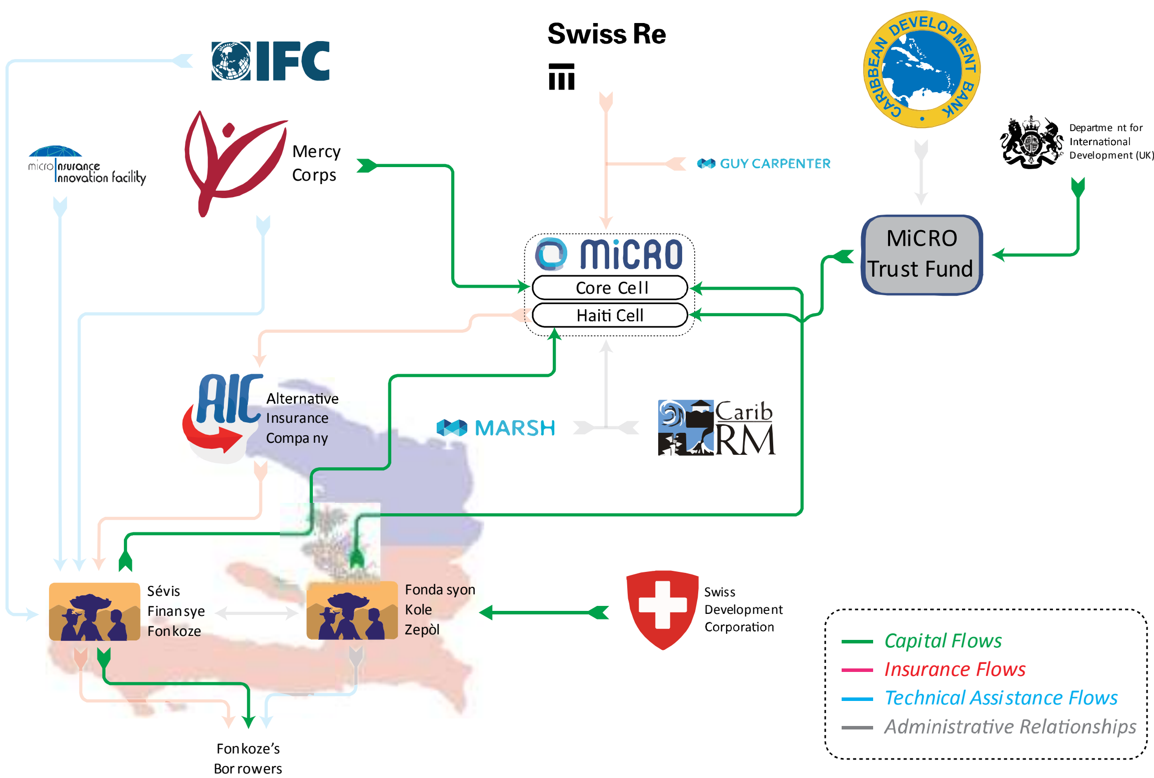
3.5.1 Shareholding & Other Resources

Capitalization of the MiCRO program was initially achieved through a combination of equity investments in MiCRO SCC and grant-based support provided by donors. This combination of resources afforded MiCRO SCC the initial resources necessary to cover establishment costs and provide the initial capital base to support reinsurance operations. The initial capital required by the scheme was based on the initial forecasting of potential losses stemming from the events, and was largely derived from analysis undertaken by CaribRM. These initial estimates specified that between USD 5 and 10 million[23] would be required. Figure 8 depicts the flow of capital to MiCRO, in addition to the delivery of capital in the form of credit to SFF's clients.

[22] Operations Manual. MiCRO Internal Document. Updated 13 May 2014, V2.

[23] DFID: Haiti Micro-Insurance Risk Transfer Support Project. Report 2: Summary Report and Recommendations. 24 June 2010. Provided by CaribRM.

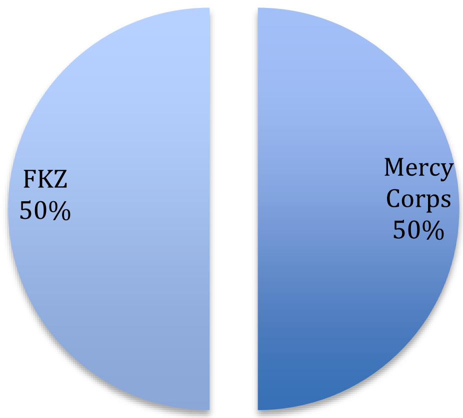
Figure 8: Equity & Other Capital Mapping



MiCRO SCC as a private company was founded through co-investments in the core cell, through subscription of preference shares. The Haiti Cell, referred to in shareholding agreements as Cell A, was co-invested by shareholders through subscription of common shares associated with this Cell. Both required substantial up-front investment in order to capitalize the fund. Barbadian law requires minimum capital to found an SCC at USD 12,500 in preference shares (for the core cell) and USD 125,000 in common shares (for each active cell).

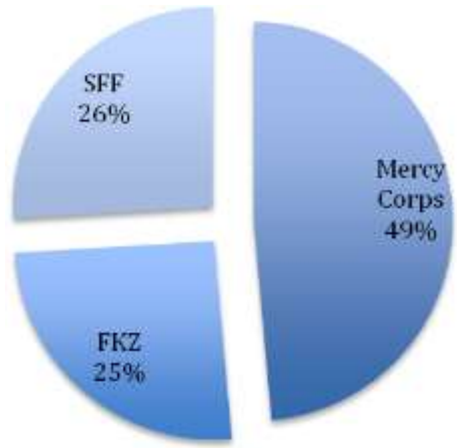
Mercy Corps invested its own resources as co-investor in both preference and common shares. Its initial investment was USD 75,000 in common shares and USD 425,000 in preference shares. Through grants from USAID and SDC, FKZ and SFF were able to co-invest and take a shareholding position in both the core cell and the Haiti cell. FKZ was the sole investor of the Fonkoze family into the core cell with USD 75,000. FKZ also invested USD 223,000 in common shares. SFF invested USD 227,000 initially. Figure 9 and Figure 10 depict the initial shareholding in both the core and Haiti (A) cells of MiCRO.

Figure 9: Initial Core Cell Shareholding[24]



Total Preference Shareholding: USD 150,000

Figure 10: Initial Haiti Cell Shareholding[25]



Total Common Shareholding: USD 875,000

Box 2: MiCRO's Resources at Launch

Output: Program Funding

The initial requirements specified by the design studies undertaken by CaribRM specified that at least USD 5-10 million was required in capital to make the MiCRO reinsurance model viable. It was expected that an additional USD 3 million would be raised through donor or other contributions by the end of the first year of operations.

However, no additional contributions materialized until a much later pledge by CDB (see Section 4.1.3) at the end of 2012. **Hence, MiCRO was not sufficiently capitalized at launch as per the design parameters.**

In addition to equity, DFID contributed GBP 955,000 in grant resources to a multi-donor trust fund overseen by CDB. In the initial design of the trust fund documentation, it was expected that donor contributions would reach USD 5 million by the end of 2011.[26] The original grant contribution was then on-granted to MiCRO through a grant agreement between CDB and MiCRO, which laid out specific types of expenses or activities that the grant could support including:[27]

a. professional service fees which are or have been incurred by MiCRO and/or its agents/contractors in connection with the establishment of MiCRO;
b. any premia payment made by MiCRO to any reinsurance broker, reinsurer or such other entity, to purchase any reinsurance or such other risk coverage;
c. such amounts as to enable MiCRO to make any payment to a client of MiCRO, pursuant to the insurance contract entered into between MiCRO and the client, in response to any claim made for the insurance cover thereunder; provided however that such

[24] Share Register. MiCRO Catastrophe Risk Organization SCC. As provided by Marsh on 3 September 2014.
[25] Share Register.
[26] Logical Framework appended to Reducing Disaster Risks by providing catastrophe insurance for Fonkoze's Micro credit Clients in Haiti. Intervention Summary from DFID, as provided by CDB.
[27] Grant Agreement (Micro Insurance Catastrophe Risk Organisation (Haiti) Fund) Between Caribbean Development Bank and Micro Insurance Catastrophe Risk Organization SCC. Grant No. GA 9/HAI, signed 1 November 2011.

payments shall exclude any insurance payouts whose payments are covered by any reinsurance purchased by MiCRO; and

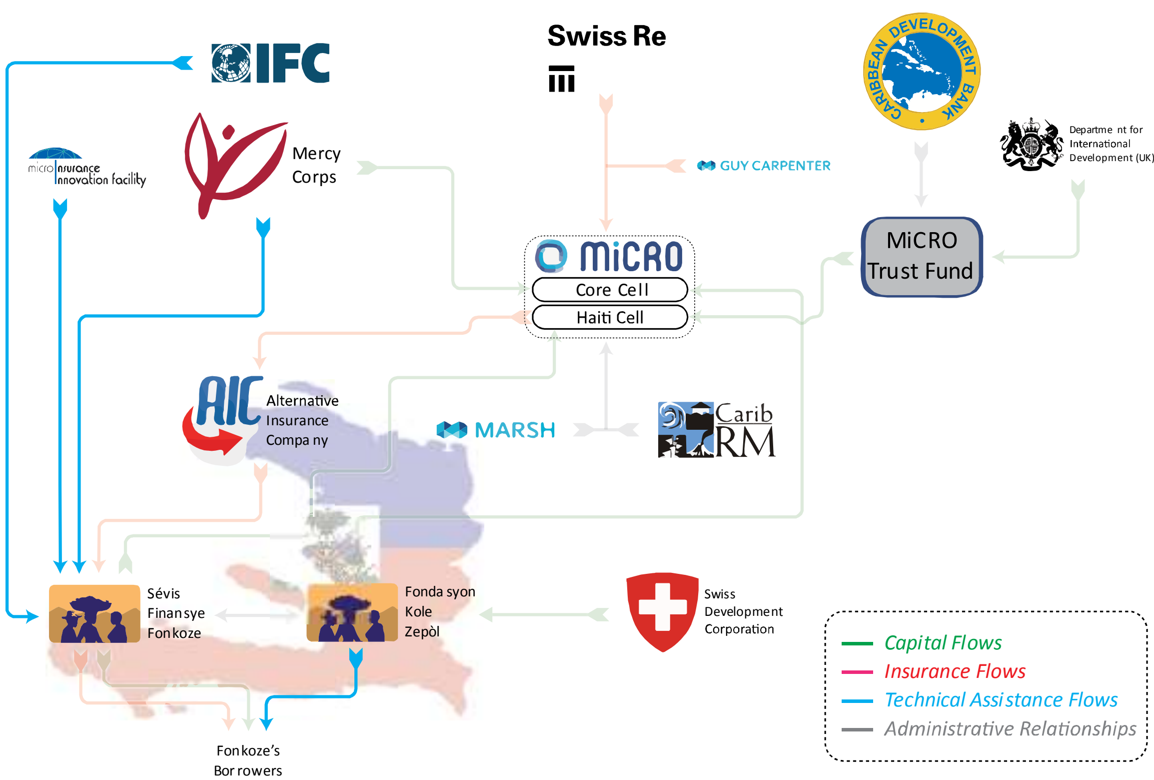
d. all such other payments incidental to the foregoing or necessary or useful to carrying on the business of MiCRO, to promoting any of the purposes for which the Trust Fund was established, and to carrying out the provisions contained in the Trust Fund Administration Agreement [between CDB and DFID];

While the eligible costs covered by the trust fund cover both establishment and operational expenses, stakeholders indicated that the overall purpose of the trust fund was to serve as risk capital to cover the basis risk component of the hybrid insurance product delivered to SFF by MiCRO, which was not covered by the reinsurance secured from SwissRe, as mentioned in point c above.

3.5.2 Technical Assistance

The MiCRO program also benefitted from the provision of technical assistance, primarily delivered to SFF directly to enhance its capacity to measure risk, test the *Kore W* product and offset premium costs. Figure 11 depicts the primary technical assistance flows in the MiCRO program, though it should be noted that the technical assistance provided by IFC did not come online until the third year of the MiCRO program.

Figure 11: Technical Assistance Mapping



On an ongoing basis, even before the launch of the MiCRO program, FKZ provided (and continues to provide) capacity building to the clients of its sister organization, such as through the ALFA peer-coaching program. This support is sometimes delivered in the bi-monthly credit center meetings, and is primarily delivered by center chiefs. Capacity building also includes ongoing educational programmes through the CLM program, as discussed in Section 2.1.

Mercy Corps partnered with SFF in late 2010 and early 2011 to undertake a retroactive test of the then proposed *Kore W* product against the catastrophic effects observed from the 2010 earthquake. This included the formulation of the benefits structure delivered to clients, and served as the conceptual basis for securing the hybrid policy from MiCRO in 2011. Mercy Corps supported the initial piloting of the *Kore W* product.

Box 3: *Kore W* Product Testing

Output: Risk Transfer

The retroactive "pilot" tests undertaken by Mercy Corps and SFF in late 2010 and early 2011 demonstrated that *Kore W* was "effective" against earthquake catastrophes. This provided an excellent opportunity for the product designed by CaribRM to be tested against the recorded effects of a catastrophic event on the SFF portfolio.

However, this test **failed to assess two other aspects**:

1. The effectiveness of *Kore W* against rain and wind catastrophes
2. The sufficiency of MiCRO cover to absorb all risks underwritten by SFF in the *Kore W* client contract

Support from the ILO's Microinsurance Innovation Facility and IFC's Global Index Insurance Facility were provided initially and at various points in the MiCRO program's lifetime, as discussed in Sections **Error! Reference source not found.** and **Error! Reference source not found.**, respectively.

3.6 Contractual Arrangements

The first layer of the contractual insurance arrangements covering *Kore W* was a parametric policy issued by AIC to SFF. This policy was the only insurance backstopping the *Kore W* product offered by SFF, and it was subject to policy limits described in Section 3.2. SFF was itself responsible for any liability incurred through *Kore W*, which were not explicitly matched to the coverage provided by MiCRO through AIC. The policy initially contained two related covers: - a parametric cover with a policy limit of USD 10 million, and an associated basis risk cover with a limit of USD 1 million which applied if the benefits under the underlying parametric cover were exhausted or if the parametric triggers were not met.

AIC acted solely as a front for the SFF policy and reinsured 100% of both covers with MiCRO on the identical terms and conditions contained in the underlying policy. MiCRO, in its turn, reinsured 100% of the parametric cover with SwissRe on those same terms, but retained the entire basis risk cover for its own account.

Box 4: Allocation of Claims Liabilities

Output: Risk Transfer

The policy provided to SFF by MiCRO (through AIC) had clear and specific limits. However, there is no evidence that SFF had or intended to have an overall limit of liability incurred through the *Kore W* product it gave to clients.

This fundamental disconnect in the design of the initial product **allowed for SFF to become a *de facto* insurer** in cases where *Kore W* claims exceeded the coverage provided by the MiCRO policy.

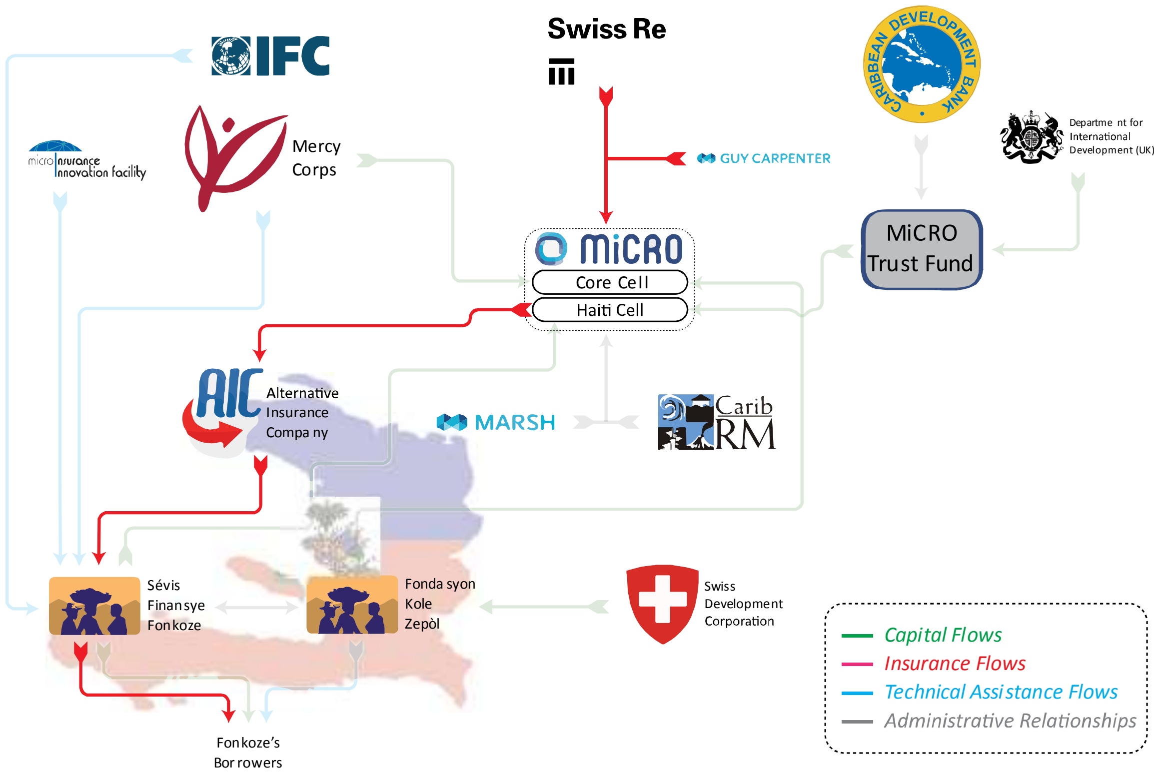
SFF did not have the proper administrative capacity to serve as both the distributer and *de facto* insurer for *Kore W*, and there is no evidence that stakeholders grasped this risk at the launch of MiCRO operations.

This basis risk coverage was provided by backstopping provided by the multi-donor trust fund established by the CDB and capitalized by grant contributions from DFID. Among other things, the trust fund provided resources to fulfil claims liabilities under the basis risk component of MiCRO's coverage as per the grant agreement signed between CDB and MiCRO,[28] as well as the technical cooperation agreement establishing the multi-donor trust fund[29] as discussed in Section 3.5.1. The broker for the insurance arrangements was Guy Carpenter, and Marsh performed MiCRO's administrative functions. CaribRM managed technical operations, including the assessment of claims against parametric triggers and allocation of claims to basis risk coverage. The full structure of the insurance and administrative contractual arrangements are summarized in Figure 12.

[28] Grant Agreement (Micro Insurance Catastrophe Risk Organisation (Haiti) Fund) Between Caribbean Development Bank and Micro Insurance Catastrophe Risk Organization SCC.

[29] Trust Fund Administration Agreement between the United Kingdom of Great Britain and Northern Ireland, acting through the Department for International Development (DFID) and the Caribbean Development Bank concerning the Micro Insurance Catastrophe Risk Organization (Haiti) Fund. Ref: 27/13/13 LGL, dated 30 September 2011.

Figure 12: Insurance and Administration Contracts Mapping



There were no unusual terms, conditions or features in any of the initial insurance contracts except for the existence of a provision in the basis risk component that permitted an *ex gratia* payment by the insurer and reinsurer should SFF make non-binding, extra-contractual payments to its clients.[30] Stakeholders indicate that this ability to make *ex gratia* payments was part of the socially focused mission of MiCRO SCC and could better support SFF in the provision of risk transfer to its borrowers.

3.7 Risk Modeling and Capital Adequacy

3.7.1 Risk Modeling Approach

CaribRM on behalf of MiCRO, SFF and SwissRe performed the initial risk modeling of expected losses. Independent parametric risk models were created for three types of catastrophes that MiCRO would provide coverage against—rainfall, wind and earthquakes—by specifying threshold triggers for each type of event against which a parametric policy should provide indemnity against expected loss events. The triggers were determined based on the estimated affordability of the insurance.[31] Initially, the expected losses were based on both the

[30] Addendum number 2 covering Basis Risk Coverage. Parametric Reinsurance Policy between MiCRO and AIC, dated July 2011.

[31] Haiti: Catastrophe Microfinance Facility: Hazard EP Data and Pricing Estimate. CaribRM Confidential Document. 10 October 2010.

outstanding loan balance as well as a fixed amount payable to each insured in the event of a triggering event.

For rainfall events, the Tropical Rainfall Measurement Mission (TRMM) provided 12 years of nationwide daily rainfall and was used for the risk modeling of the rainfall hazard. Three rainfall hazard zones were identified in Haiti and loss data was calculated using the five-day average daily rainfall to set the 4 rainfall parametric trigger levels. The modeling done in 2010 suggested that the trigger events for rain should vary based on location of the insured within each of the 3 rainfall hazard zones.[32] Creating a 100-year exceedance curve using 12 years of data was required because of data availability though such an approach is typically not undertaken due to the relative weakness of such an extreme statistical inference. Triggers were assigned across three levels based on five-day rainfall averages, and the initial rainfall triggers are presented in Table 4.

Box 5: Parametric Trigger Design

Output: Risk Transfer

The parametric triggers used in the initial design of the insurance scheme relied on parametric triggers for all three catastrophe categories—rainfall, wind and earthquake—in terms of the detection of such catastrophes on a country-wide basis.

While country-wide triggers work well for earthquakes, the mix of topography and localization of weather (such as microburst rain events) diminished the correlation of parametric triggers to actual effect of rainfall and wind on SFF's clients. Hence, the **insurance provided could not precisely transfer risks of rainfall and wind** in its initial design.

Table 4: Initial Rainfall Triggers

RN Triggers	Five Day, mm	% Payout
Level 1	200	10%
Level 2	250	25%
Level 3	300	50%

Historical information for earthquakes was available from 1973. However, the frequency of earthquakes is low, and the model was therefore not statistically robust.[33] Earthquake intensity was based on the Modified Mercalli Index (MMI) scale and 3 earthquake hazard zones were identified in Haiti. Two earthquake trigger levels were set and the estimated average annualized losses due to earthquake were calculated against SFF's portfolio.

Wind events were measured using the Saffir-Simpson categories to set the 3 trigger points due to a wind event. Three wind hazard zones were formulated. Estimated average annualized losses due to wind were calculated, also against SFF's portfolio. The trigger events for wind and earthquake were assumed to be uniform across all locations in Haiti. The initial design provided

[32] Haiti: Catastrophe Microfinance Facility: Hazard EP Data and Pricing Estimate. CaribRM Confidential Document. 10 October 2010.
[33] Haiti: Catastrophe Microfinance Facility: Hazard EP Data and Pricing Estimate. CaribRM Confidential Document. 10 October 2010.

a single trigger event schedule for all hazards regardless of location. Table 5 and Table 6 present the initial earthquake and wind triggers, respectively, for the parametric policy.

Table 5: Initial Earthquake Triggers

EQ Triggers	MMI	% Payout
Level 1	7	50%
Level 2	8	100%

Table 6: Initial Wind Triggers

WI Triggers	MPH	% Payout
Level 1	50	10%
Level 2	74	25%
Level 3	96	50%
Level 4	111	100%

3.8 Pricing Structure

3.8.1 At Distributor Level

The clients of SFF had a cost burden for the coverage extended to them through the *Kore W* product, which was clearly conveyed as the product was rolled out. Stakeholders indicated that there was some reticence to additional, mandatory costs of borrowing, particularly in the northern regions of the country where losses arising from rainfall were less frequent. However, coverage for SFF's borrowers in both the Solidarity and Little Credit programmes was Mandatory. The initial pricing for *Kore W* varied by the program to which a borrower belonged, as well as the overall size of their loan. In all cases, premiums were charged upon receipt of a loan.[34] Exact premiums for each program are provided in Table 7.

Table 7: Initial *Kore W* Premiums by Program[35]

Product	Loan Size	*Kore W* Premium
Solidarity (first loan)	HTG 3,000	1.5% of loan principal
Solidarity (subsequent loans)	HTG 5,000-50,000	3% of loan principal
***Ti Kredi* A**	HTG 1,000	HTG 5 flat fee
***Ti Kredi* B**	HTG 1,500	HTG 15 flat fee
***Ti Kredi* C**	HTG 2,500	HTG 40 flat fee

Documentation reviewed indicates that there was no differentiation of emergency payout between borrowers of different programmes covered under *Kore W*, while the loan cancellation portion of the product would have varied depending on the outstanding loan size. The new loan benefit varied on the basis that new loans secured through *Kore W* had to be of equal or lesser total size compared to the original loan written off.

[34] Magnoni, Barbara and Laura Budzyna. "Doing the Math"—Catastrophe Insurance in Haiti. Microinsurance Learning and Knowledge Brief #15.
[35] Evaluation of First-Year Results: Fonkoze's Kore W Natural Catastrophe Insurance for Haitian Micro-Entrepreneurs. Fonkoze Publication, May 2012.

3.8.2 At Reinsurer Level

Initially, SFF's exposure was protected by a reinsurance arrangement with MiCRO that covered both basis risk and parametric risk. MiCRO purchased parametric reinsurance from SwissRe (the retrocessionaire). In the case of claims, MiCRO paid to SFF benefits from the parametric and basis risk covers minus a deductible from the basis risk cover of 15% plus a flat USD 2,500.

For the basis risk coverage, the premium covered losses due to the three perils subject to a loss sublimit for each peril as well as an aggregate limit for all perils combined. SFF, as the reinsured, retained a minimum loss equal to the retention for each peril. In addition to the retention for each peril, SFF shared in the losses in excess of the retention at the rate of 15%. This share was known as the coinsurance.

Box 6: Adequacy of Premia

Output: Risk Transfer

In addition to actually transferring the risk, the business case for MiCRO relies on the fact that adequate premia are collected to cover anticipated and unanticipated losses. These premiums were adequate at the level of the reinsurance scheme (see next section). However, at the level of the *Kore W* product, premiums were not sufficient to cover the potential liabilities if claims arise.

For an HTG 50,000 Solidarity loan, a client paid HTG 1,500 in premium. Benefits to this client at the launch of the program included:

- Full write off of outstanding loan balance
- HTG 5,000 emergency payout

This discrepancy enabled situation where SFF would likely be required to subsidize the total cost of premia.

For the parametric coverage, the premium covered losses due to the three perils subject to a loss sublimit for each peril and a total aggregate limit for all perils combined. For the first policy year (2011/2012) SFF had zero retention under the parametric coverage and zero share of each parametric loss. Table 8 presents a summary of the Basis Risk Treaty while Table 9 presents a summary of the Parametric Risk Treaty for the first policy period 2011/2012.

Table 8: Initial Basis Risk Treaty Features[36]

	2011/**2012**
Gross Premium	300,000
Total Expenses	78,000
Net Premium	222,000
Earthquake Deductible	2,500
Earthquake Sublimit	750,000
Earthquake Coninsurance	15%
Wind Deductible	2,500
Wind Sublimit	400,000
Wind Coinsurance	15%
Rain Deductible	2,500
Rain Sublimit	372,500
Rain Coinsurance	15%
Aggregate Deductible	2,500
Aggregate Limit	1,000,000
Aggregate Coninsurance	15%

Table 9: Initial Parametric Treaty Features [37]

	2011/2012
Gross Premium	1,150,000
Total Expenses	299,000
Net Premium	851,000
Total Insured Value	14,657,190
Retention	0
Earthquake Sublimit	7,500,000
Wind Sublimit	4,000,000
Rain Sublimit	3,725,000
Aggregate Limit	10,000,000
Rain Coinsurance %	0%

[36] Based on original reinsurance agreements.
[37] Based on original reinsurance agreements.

4 IMPLEMENTATION OF THE PROGRAM

This chapter summarizes the changes that were made to the MiCRO program through implementation, arising from management decisions made at the MiCRO level. Many changes were also precipitated by decisions made by SFF management, as SFF was the sole client of MiCRO through the evaluation period. It also summarizes key challenges that arose during the implementation of the MiCRO program, at both the aggregator and MiCRO SCC levels.

4.1 Implementation Dynamics

4.1.1 Change in Product Offering

Kore W was initially launched in 2011, and in 2012 Haiti was hit by two major disasters, Hurricanes Sandy and Isaac. Claims arising from these events completely exhausted the insurance coverage, and left SFF with a substantial, unanticipated liability for its own account. When it became clear that the maximum coverage under the two policies would be exceeded by a substantial amount, SFF reduced the basis risk payment to clients from HTG 5,000 to HTG 2,500 in order to protect its financial situation. This reduction in payout by SFF had no impact on the coverage provided to it by MiCRO through AIC.

Box 7: SFF Remained the Sole Aggregator

At no point during the first two years of implementation were other aggregators engaged by MiCRO/AIC to provide insurance to their microcredit clients. There was an educational workshop held jointly by MiCRO and SFF to inform other potential aggregators of the program. However, aggregators indicated disinterest from this informational session due to:

- Insufficient detail on the scope and cost of coverage provided
- Hesitation about securing insurance from a company that is partially owned by a competitor (SFF)

As such, **MiCRO never achieved its intended output of securing other aggregators aside from SFF.**

Output: Market Breadth

After the events of 2012, SFF determined that it could no longer afford to continue with *Kore W*, and it told its clients that it was withdrawn effective immediately. Nevertheless, with the 2013 renewal, SFF continued with the parametric coverage at its own expense, with any proceeds used entirely for its own benefit to protect against increased loan write offs following a disaster. There was now no potential client involvement of any kind in any parametric insurance receipt.

Table 10: Summary of Basis Risk Treaty Terms from 2011-12 in USD

Term	2011/2012	2012/2013
Gross Premium	300,000	342,334
Brokerage	15,000	20,814
Fronting Fee	7,500	10,407
Tax	55,500	

Term	2011/2012	2012/2013
Ceding Commission (Including Tax)		304,335
Net Premium	222,000	6,778
Total Insured Value	14,657,190	18,247,622
Franchise Deductible (For all Perils)	2,500	2,500
EQ Sublimit	750,000	750,000
WI Sublimit	400,000	400,000
RN Sublimit	372,500	500,000
Aggregate Limit	1,000,000	1,000,000
Coinsurance % (For all Perils)	15%	15%

In the 2011 Basis Risk treaty, Haitian taxes were paid at a rate of 18.5%. In the 2012 Basis Risk treaty, there is no indication of Haitian taxes paid. However, a large ceding commission was paid which dramatically eroded the net premium available to pay 2012 basis risk losses. Stakeholders indicate that this ceding commission was to cover the large loss payments by SFF from the previous year. The risk modeling done for 2012 by Guy Carpenter suggested a risk premium for expected basis risk losses of over USD 240,000. The net risk premium after ceding commission, fronting fee and brokerage in 2012 was just USD 6,778. It should also be noted that the ceding commission on the basis risk treaty in 2012 was almost exactly equal to the total tax rate of 18.5% applied to both the basis risk premium and the parametric premium, although it was netted against just the basis risk premium. It is unclear if this is merely a coincidence or if tax service was the intent of the ceding commission.

Following the discontinuation of *Kore W*, the basis risk cover was dropped, but the parametric cover was continued by Fonkoze with reduced limits. At this point, the multi-donor trust fund had been largely exhausted, at least the contributions provided by DFID. In late 2012, the CDB secured approval of its own board to provide an additional USD 950,000 grant contribution from the Special Development Fund (SDF)[38] to the multi-donor trust fund for MiCRO. Actual deployment of these resources stalled with the cancellation of *Kore W* and the discontinuation of basis risk cover, but the allocation itself has not been cancelled.

The contractual structure remained the same, with AIC writing the underlying policy with Fonkoze, and reinsuring it 100% with MiCRO. MiCRO continued reinsuring the entire parametric cover with SwissRe and so, as the basis risk cover no longer exists, MiCRO is now not holding any risk for its own account.

Limits under the parametric coverage have been progressively reduced by SFF until, for the current policy year which ends on 22 April 2015, they stand at USD 650,000 for earthquake, USD 1,250,000 for wind, USD 750,000 for rainfall with a maximum coverage limit of USD 2.3 million. There is now a deductible of USD 350,000 and SFF retains a 15% share of the rainfall risk for its own account. Though triggers have occasionally been reached, the deductible has never been

[38] Micro Insurance Catastrophe Risk Organization (Haiti) Fund – Haiti. Two Hundred and Fifty-Fourth Meeting of the Board of Directors, held on 12 December 2012. Caribbean Development Bank. Paper BD 65/11 Add.1.

exceeded, and therefore no claims have been made by SFF under the insurance from 2013 to the finalization of the research phase of the evaluation in September 2014.

The parametric cover continues to be written by AIC, which passes 100% of this risk on to MiCRO. MiCRO does not retain any of the risk for its own account but passes it all on to SwissRe. In other words, the current situation is that MiCRO is acting only as a fronting company between AIC and SwissRe. The parametric reinsurance product issued by MiCRO and reinsured by SwissRe has evolved over the last 4 years. Table 11 below compares the treaty terms as they shifted since the inception of the program.

Table 11: Summary of Parametric Treaty Terms from 2011-2014

	2011/2012	2012/2013	2013/2014	2014/2015
Gross Premium	1,150,000	1,302,784	404,085	419,397
Brokerage	57,500	79,191	15,000	
Fronting Fee	28,750	39,595	15,000	20,000
Tax	212,750		63,085	65,475
Admin			15,000	121,266
Net Premium	851,000	1,183,998	296,000	212,656
Total Insured Value	14,657,190	18,247,622	9,663,855	7,969,938
Retention	0	0	500,000	350,000
EQ Sublimit	7,500,000	7,500,000	1,250,000	650,000
WI Sublimit	4,000,000	4,000,000	1,250,000	1,250,000
RN Sublimit	3,725,000	3,725,000	1,250,000	750,000
Aggregate Limit	10,000,000	10,000,000	3,000,000	2,300,000
RN Coinsurance %	0%	0%	0%	15%

According to the parametric treaty, there were no Haitian taxes deducted from the net premium that was paid to SwissRe in 2012. Therefore, SwissRe received approximately 16% more of the gross premium in 2012 than it had in 2011. In 2011, the ratio of net premium to total insured value was 5.8%. Since no premium taxes were deducted in 2012, the ratio of net premium to total insured value increased to 6.5% in 2012. No administrative expenses were charged against the premium for the first 2 years of the parametric treaty. In the current treaty year, the administrative expenses represent nearly 29% of the gross premium.

In addition to the basic scope of the coverage provided by MiCRO, the parametric triggers assigned to each peril were reviewed. However, the only trigger to show substantial change over the evaluation period was that of rain. As discussed in the following section, this trigger was changed from a nation-wide trigger based on five-day accumulated rainfall to 46 branch-specific triggers based on three-day accumulated rainfall for an area within 25 kilometers of a given branch. Branch trigger values fell on either side of previous nationwide amounts, though the time period for measurement of these amounts was shortened. Earthquake and wind triggers remained static throughout the evaluation period. Table 12 summarizes the changes in parametric triggers through the evaluation period, including each of the four contractual periods.

Table 12: Changes in Triggers from 2011-2014

	2011/2012		2012/2013		2013/2014		2014/2015	
Earthquake Triggers								
	MMI	% Payout	MMI	% Payout	MMI	% Payout	MMI	% Payout
Level 1	7	50%	7	50%	7	50%	7	50%
Level 2	8	100%	8	100%	8	100%	8	100%
Wind Triggers								
	MPH	% Payout	MPH	% Payout	MPH	% Payout	MPH	% Payout
Level 1	50	10%	50	10%	50	10%	50	10%
Level 2	74	25%	74	25%	74	25%	74	25%
Level 3	96	50%	96	50%	96	50%	96	50%
Level 4	111	100%	111	100%	111	100%	111	100%
Rain Triggers								
	5 Day[39]	% Payout	5 Day	% Payout	3 Day[40]	% Payout	3 Day	% Payout
Level 1	200	10%	200	10%	100 - 250	10%	100 - 250	10%
Level 2	250	25%	250	25%	150 - 300	25%	150 - 300	25%
Level 3	300	50%	300	50%	200 - 350	50%	200 - 350	50%

Some changes were explored to offset the basis risk exposure faced by MiCRO. Many of these changes focused on a more precise definition of loss at the level of SFF's borrowers to offset the overall basis risk in the program, as well as the integration of a stop-loss feature to cap the overall liabilities incurred by SFF to its borrowers.[41] However, these suggested redesign features were never implemented as the *Kore W* and related basis risk policies were cancelled in early 2013.

4.1.2 Changes in Risk Modeling Approach

It was not until the 2013 and 2014 insurance renewal period that the rainfall triggers were defined for each branch within Fonkoze.[42] It should also be noted that the rainfall measurement changed from a five-day average to a three-day average during this same renewal period. Stakeholders indicate that the driving factor behind this change was the availability of more granular data from TRMM and that the persistent damage caused by rainfall was not well correlated with nationwide rainfall triggers. No detailed documentation was available during this evaluation related the changes made to the risk model itself, but rather only descriptions of the result of the changes to the model.

This new structure of rainfall triggers assigned to each one of the 46 SFF branch offices still relied on rainfall data from TRMM. TRMM data is reported on a cell basis, and each cell covers approximately 625 square kilometers (25 linear kilometers per side). As TRMM satellites

[39] In millimeters
[40] Starting in 2013/14, branch-specific rainfall triggers were established based as described in Section 4.1.2. Table includes the ranges in the branch specific trigger levels.
[41] MiCRO Technical Team for MiCRO Board of Directors (Presentation). Suggested *Kore W* Redesign Options, April 1, 2013 Renewal. Dated 13 February 2013.
[42] Based on reinsurance contract documentation, as provided by Marsh.

measure rainfall in tropical areas globally, the rainfall cells themselves are not specifically aligned to any spatial area.

Box 8: Increasing Trigger Resolution

Output: Risk Transfer

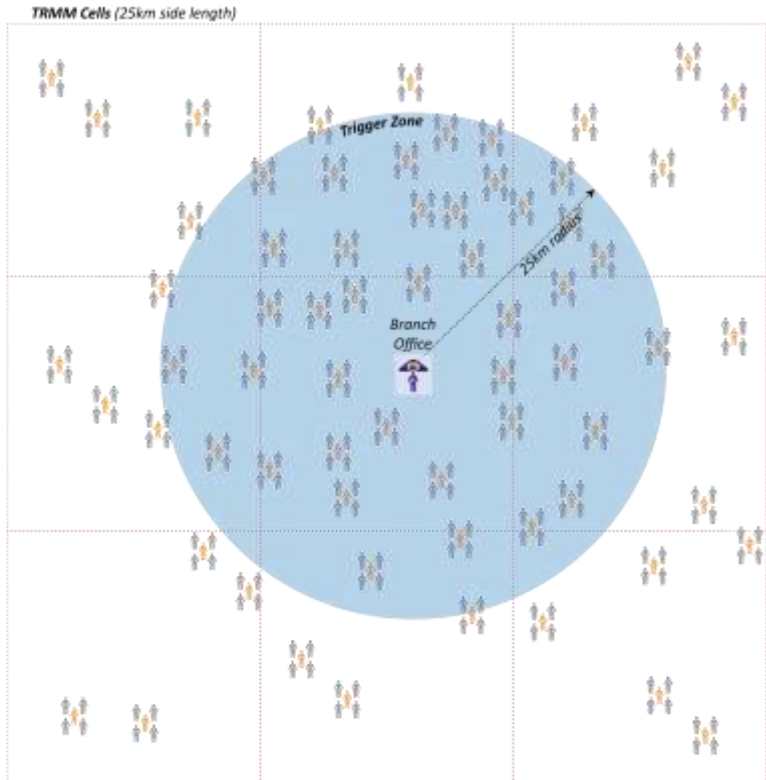
Though it came after the cancellation of the *Kore W* product, the use of increasingly granular parametric triggers allowed for a better, but still imperfect, correlation of catastrophic events to losses incurred in SFF's portfolio. Unfortunately, the combination of *Kore W*'s cancellation and the lack of significant catastrophic events has yet to really test the more granular trigger design to the extent necessary to validate an improvement of the product arising from this revision to the product design.

Increasing trigger resolution resulted in a better, but still imperfect, risk model. It also signaled a strong willingness and capacity of MiCRO and partner stakeholders to revise the underlying approach of MiCRO's support mid-program.

Trigger points based on branch locations were assigned for each of SFF's 46 branches by assigning a circular zone around each branch with a radius of 25 kilometers. Stakeholders indicated that most branch clients fell within these trigger zones, but in some cases clients were also outside the radius of the trigger zone. However, no formal coordinate mapping of credit centers, much less individual borrowers, has been undertaken through the publication of this report. Note that no account of terrain features was made in the assignment of trigger zones, nor was hydrological analysis undertaken. This is largely due to the very limited topographical and hydrological data available in the country. However, given Haiti's dramatic topography, such data is very relevant to risk modeling against rainfall.

The assignment of parametric triggers to each of SFF's branch locations never resulted in a perfect trigger-to-cell alignment and instead required weighted adjustment of each TRMM cell overlapping the trigger zone extending from each branch office. Overlapping area between each TRMM cell and the trigger zone was factored as a percentage of overall area of the trigger zone. Total rainfall within the trigger zone was then determined by a formula of rainfall in each overlapping TRMM cell and the quotient that cell represented of the trigger zone. Figure 13 depicts this structure for a single indicative branch for illustrative purposes, demonstrating the varying levels of overlap between TRMM cells, a given branch's trigger zone, and the clients of the given branch.

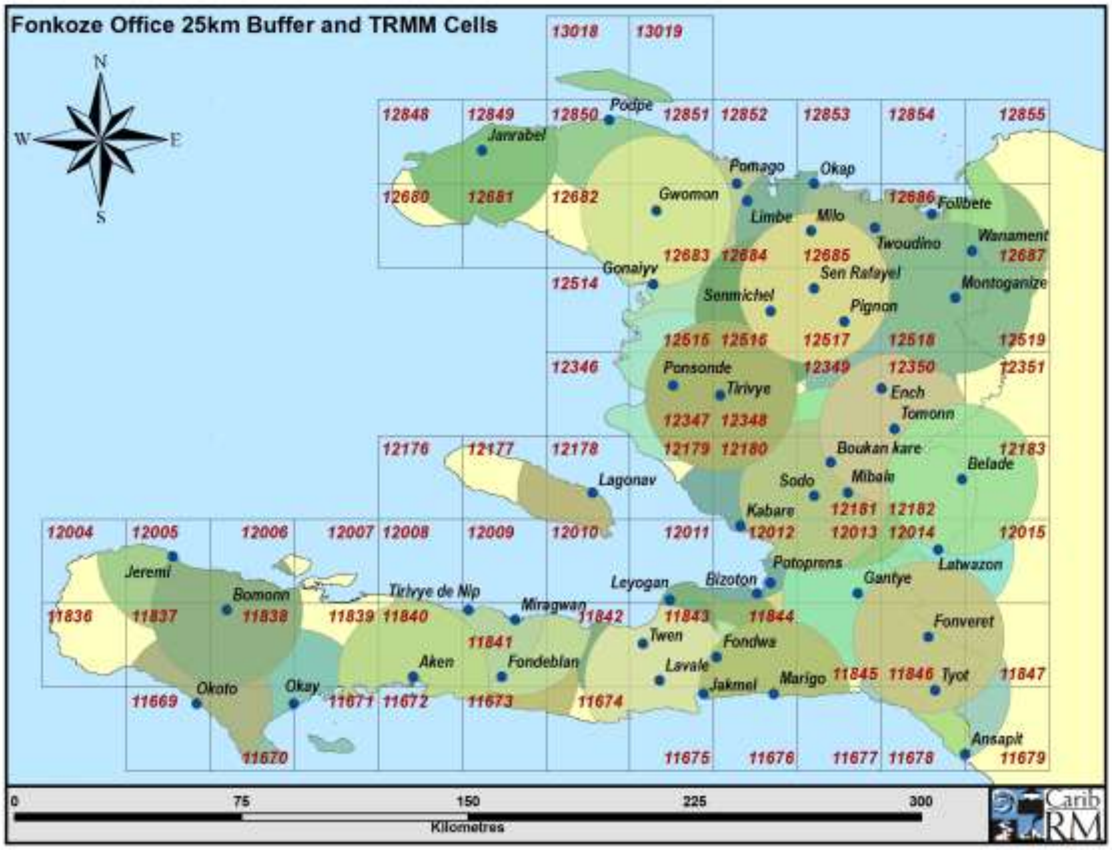
Figure 13: Indicative Trigger/TRMM Cell/Client Dispersion Overlay



NB: TRMM cell side length and trigger radius to scale; not a representation of any particular branch

The revised rainfall risk model factored each TRMM cell's relevance to each of the 46 branches' 25-kilometer trigger zone, and thus resulted in disaggregated parametric triggers across the country. As was already the practice, CaribRM continued to monitor TRMM data against the trigger points using the new branch-based trigger system, which is depicted in Figure 14.

Figure 14: Fonkoze Branch Trigger Zones and TRMM Cell Overlay[43]



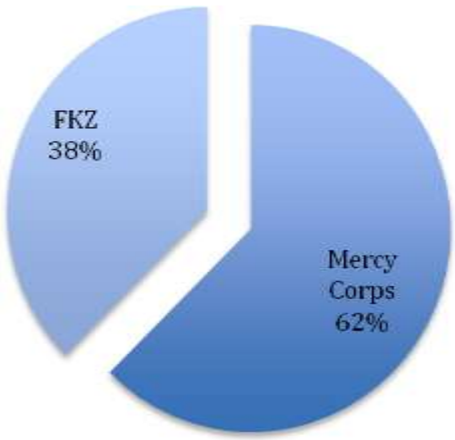
4.1.3 Changes in Shareholding and Governance

Shareholding

The equity composition of MiCRO SCC at the core level, as well as at the level of the Haiti (A) cell, changed over the implementation period primarily through additional investments made by both of the original shareholders, Mercy Corps and the Fonkoze family (FKZ and SFF). In addition, the previous investments made by FKZ in the Haiti (A) cell were transferred to SFF in 2012. Stakeholders indicate that additional investments made by FKZ/SFF were supported through grant contributions by SDC for this purpose. Figure 15 and Figure 16 depict the current shareholding structures of the core and Haiti (A) cells, respectively.

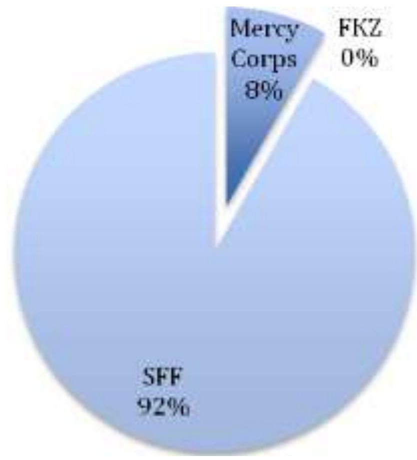
[43] As provided by International Finance Corporation.

Figure 15: Current Core Cell Shareholding[44]



Total Preference Shareholding: USD 200,000

Figure 16: Current Haiti Cell Shareholding[45]



Total Common Shareholding: USD 1,523,070

Furthermore, no additional grant resources were contributed through the CDB-managed trust fund in the first year of the program, contrary to the timeline established for the trust fund. Rather, CDB itself approved a USD 1 million contribution through its SDF in December of 2012, though this contribution has still not been deployed from the trust fund to MiCRO. Stakeholders report that it is being withheld on the basis of a final legal opinion and, though informally, on the outcome of this evaluation.

Governance

Since inception and through the implementation of the program, the composition of the MiCRO Board of Director composition has changed dramatically. Two of its original members, representing the Fonkoze family and Mercy Corps, have remained active through the duration of MiCRO's lifetime.

There was a delay of more than one year for CDB to replace its original Board member (an external appointee) who resigned by the third quarter meeting in 2012. Other external board members were not engaged until late 2012, and since then there has been turnover for various reasons. The lapse in appointment of a board member to represent CDB may have contributed to added friction in the communications process leading to the approval of additional funding from the SDF that, as of the publication of this report, still have not been disbursed to the MiCRO program.

In 2013, SwissRe seconded a senior staff member to serve as the CEO of MiCRO. The original CEO served a period of one year, and moved to a new assignment in July of 2014. Her successor has been identified and was being on-boarded during the process of this evaluation. Aside from the CEO, MiCRO SCC as a company has none of its own staff. All staff functions are outsourced to a combination of Mercy Corps and vendors, primarily March and CaribRM, with other roles played by Guy Carpenter and individual consultants. The CEO reports to the Board of Directors.

[44] Share Register as of September 2014.
[45] Share Register as of September 2014.

4.2 Institutional Challenges & Obstacles During Implementation

4.2.1 *Kore W* Claims Administration

A major challenge indicated by stakeholders was the administrative burden placed upon SFF's staff to manage the insurance program, particularly surrounding the management of claims made by borrowers after catastrophic events. While the overall cost to SFF for the administrative program were relatively small in comparison with other costs associated with the program, the amount of time and effort required to manage the claims process represented a sizeable challenge to the staff assigned to manage the claims process.

The actual costs borne by SFF in the operations arising from *Kore W* were USD 150,009 and USD 212,968 in 2011 and 2012, respectively, for an overall actual cost of USD 362,976. This factors in part of the grant provided by the Microinsurance Innovation Facility as discussed in Section **Error! Reference source not found.**. As a point of comparison, total salary costs in 2011 were HTG 145,620,812[46] (USD 3,608,942 based on mid-market rates as of 31 December 2011).

Table 13: Summary of Operational Expense to SFF[47]

Operational Expense	2011	2012
Dedicated *Kore W* Staff salary	USD 129,070	USD 118,879
Non-dedicated Staff Time (estimate)	USD 53,097	USD 94,089
MIF Grant	(USD 32,158)	
Net Cost	**USD 150,009**	**USD 212,968**

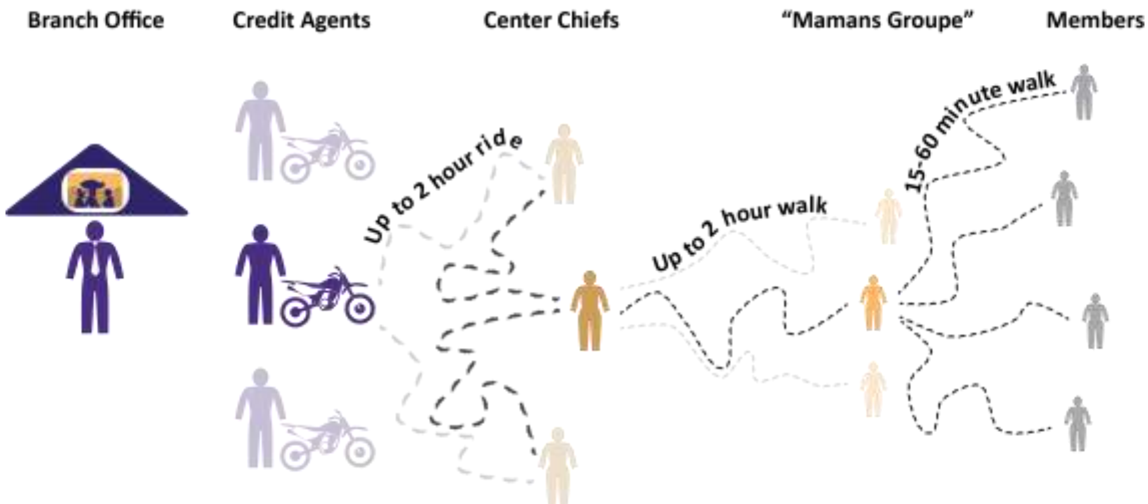
While embodying a relatively small financial burden, SFF management and operational staff indicated that the actual time spent managing the *Kore W* product, particularly in managing claims, was substantial and detrimental to staff morale. They indicated that it also put a sizeable burden on the center chiefs, who until the introduction of the *Kore W* product had no understanding of the principles of insurance. As indicated in Section 3.3.1, the center chiefs were intended to play a key role in the collection and verification of claims at the individual client level prior to claims acceptance by SFF. In practice, this meant that center chiefs were pivotal in the prevention of false claims and fraud, and that they were expected to site-visit each claimant and report back to credit agents on their interpretation of the damage sustained by a claimant against the loss criteria for *Kore W.*

Owing to the dramatic terrain and poor infrastructure within the country, the SFF distribution and collection system required substantial time and effort to convene meetings. In normal, non-catastrophic circumstances, stakeholders indicated that credit agents spend up to two hours traveling to credit centers where they meet with center chiefs and lending group leaders. Center chiefs and group leaders may have traveled up to two hours to reach the credit center, primarily on foot. Within each lending group, members are normally between 15 and 60 minutes from each other, and stakeholders indicate that there is a low probability that group members have access to other forms of transportation. Figure 17 depicts the dispersion of group members and

[46] Craft, Noble & Company. Audited Financial Statements and Independent Auditor's Report for Fonkoze SA and Subsidiary. For the years ended 31 December 2011 and 2010.
[47] Adapted from Martin, Xavier et. al. A Cost-Benefit Analysis of Fonkoze's *Kore W* Product.

the approximate travel times between credit agents, center chiefs and lending groups. Under catastrophic circumstances such as those experienced during hurricanes Sandy and Isaac, actual travel times were substantially longer if transit was possible at all.

Figure 17: SFF Client Dispersion[48]



A related administrative challenge centers on the responsibilities conferred to center chiefs. Stakeholders indicated that initial design proposals suggested that the center chiefs be responsible for collecting reports of all losses incurred by SFF's borrowers after catastrophic events, with a credit agent mediating the ranking of loss severity undertaken by all members of a credit center, allocating compensation based on the severity ranking. However, the implementation of claims validation process did not feature such loss ranking. Center chiefs collected and forwarded all claims to their credit agents. Stakeholders indicate that social pressure, and the fact that there was no shared collateralization like in the credit scheme, led center chiefs to prefer to endorse all claims rather than undertake objective evaluations for each claim received against *Kore W* loss criteria.

This caused the burden of validating claims to be transferred to SFF's credit agents and other staff, who were tasked with visiting the home or business location of most of the claimants. Because of the dispersion of

Box 9: Claims Management Shortfalls

The MiCRO program was plagued with administrative complexities at the level of claims management. The first line response to receive and aggregate claims—the center chiefs—were also the primary arbiters of claim validation. They did this without any substantial training.

The center chiefs were backed by credit agents that were generally not on hand except during credit center meetings held every two weeks. In addition, credit agents had little formal training on *Kore W*, particularly in terms of claim management.

Overall, **SFF carried the lion's share of the burden in administering claims.** This, combined with the insurance risk it carried, pushed SFF far beyond its core competency as an MFI and forced it to act as a primary insurer.

Output: Admin System

[48] Approximate travel times derived from stakeholder consultations and focus groups.

clients, this substantially increased the processing time for outstanding claims. Stakeholders indicate that this also likely increased the amount of repeated claims and also may have allowed for inconsistent application of the loss criteria across the SFF portfolio. However, no data is available on such impacts. Also, SFF never collected asset registrations from its clients prior to engaging *Kore* W coverage. Ultimately, the average claims processing time in 2011 was reported as 46 days, with a range of event-specific average processing times of 19 to 64 days.[49]

4.2.2 Capital Adequacy and Assignment of Liabilities

Total contributions in initial equity between the core and Haiti (A) cells totalled USD 1.025 million. The initial grant provided to MiCRO by CDB provided an additional USD 1.035 million. While subsequent investments have been made by both the initial investors and through provision of additional grant resources, the initial capital required by the scheme in design studies preceding the program's launch were never met. MiCRO began operations in 2011 with less than 50% of the minimum initial capital recommended by the initial design study, and was well below the advised threshold.

Additional contributions by the Fonkoze family in the Haiti (A) cell of MiCRO SCC provided additional equity, alongside an additional grant of USD 950,000 from the multi-donor trust fund in 2013. However, total capital contributions in terms of both equity investments and grant resources available never cumulatively reached USD 5 million, and were eroded heavily by the losses incurred in 2012. The erosion of capital was to the point that the MiCRO board was concerned that it did not have sufficient capital to cover its insurance obligations to SFF in 2013.[50]

Box 10: Continuing Capital Challenges

Output: Program Funding

As discussed in Box 2, the initial capital outlined by the design documentation was never secured prior to operations. Instead of scaling its operations or delaying launch completely, MiCRO launched operations at full scale from the onset. The already insufficient capital base was extremely constrained by bad luck from the hurricane season of 2012 to the point that **MiCRO was close to being unable to cover its own insurance obligations to SFF**. While SFF decided not to pursue a basis risk policy in 2013 for other reasons, the capital constraints facing MiCRO may have prevented it from providing basis risk coverage had it been sought by SFF.

Furthermore, the assignment of overall liabilities was a challenge that persisted throughout the implementation of the program. MiCRO provided standard contract language describing the scope and conditions of coverage provided to SFF through the implementation of the program, as described in Table 11. However, the aggregate exposure limits undertaken by MiCRO through the combination of parametric and basis risk coverage in 2011 and 2012, and then through the parametric-only cover provided since 2013, are clearly specified in these documents.

[49] Evaluation of First-Year Results: Fonkoze's Kore W Natural Catastrophe Insurance for Haitian Micro-Entrepreneurs. May 2012, published by Fonkoze.
[50] MiCRO Technical Team for MiCRO Board of Directors (Presentation). Suggested *Kore W* Redesign Options, April 1, 2013 Renewal. Dated 13 February 2013.

However, the insurance contract provided to SFF's borrowers for *Kore W* coverage did not specify any aggregate limits across SFF's portfolio, the consequence being that SFF became liable for eligible losses incurred by clients that cumulatively exceeded the coverage limits imposed by MiCRO. Stakeholder consultations yielded no clear reason for why this mismatch occurred, but they uniformly agreed that it posed a major challenge in the implementation of the MiCRO program through the *Kore W* product. This was especially true in 2012 given the heavy damage caused by hurricanes Sandy and Isaac. For the period of 2011-2012, these potentially uninsured liabilities on the side of SFF remained ingrained in the program design. It was only in 2013, when the end-client benefits were eliminated completely, that this mismatch was resolved.

4.2.3 Pricing and Subsidization Requirements

Initial pricing and affordability were challenges at the outset of the program, and they remain challenging even in the current design of the program. The structure of the program, as in most sustainable insurance schemes, is such that the end user pays the premiums that have been integrated at the insurance and reinsurance levels, as applicable. In the case of the 2011-12 period, a combination of SFF itself and its borrowers paid the overall premium for both the parametric and the basis risk coverage. While this is not incongruous with normal insurance market functions, it is a substantial cost for the end-users to bear. Total premiums paid in 2011 and 2012 amounted to USD 3.52 million[51] through a combination of premia for each policy (basic risk charged by MiCRO and parametric charged by SwissRe), fronting fees, brokerage, and Haitian taxes. While there was some effort to subsidize the direct cost paid by SFF's borrowers for this cover, any premium costs incurred by SFF itself and not supported by external subsidies were ultimately paid by SFF's clients. Gross premiums initially increased in 2012 and subsequently declined due to the change in the scope of coverage provided through MiCRO. The reduction in gross premiums relate to the reduction in overall coverage provided by MiCRO to SFF, starting with the new policy signed in April 2013. This also marks the first year that the benefits of insurance coverage were not passed on to SFF's clients.

Box 11: Client Financial Capacity & Subsidies

For the duration that the end-client coverage was available, SFF had to subsidize about 65% of the cost of coverage provided by MiCRO against the premia collected from its borrowers.

Client satisfaction with *Kore W* is high among clients that both received and did not receive claims payouts, indicating strong capacity and effective client training on the merits of insurance.

However, the pricing structure and **subsidization requirements serviced by SFF indicate insufficient assessment of client financial capacity against the coverage being provided.** Subsidy requirements also indicated very weak prospects for long term sustainability of the *Kore W* product, had it been continued past 2012.

Output: Client Capacity

SFF had a fixed cost structure it applied to its borrowers through the *Kore W* program, as

[51] Martin, Xavier et al. A Cost-Benefit Analysis of Fonkoze's *Kore W* Product.

specified in Table 7. The revenues from these *Kore W* premiums, on aggregate, totalled 34% of the overall cost of premiums charged in 2011-2012.[52] This left SFF with a burden of USD 2.33 million, of which it paid approximately half while the other half was covered by grantors. Ultimately, the amount of subsidy that was incurred directly by SFF without external subsidies, an amount of USD 1.2 million, had to be serviced out of its own operational revenues. The cost of coverage provided since 2013 is entirely serviced by SFF's operational revenues.

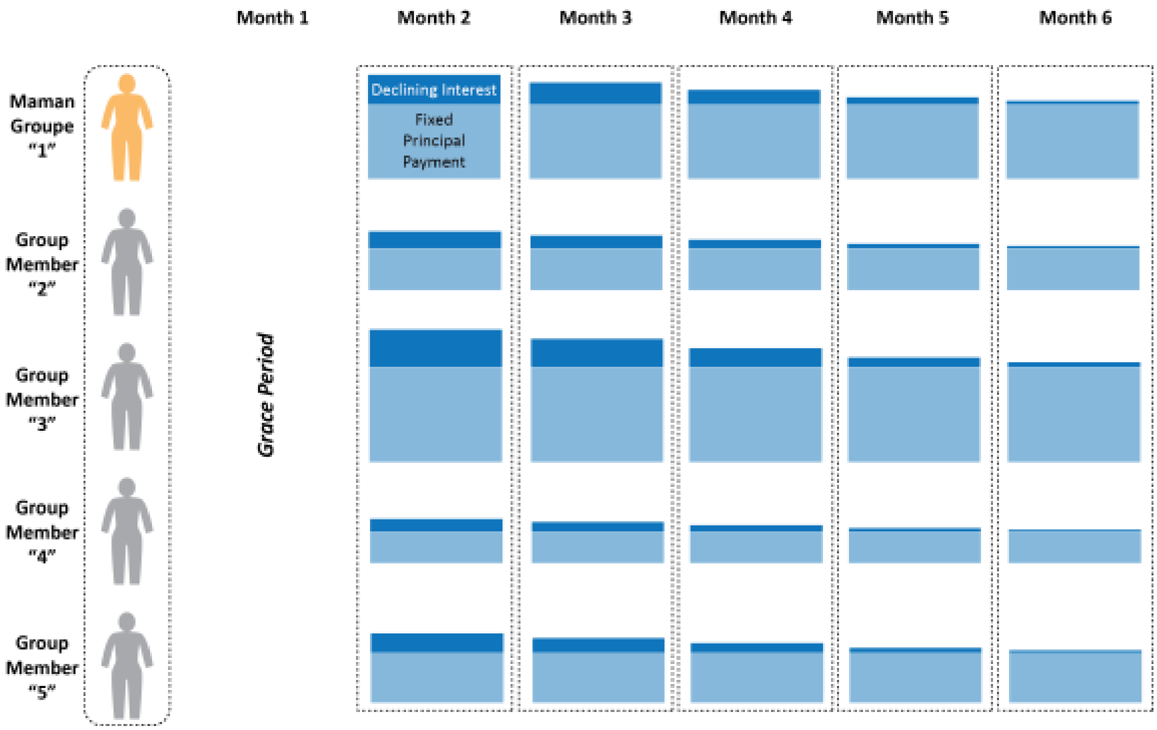
In terms of the actual cost calculations used by MiCRO, adverse deviation from averages also does not appear to have been factored into the insurance cost at either the basis risk or parametric level. The risk models provided estimates of expected losses rather than guidance as to appropriate risk charges to cover statistical fluctuations, which are intrinsic in catastrophic losses.

4.2.4 Portfolio Management & Information Systems

Operational Stakeholders at all levels of the reinsurance flows indicated another operational challenge arose from SFF's portfolio management and information systems. SFF uses a group lending approach, as depicted in Figure 7. Through this approach borrowers are grouped into five-member units. Each borrower can take a different size loan within the product range. For example, solidarity loans varied from HTG 5,000 to HTG 50,000 and group members may draw loans anywhere within this range. Repayment is undertaken on an individual basis, and paper receipts are maintained on individual repayments. For group members that have already completed one trial loan cycle in the solidarity program, the first month after loan drawing is a grace period. Each of the subsequent five months features a fixed principal reimbursement at 20% of the initial loan, plus a declining interest payment that is paid when principal reimbursement is made. Credit agents collect these principal and interest repayments from the group leaders during credit center bi-monthly meetings. Figure 18 provides and indicative summary of the individual repayment schedules within a solidarity lending group of five members who are "known clients."

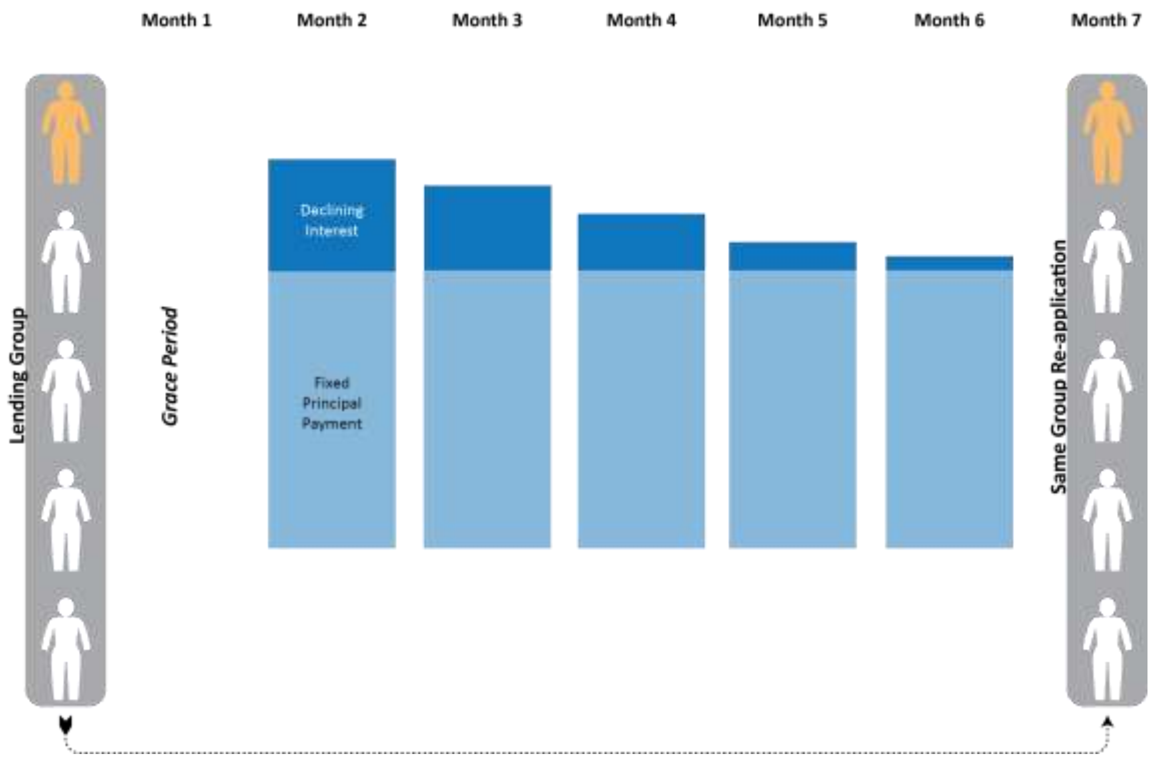
[52] Martin, Xavier et al. A Cost-Benefit Analysis of Fonkoze's *Kore W* Product.

Figure 18: Individual Reimbursement Schedule for Example Group Loan



SFF's portfolio management system, configured with a software suite called eMerge, groups all five members into a single loan. This, stakeholders indicate, fits with the operational practice wherein group members are cross-collateralized and liable for other group members' repayment. In credit functions, this system is reported to function well and does not pose significant operational challenges. At the conclusion of the group's full reimbursement, the group is cycled forward in the seventh month for a new loan provided all group members intend to draw new loans. Figure 19 demonstrates how the same indicative solidarity lending group's reimbursement schedule would be tracked in the portfolio management system.

Figure 19: eMerge Reimbursement Schedule for Example Group Loan



SFF, as well as other operational stakeholders, reported that the challenge related to the portfolio management system arose when the claims of some individuals in a lending group were accepted. The portfolio management system did (and still does) provide the overall amount lent to each individual. It does not, however, segregate the reimbursements made by each individual. In practice, the outstanding balance of principal and interest owed by any one individual in a solidarity group could only be determined by summating the paper receipts kept at each branch office for the respective credit center of the borrower being identified.

Box 12: IT System Adequacy

Output: Admin System

In addition to the operational challenges, the supporting IT infrastructure available at SFF was poorly suited to the requirements of *Kore W*. The eMerge system uses group loans with aggregated reimbursement schedules. This design aspect, which works well for SFF's credit operations, forced loan write offs through *Kore W* to be processed manually through two separate processes. This system was prone to input and processing errors.

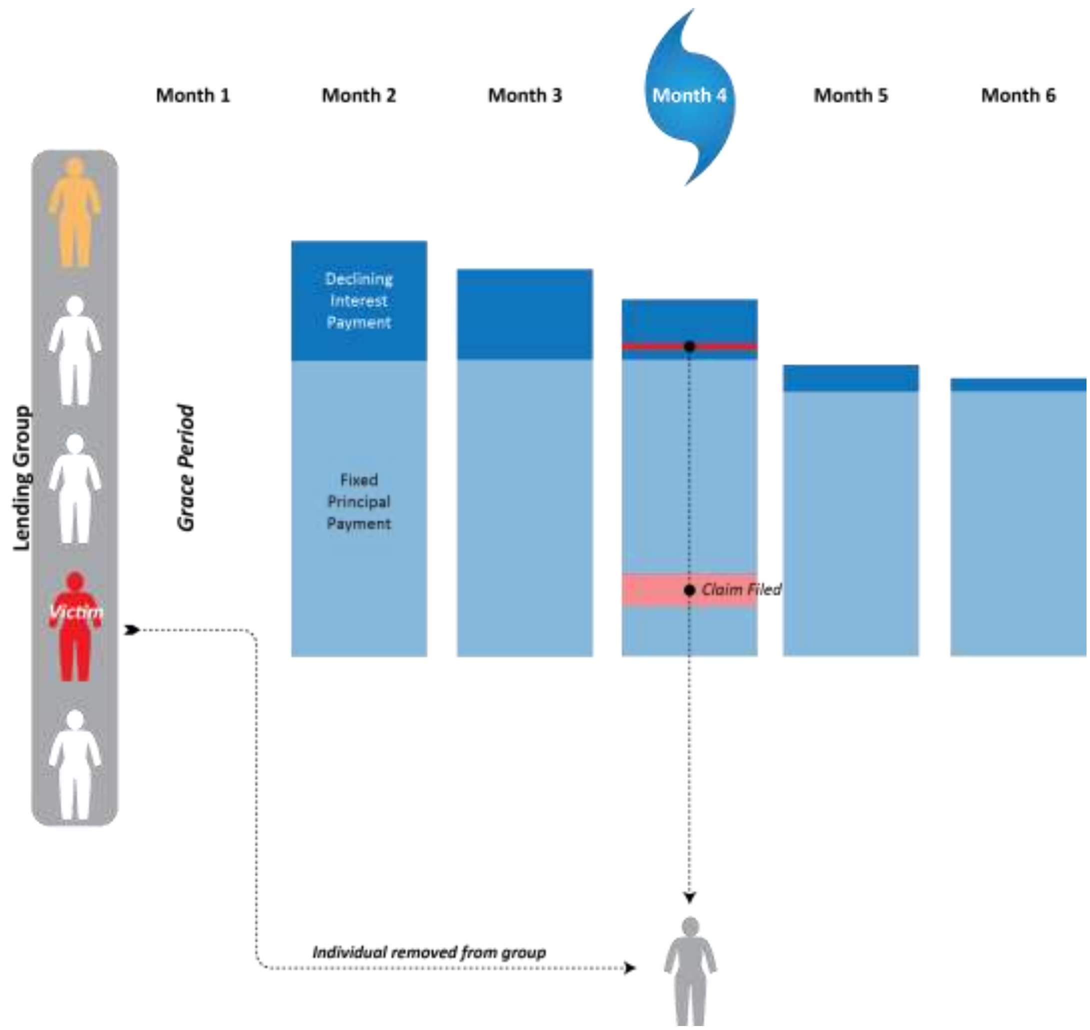
While it was not the primary cause of the delay in processing claims, the complexity of *Kore W* requirements in the existing IT system of SFF **contributed to the staff time required and overall processing time** for claims management.

This had two implications for *Kore W*. First, the process of determining whether an individual borrower was delinquent had to be confirmed through processing individual receipts to determine whether that individual was on schedule. The benefits provided by *Kore W* were regressive dependent upon the duration an individual was delinquent. However, the portfolio management system did not provide a ready assessment of delinquency at a level more granular than that of the lending group.

Second, the process of cancelling an individual loan within an active solidarity group required a manual calculation of the repayments made by the individual claimant against the overall reimbursement of the group loan, based on paper receipts for repayments made by the claimant. It also required manually cancelling the outstanding balance of interest and principal owed by the individual within the group loan.

This had a related consequence, as it brought individuals out of group loans and into their own individual loan products for loan sizes that were not considered to be viable for individual loans.[53] Some stakeholders directly involved in claims administration indicated that this could have diminished claimants' motivation to repay their new loans received through *Kore W* since they were no longer cross-collateralized.

Figure 20: *Kore W* Claim Implications on Example Group Loan



[53] SFF does provide individual "Business Development" loans to qualified buyers, but at overall loan sizes much larger than solidarity and Little Credit programmes

SFF's portfolio management approach, while effective for managing group credit operations, was cumbersome and required integration of intensive manual processes to manage benefits to individual borrowers. While this was a substantial challenge, stakeholders indicated that it was a secondary operational challenge facing the *Kore W* product when compared to the challenge of validating individual claims as discussed in Section 4.2.1.

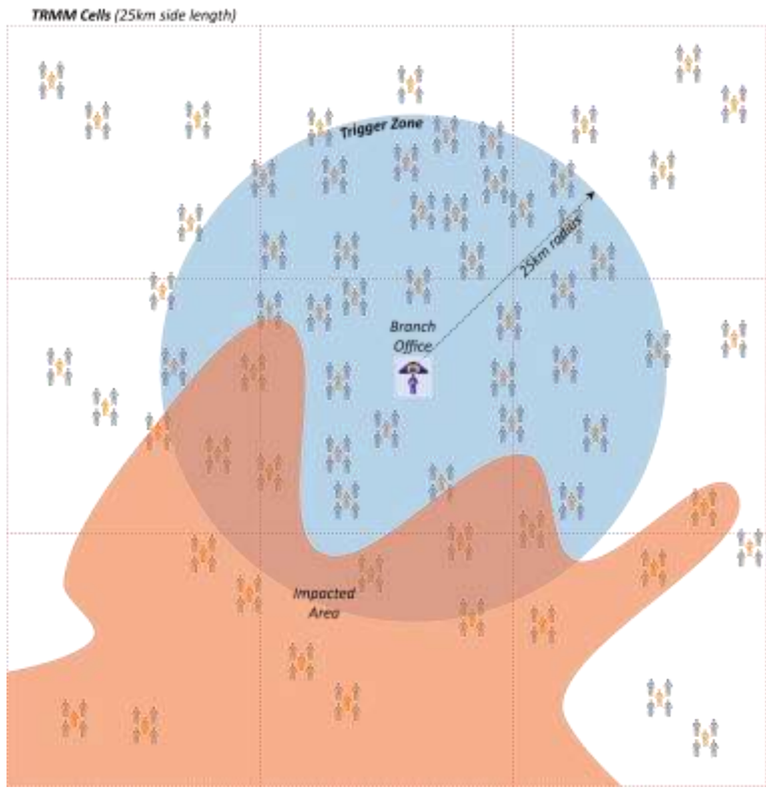
4.2.5 Risk Data and Loss Correlation

The development of an accurate risk model for the rainfall hazard was the most challenging according to stakeholders engaged in the formulation of such models, as well as by SFF's own observations of impacts made by triggering and non-triggering catastrophes on its borrowers. This was primarily due to the scarcity of historical data as well as the inconsistent correlation between rainfall location and amounts and actual losses incurred by SFF's borrowers. There are three major variables that play into the formulation of the risk model for rainfall faced by SFF's borrowers, and each of these variables has inherent shortfalls in a data sufficiency perspective.

First, the weather conditions themselves, vis-à-vis rainfall amount and intensity, are an issue. TRMM data is provided at a resolution of 25 square kilometers, which generally suffices in major weather events such as hurricanes. However, stakeholders indicated that the smaller events play an equally damaging role to the livelihood of borrowers without the potential benefit of media coverage and donor support that frequently comes along with major disasters. From a tracking perspective, these smaller events are difficult to accurately measure from satellites from 403 kilometers above the earth's surface. While it reasonably cannot be expected that all rainfall is accurately tracked from these satellites, the lack of adequate infrastructure to measure actual rainfall amounts for these smaller events is a major challenge, particularly when aggregate rainfall amounts from more localized storms may even reach trigger thresholds for parametric cover.

While the resolution and accuracy of TRMM data has improved somewhat, a strong correlation between data reported by TRMM and losses on the ground, particularly for SFF's already vulnerable candidates, is elusive. Stakeholders indicate that the change in the approach from nation-wide rainfall triggers to branch-specific triggers in the April 2013 policy sought to address these issues. However, even these relatively more granular trigger points did little to address the overall issue of rainfall location. For a trigger zone assigned to a given branch, a nearby but not directly overhead weather incident that causes substantial losses may not cover enough of the trigger area to trigger the parametric policy. While this is not a big deal for massive storm systems that affect multiple branches or the entire country, it is a serious issue for smaller but equally intense events that effectively become "near misses." Figure 21 provides an indicative example of how this can occur, effecting a number of a branch clients without triggering parametric coverage.

Figure 21: Indicative Trigger Zone/TRMM Cell/Client Overlay with Loss Event



Secondly, the hydrology of Haiti, arising from its dramatic topography, is not well understood. Stakeholders at all levels referenced the notion that it may rain somewhere in Haiti, but the floods resulting from such rain will occur some distance away from where the rain itself fell. Hydrology and flood plain analysis is a common feature in most catastrophic risk models, but this data layer is simply not available in Haiti. The IFC has indicated its interest in addressing this issue through support provided by the Earth Institute to undertake more hydrological analysis. However, a national hydrological study is a massive undertaking that requires a substantial investment far beyond the capacity of any of the stakeholders engaged in the MiCRO program. Furthermore, stakeholders also indicated that the hydrology in Haiti is very dynamic because of deforestation and subsequent erosion, and as such may be even more challenging to model.

Finally, the location of the insured plays a key role in forecasting potential losses,

Box 13: Outstanding Risk Modeling Challenges

While the use of branch-based parametric triggers enhanced the resolution of rainfall event tracking, the overall risk modeling approach was still relatively weak. **Two key aspects of missing data still prevent the formulation of a robust risk model** that is well correlated to losses incurred by SFF's portfolio:

- Precise location data for SFF's 2,000+ credit centers
- Sufficient topographical/hydrological modeling

Even with precise location information for the credit centers, actual assets of SFF's clients are not registered or located. This adds a further challenge to building a robust risk model.

Output: Risk Transfer

particularly if the previous two variables—weather forecasting/tracking and hydrology—are available. Moving the trigger points to branch office locations was a step in the right direction, but SFF indicated that it still does not have definite coordinates for each of its over 2,000 credit centers, much less definite locations for each of its 60,000 borrowers. Owing to Haiti's topography, borrowers themselves can be in completely separate watersheds and subject to different microclimatic conditions than the branches or even the credit centers to which they belong. Absent a definite grasp of client locations, it is very challenging to estimate potential losses.

4.2.6 MiCRO Business Strategy

At no point during the implementation of the MiCRO program did MiCRO have a comprehensive business strategy in place. While it had many expectations and indicators assigned to its progress by external parties, including donors, an internal strategy was never crafted. The team managing MiCRO, primarily composed of representatives from Swiss Re, Mercy Corps, CaribRM, and Marsh, did develop and maintain an operational manual, but this document did not provide a business strategy for market growth in the Haitian market. While the technical team undertook detailed analysis and made sound recommendations to manage MiCRO through the challenges of late 2012 and early 2013, this emergency response also did not constitute a formal business strategy but rather means by which MiCRO could manage specific challenges. The addition of a CEO for MICRO SCC in 2013 did not yield a detailed business strategy either, and this remains a persistent challenge

5 PROGRAM RESULTS

This chapter summarizes the outcomes of the MiCRO program, first for MiCRO SCC and SFF as organizations, financial and economic outcomes for all stakeholders, and then outcomes for SFF's borrowers in terms of both support sufficiency for disaster recovery and changes in disaster resilience.

5.1 Outputs of the Program

As presented in Section 3.1 and Table 2, there were five primary outputs that were to be achieved by the MiCRO program. These outputs were intended to be achieved within the first year of operations. While performance of the program against these intended outputs varied in the first year of operations (2011), none of the outputs were achieved sustainably in the long term as the basis risk policy—and direct coverage to SFF's clients—were cancelled in late 2012. However, specific performance against the outputs is as follows:

- **Program Funding:** Ultimately, the MiCRO program fell far short of its initial funding targets indicated in both the theory of change and the technical design documents developed by CaribRM. Operations were not downscaled to match capital, and it is questionable whether this would have even offset the added risk of under-funding since insurance relies on the principles of breadth and diversity of risks achieved through a larger portfolio. The program funding output was never achieved in the MiCRO program, and this drastically reduced the program's long-term sustainability.

- **Administrative System:** An administrative and management system was put in place at the level of MiCRO to operate as an SCC, primarily through outsourced administrative services provided by Marsh. At the level of claims management, a sound system was arranged between CaribRM and Marsh to monitor and initiate claims against trigger-breaching events. However, at the level of claims management, the system was weakened by the initial assumption that SFF's credit systems could bear the added burden of *Kore W* claims management. The actors within this system—centre chiefs and credit agents—were not properly skilled to execute their roles, and the centre chiefs particularly were caught in divergent personal, social and moral interests without any substantial benefit for the added work they undertook on behalf of *Kore W*. Finally, the underlying IT system used to manage SFF's credit system was not well suited to manage individual insurance claims as designed in *Kore W*, and therefore further delayed claims processing.

- **Client Capacity:** Client capacity to understand the benefits of the *Kore W* coverage were high, and many clients are still eager to see a similar insurance cover reinstated whether they were claimants or not under *Kore W*. However, clients almost universally insist that they do not have the financial capacity to tolerate a premium that is more in line with what is required to create a sustainable coverage system with similar benefits under *Kore W*. Furthermore, the highly concessional nature of *Kore W*'s cost-to-benefit structure at the end client level negatively distorted SFF's clients willingness to pay for sustainable insurance cover.

- **Risk Transfer:** The fact that SFF was allowed to retain uninsured liabilities is a major downfall in the program design, and this ultimately led to the cancellation of the *Kore W* policy and direct benefits to SFF's clients. In addition to the high subsidization costs borne by SFF, the liabilities accrued to *Kore W* imposed massive costs to SFF that were not anticipated in the initial design. Thus, this output was never adequately achieved as risk was not sufficiently transferred away from SFF. Furthermore, issues addressed in boxes 4-6 and 8 illustrate the flaws in the risk modeling process that led to poor correlation between the risk model/parametric design and the losses incurred by SFF's clients and later to SFF's portfolio.

- **Market Breadth:** MiCRO, from inception to the publication of this report, has only ever engaged with SFF in Haiti. There is no evidence of entry into negotiations with any other aggregators, nor is there evidence of sustained attempts at marketing or networking with other aggregators. Some exploratory work has been undertaken to engage in Latin American markets, but no additional cell has been founded nor has any real product been developed or tested. No other Caribbean operations exist. The overall consequence of this is that MiCRO is operating as a reinsurance company with only a single client, thereby concentrating its exposure and reducing the overall pool upon which it can both diversify its own risk portfolio and collect premia.

5.2 Outcomes against Targets

In terms of the targeted outcomes established for the program by the DFID logical framework, results were mixed. By the end of 2011, SFF had managed to roll out coverage to all of its 59,000 borrowers[54] as subscription to *Kore W* was mandatory for all borrowers. Stakeholders indicated that making *Kore W* mandatory was the only way to achieve substantial uptake within SFF's portfolio. However, the overwhelmingly positive response towards *Kore W* from clients who had both received claims and had claims rejected indicates that they identified the product as highly affordable given the benefits coupled with the subsidies provided at the end-client level by SFF. However, with *Kore W* being cancelled starting in 2013, none of SFF's clients had access to micro insurance of any kind over the 2013-2014 period.

The other outcome, specifically seeking a payout-processing period of two working weeks, was not met, even in 2011. Average processing time was 46 days for all events in 2011, meaning that claimants were waiting more than six working weeks to receive the benefits owed through the insurance mechanism. Some claimants in the focus group indicated that this diminished the overall benefit of their claims, since they were expected to maintain their damaged property as-is until a claims validation was undertaken and then struggled to build enough resources to continue business operations while they awaited claims payments. Stakeholders also indicated that some claimants would continue reimbursing their loans even after claims had been

[54] Evaluation of First-Year Results: Fonkoze's Kore W Natural Catastrophe Insurance for Haitian Micro-Entrepreneurs. May 2012, published by Fonkoze.

accepted, and returning a small number of these reimbursements was still ongoing as of August 2014.

Thus, in terms of the outcomes defined at the onset of the program, the uptake outcome was achieved by the target date, but this increased access to micro insurance was not sustained once *Kore W* was cancelled. The other outcome target focused on a two-week payout processing time was never met for reasons described in Section 4.2.1.

5.3 Other Outcomes for MiCRO SCC and *Sévis Finansye Fonkoze*

As conceived, it was expected that the parametric triggers would correlate reasonably accurately to the claims occurring, and the additional basis risk component would provide a margin to cover any actual deviation. MiCRO retained the basis risk cover for its own account but ceded the over-arching parametric cover entirely to SwissRe. The expected correlation did not occur. Haiti's diverse geography, with wide local variations, combined with the wide dispersion of the covered clients meant that the limited number of trigger points could not well represent the reality of the situation on the ground.

In addition, there was a large gap between the insured coverage limits and SFF's ultimate potential liability. This gap was not well-recognized by Fonkoze until it became apparent following the disasters of 2012, when the insurance proceeds received fell far short of SFF's obligations to its clients. Had Fonkoze not reached agreement with them to reduce its cash payout from the originally promised HTG 5,000 to 2,500 then it might have faced even more severe financial consequences.

The benefit received by SFF from the program is difficult to quantify, as it is dependent upon the assumed default rate arising from catastrophes that would have occurred if *Kore W* had not been in place. It is thought that a likely rate would be around 25%, which would lead to a benefit to SFF of USD 1.61 million but, at the extreme, a default rate of 100% would lead to a benefit of USD 6.44 million. We note that a benefit of approximately USD 1.6 million was about the same as SFF's subsidized cost when taking everything into account, including the *ex gratia* claims payments made by MiCRO to SFF, but was well below the unsubsidized cost of around USD 5.2 million, and was therefore clearly not self-sustaining.

The reason why this coverage gap came about is far less important than the consequences of its existence. Because of the gap, SFF decided that, in order to protect its financial position, it had no option other than to withdraw *Kore W* at the end of 2012 and to continue only with a reduced level of parametric cover for its own benefit and not that of its clients. Since that time only the parametric cover has remained in place, and its limits have been progressively reduced by SFF, essentially for reasons of affordability, such that at present it can only provide protection against medium level catastrophes. Current cover would certainly not suffice against major hurricanes or earthquakes. There is no longer any client benefit provided.

Once the decision was taken to abandon the basis risk cover then MiCRO SCC became essentially a fronting company for SwissRe who continued to carry 100% of the parametric risk. Thus MiCRO is no longer a risk bearing entity and is actually a redundant layer which adds to the overall cost of the insurance structure given that its operational expenses are borne (at least in large part) by the parametric policy issued to SFF. Consequently SFF are displeased with the economics of the continuing cover and are asking to see a satisfactory plan for MiCRO's future development—a component of which would be provision of coverage at an acceptable price to SFF—before it will commit to renew in April 2015. Because no other products have been developed in other jurisdictions, SFF is MiCRO's sole client. The fact that SFF is the majority shareholder of the Haiti (A) cell and FKZ itself is the minority shareholder of the core company presents a quandary to SFF's management as to whether to continue seeking coverage. Also, the current pricing of the parametric cover includes a substantial expense loading in respect of MiCRO's administrative cost, which, by increasing the price of the product, is contributing to a reassessment by SFF of whether it wishes to continue renewing the policy.

The documentation received from a number of stakeholders suggests that the initial capital estimates for MiCRO were not met. It seems evident that this was due to an inappropriate valuation of MiCRO and, by extension, estimation of SFF's potential liabilities. These liabilities were driven by the contractual agreements to pay a fixed amount to their clients as well as to write-off the outstanding loan balance and provide assistance with obtaining a new loan. According to stakeholders active in the management of MiCRO, the capital required to cover exposures might have been close to USD 12 million, even greater than the initial figure of USD 5 to 10 million indicated in the MiCRO design papers.

The risk retained by MiCRO and SFF after the placement of parametric reinsurance includes the losses below the parametric insurance recoveries as well as the actual losses in excess of the parametric insurance limits. Since 2013, there have been no contractual commitments to SFF's borrowers other than the issuance of loans, but this issuance is not linked to any form of insurance product offered to SFF's borrowers. SFF is subject to default risk on loans that cannot be repaid due to the occurrence of natural disasters. The maximum amount of default risk is equivalent to the outstanding loan balances.

5.4 Financial and Economic Outcomes for all Stakeholders

While subsidy requirements were substantial, a significantly greater expense of resources was incurred servicing claims—an expense far greater than the premia collected. Arising from the uninsured liability described in Section 4.2.2, SFF was left to cover USD 2.5 million, or 28%, of the aggregate cost of claims made under the program.[55] This far exceeded the coinsurance rate assigned to the basis risk policy (15% of the USD limit of 1 million, or USD 150,000). In effect, SFF was partially insuring its own credit clients. An *ex gratia* payment of USD 973,000 from MiCRO and a grant of USD 250,000 from SDC offset some of these costs over 2011-12, but the overall cost of claims service undertaken by SFF still totalled USD 1.28 million.

SFF ultimately paid USD 2.48 million to service premium subsidies and client claims related to *Kore W*, net of any external subsidies. This does not include operational expenses or staff salaries for the insurance team, nor other investments in MIS systems to bridge the gap between eMerge and the *Kore W* requirements. While there was substantial subsidization made available to SFF and its borrowers through the program, it is clear that these were insufficient given the liabilities incurred during the period *Kore W* was deployed. Similarly, neither of the

[55] Martin, Xavier et al. A Cost-Benefit Analysis of Fonkoze's *Kore W* Product.

reinsurers engaged in the scheme, neither MiCRO SCC nor SwissRe, saw a net positive of premia against claims paid. This shortfall totalled USD 535,000 and USD 3.16 million during 2011 and 2012 for MiCRO SCC and SwissRe, respectively.[56]

SFF's clients, given the combination of the emergency payout and the loan write-off, faced a different fortune from a financial perspective. An individual borrower who had assumed a HTG 10,000 loan paid HTG 300 up front for their coverage. If a catastrophe struck at the end of the third month of their loan cycle, they would benefit from a HTG 6,000 principal write-off (plus whatever interest was still outstanding), plus a HTG 5,000 cash payout; this could be a 3,600% return. Even when this cash payout was reduced to HTG 2,500, this example client could reap a return of 2,800%. Actual client returns for those with accepted claims were reported to be approximately 1,200%.[57] In any case, the SFF's borrowers by far received the most financial benefit out of the *Kore W* product.

5.5 Delivery of Benefits and Related Outcomes

In general, the operational processing of MiCRO SCC is in line with expectations. In no circumstances did stakeholders report slow processing at the MiCRO level, nor any form of delays or issues around disbursement of resources from SwissRe for reinsurance claims under the parametric coverage.

In terms of delivery to the target end beneficiaries—SFF's borrowers—there were indeed some delays and complaints about the pace of processing. As noted in Section 4.2.1, in 2011, for example, the average processing time from claim filed to claim paid/loan written off was 46 days. For standard solidarity loans, this represents 25% of the overall loan tenor of 180 days. Most stakeholders attributed this to the claims administration process, and indicated that the portfolio management systems underlying SFF's operations also accounted for up to ten days of this average processing time.

During the focus groups, SFF's borrowers themselves reported that at the point that the emergency payouts were delivered, the benefit—either HTG 5,000 or HTG 2,500 (as it was later in 2012)—was "too little too late". When asked which benefit they would choose if they could only choose one, focus group participants overwhelmingly preferred the loan write off to the emergency payout, as the emergency payout did little to bring their life back to its former standard. While the focus groups should not be interpreted as a reliable indication that represents all of SFF's active borrowers who had *Kore W* coverage, those stakeholders actively engaged with the entire pool of SFF's borrowers confirmed this sentiment.

However, there was one unanticipated outcome from the loan cancellation benefit. As discussed in Section 4.2.4, claimants whose loans were cancelled were offered a new loan on an individual basis, whereas Little Credit and Solidarity loan clients were never offered individual loans prior to this. As a result of the 46 day average claims processing period, these individuals were rarely ready to receive new loans at the same time as their former lending group. As such, they went through at least one lending cycle as an individual. Stakeholders indicated that this caused some

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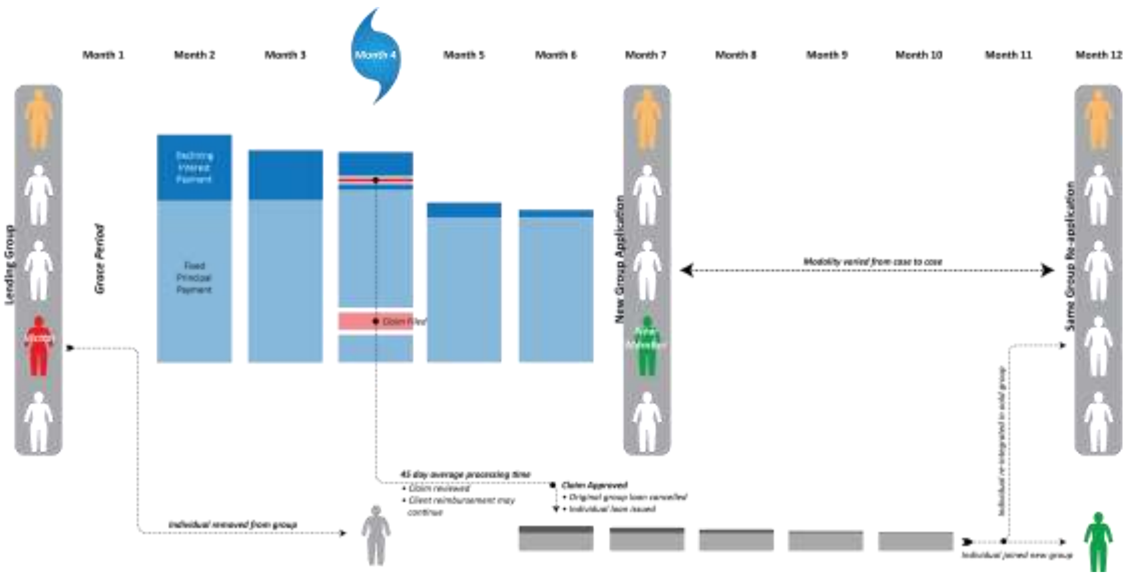
[56] Ibid

[57] Matin, Xavier et al. A Cost-Benefit Analysis of Fonkoze's *Kore W* Product.

branches to withhold issuance of new loans to the entire group until the individual was ready to re-enter the group. In other cases, it forced claimants to join new groups that may be further away, potentially diminishing the social pressure aspect of group lending. Figure 22 depicts the implications of this unintended outcome of *Kore W*.

Figure 22: Loan Cancellation Implications for Example Group Loan



5.6 Disaster Resilience and other Developmental Outcomes

It is unclear whether MiCRO had any impact on client resilience and disaster readiness at the level of SFF's borrowers. Stakeholders indicate that there was probably no lasting effect on the behaviour of SFF's borrowers, and that there may have been some short-term risk-seeking behaviour rather than the desired risk aversion behaviour. However, no conclusive results were derived from the focus groups nor were available in any other documentation that provided substantive documentation of an effect in either direction. Some stakeholders even indicated that the program might have diminished disaster resilience because the *Kore W* product was withdrawn as soon as SFF's borrowers began to integrate its effects in their disaster planning. However, stakeholders confirmed that the awareness of and expertise pertaining to microinsurance had increased substantially for most of the institutions engaged in the MiCRO program, including both those operating in Haiti and those operating from outside.

6 MICRO WITHIN OECD DAC EVALUATION CRITERIA

Drawing from the evidence presented in Chapters 2-5, this chapter presents the findings of the evaluation report in terms of the adapted OECD DAC evaluation criteria.

6.1 Relevance – Is MiCRO Well Suited Against Documented Needs?

It is reasonable to say that SFF's borrowers have a need for more support to offset the risks they face associated with natural disasters and catastrophes. By commencing operations in Haiti, MiCRO sought to address what were very obvious needs in the wake of the 2010 earthquake—there was virtually no risk mitigation available to poor Haitians, which made up the overwhelming majority of the population. Furthermore, these lower income classes are far more vulnerable to the effects of natural disasters.

By commencing operations through SFF/FKZ, MiCRO also directly targeted the most vulnerable Haitians through an aggregator that had an established distribution network and readily understood the needs of the population they served. Furthermore, by opting to work initially through SFF as an aggregator, MiCRO brought direct benefits to SFF's more than 50,000 female borrowers. MiCRO also served as the bridge that brought the reinsurance capacity of a company like SwissRe to bear for the benefit of SFF's borrowers; it is unlikely that this would have otherwise materialized, despite the documented needs. Fundamentally, stakeholders indicate that there is no other donor or privately funded program that was able to deliver nearly USD 9 million in support to Haitian microentrepreneurs as quickly or as directly as the MiCRO program achieved.

RELEVANCE:

MiCRO is well suited against documented needs despite operational challenges.

6.2 Effectiveness – Does MiCRO Achieve Its Stated Objectives?

As discussed in Section 5.2, MiCRO did achieve its initial uptake target of at least 50,000 borrowers by the end of 2011. However, the target of a two-week claim-to-payout processing time at the end-borrower level was not achieved. Furthermore, the uptake of microinsurance achieved by the end of 2011 became a moot point once *Kore W* was cancelled in 2013, and no further microinsurance was provided to SFF's clients from then on.

The absence of stated objectives beyond the end of 2011, given that MiCRO continues operating, presents an issue. Many stakeholders indicated the lack of strategic direction and absence of a tangible business strategy, much less specific objectives for MiCRO, as a serious detriment to its ability to be effective. The placement of a seconded CEO has not resulted in a measurable increase in the business effectiveness of MiCRO, particularly as the initial CEO's tenure was only a year.

EFFECTIVENESS:

MiCRO achieved the more important of its two stated outcome objectives in the specified time horizon. It did not, however, continue this level of achievement through the duration of the program.

6.3 Efficiency – Is MiCRO the Least-Cost Approach to Achieve Outputs?

In practical terms, the only alternative approach to provide post-disaster financial assistance to SFF's borrowers would be through direct aid programmes. Other insurance mechanisms, such as disability, accident or normal property and casualty coverage, would require the infrastructure and expertise to undertake objective assessments against each claim. Most other insurance mechanisms would therefore not suffice, apart from perhaps a life insurance program. This would, however, only benefit the beneficiaries of deceased borrowers and would do little to support the overwhelming majority who survive natural catastrophes.

Furthermore, MiCRO's initial design was to serve a relatively small and low volume clientele by insurance standards; at the end of 2011, SFF's 59,000 borrowers paid an equivalent of USD 685,600[58] in premiums, or about USD 11 per borrower. SFF directly subsidized the real cost of the cover provided to its clients in both 2011 and 2012 and bore a hefty financial cost for doing so, as discussed in 4.2.3. However, the direct subsidization for all losses incurred through the catastrophes of 2011 and 2012 would have been radically more expensive through traditional aid channels, particularly given the dispersion of SFF's clients across the country and in primarily rural areas.

[58] Evaluation of First-Year Results: Fonkoze's Kore W Natural Catastrophe Insurance for Haitian Micro-Entrepreneurs. May 2012, published by Fonkoze.

The high cost to SFF for the management of the program was due to the disconnect between the liabilities assumed by SFF and the combined limits of the policies provided from MiCRO. This could have been avoided through clearer advice provided to SFF, as well as through mandates against SFF undertaking insurance risk.

The costs incurred by reinsurers through the program were initially quite high, but this is largely attributable to exogenous variables. While the parametric triggers tested well in the retroactive pilot undertaken by Mercy Corps on the 2010 earthquake, the triggers and policies themselves were overwhelmed by the actual losses incurred particularly in 2012. Given the level of historic data available, it would not be reasonable to expect any loss model to have accounted for the combined damage of hurricanes Sandy and Isaac in a single year. 2013 and 2014 have been net positive (in terms of premia collected and claims paid) years for SwissRe under the parametric policy, and would likely have been net positive for MiCRO under the basis risk policy had it still been in place.

EFFICIENCY:

MiCRO's major efficiency shortfalls related to program cost came from poor initial design; this aside, and given the small economies of scale within which MiCRO operates, MiCRO has been relatively cost effective.

6.4 Impact – What Are MiCRO's Positive and Negative Effects?

MiCRO was very innovative and very ambitious at the outset. After the 2010 earthquake, Haiti was a challenging environment in which the stakeholders decided to rapidly deploy a microinsurance program.

In terms of institutional learning, stakeholders report that MiCRO has been a very positive program for SwissRe, Guy Carpenter, Mercy Corps, SFF/FKZ, SDC and AIC. In some cases, these stakeholders had virtually no experience with microinsurance on the ground prior to the MiCRO program, and they all have learned a substantial amount internally about the underlying opportunities and challenges. In other cases, these stakeholders have enhanced their already deep knowledge of insurance and microinsurance through hands-on deployment in one of the most challenging risk environments. SFF itself has grown to better understand microinsurance, and it also much more clearly understands the implications of pending regulations in terms of any future provision of insurance to its clients.

In this regard, SFF's clients have learned the value of insurance through their experience with *Kore W*. Through the focus groups and other preceding studies, it is clear that SFF's clients understand the value of insurance, particularly on the terms offered. This, however, holds a hidden negative of the program. The upside benefit offered to clients was far too good compared to the cost they paid. The substantial windfalls clients made, estimated at upwards of 1,200%, validate this. Even calculated against the true cost of coverage, estimated at 7-8% or more rather than the flat 3% charged solidarity clients, the ratio of premia paid to payouts made would still be in favour of the end clients.

As such, the MiCRO program has, at least in the near term, infused SFF's clients with a perception that insurance coverage should have substantial upside benefits for relatively small costs. When prompted if they would be willing to pay more for similar cover, focus group participants generally responded in the negative, later admitting that they might be willing to pay up to 5% of the loan amount in premium. When then prompted whether they would be willing to receive a lesser benefit, respondents indicated that they expected the same or better benefits from a new insurance program.

Absent the grants, ex-gratia payments and other support, the MiCRO program might have bankrupted SFF. While attributing the causes of exactly how this came about is challenging, it is clear that the ex gratia payments from MiCRO and additional donor support in response to the scale of payout necessary in 2011 and 2012 were the only things that spared SFF from being sunk by its obligations to its borrowers through the *Kore W* program that were beyond the limits provided in MiCRO coverage.

Finally, the fact that MiCRO remains co-owned by FKZ and SFF contributes to the marketing and sales challenges it has in Haiti. While its original design included some scope for providing insurance through other MFIs in Haiti, MiCRO was never able to accomplish this. Many stakeholders indicated that part of the disinterest from other MFIs comes from the ownership, and also the lack of a clear product offering aside from *Kore W*.

IMPACT:

MiCRO's positive effects in Haiti include:

- **A high degree of institutional learning for some stakeholders**
- **A strong desire to seek insurance coverage by SFF's clients**

MiCRO's negative effects in Haiti include:

- **Potentially unfeasible price sensitivity for insurance by SFF's borrowers**
- **Severe capital constraints for SFF**
- **A potentially negative outlook on MiCRO product offerings by other MFIs in Haiti**

6.5 Sustainability – Is MiCRO Self-Sustaining Financially?

MiCRO was not self-sustaining over the 2011-2012 period. The extra payments and discounts offered to SFF reduced the basis risk premium to levels where it was unable to pay any claims whatsoever in 2012, and it continued to operate at a loss. This was compounded by the fact that its initial capital was constrained. However, stakeholders indicated that had the basis risk premium been increased to a sound level rather than suppressed as it was, MiCRO could have been financially self-sustaining. However, the complexity of serving a single client that also assumed insurance risk prevented sound basis risk pricing, among other factors.

In its current structure, it is not self-sustaining because it only has a single client. Furthermore, MiCRO's only role in the current structure is a pass through between AIC and SwissRe for SFF's parametric coverage. As such, MiCRO represents a redundant layer that provides little more than a platform for donor entry into other markets, but has little benefit to Haiti operations.

SUSTAINABILITY:

MiCRO in its initial design is not self-sustaining and represented a net loss for all risk-holding private stakeholders (SFF, MiCRO SCC and SwissRe). In its current form, it is not self-sustaining because SFF is its sole client. It can only become self-sustaining through exploration of other markets and engagement of additional clients in Haiti, and through actuarially sound pricing of its insurance offerings.

6.6 Dynamism – Have Lessons Learned Been Applied?

While the technical team of MiCRO made substantial efforts to integrate lessons learned from the first years of operations, the chance to apply these lessons and modify the program were not able to be implemented because of the cancellation of the *Kore W* and basis risk policies. Noting the benefit of hindsight, it is possible that the application of the recommendations of the technical team in early 2013 might have resulted in a sustainable program that still provided end-client benefits directly. However, absent strong alignment and strong leadership, MiCRO was unable to drive this change and instead lost a major component of its business with SFF.

DYNAMISM:

Strategic lessons learned were not assessed nor applied as MiCRO continued operations over the evaluation period in a way that allowed the program to achieve better results.

7 LESSONS LEARNED AND LOOKING FORWARD

This chapter defines the key causes that contributed to MiCRO's failure to continue providing direct coverage to microentrepreneurs in Haiti. It then proposes lessons learned from the impacts of these root causes, as well as options that may be applicable to other microinsurance programmes in Haiti and beyond.

MiCRO was a pilot/experimental initiative, which inevitably meant certain features could only be tested in real-time. However, there is an array of factors that have led to the current state of MiCRO, but to develop realistic lessons learned or effective solutions to these issues, a necessary step is to put some order to these issues by separating "symptoms" and "root causes". The benefit of such an approach is its simplicity – ideally there exists only a small number of root causes, and these few root causes give rise – directly or indirectly – to all (or most) of the other issues (i.e., symptoms) identified.

7.1 Root Causes

The evaluation has distilled seven distinct root causes the contributed to the major weaknesses experienced by the MiCRO program. Each of these causes, arising at the different levels of the program, contributed to the unsustainable nature of operations as they were intended in the initial design of the program.

Root Cause 1: Divergent philosophies about the purpose of MiCRO among stakeholders.
Stakeholders engaged in the MiCRO program from the outset had divergent philosophies on the purpose MiCRO played in terms of protecting SFF's borrowers from risks. This extended from the divergent holding of risk at the end-portfolio, with SFF holding some portion of uninsured risk (as discussed in Section 3.2) under the belief that this excessive risk would never materialize (as discussed in Section 3.7.1). To some stakeholders, the purpose of MiCRO was disaster coverage for the borrowers regardless of the sustainability implications, while to other stakeholders the purpose of MiCRO was to provide disaster coverage for the borrowers up to limits determined by MiCRO's financial capacity as a privately-managed reinsurance company would act. Absent a binding, written agreement on the purpose of MiCRO at both the strategic and operational levels, stakeholders operated in accordance with their own philosophy and understanding contrary to the approach being taken by other stakeholders. The irregular use of ceding commissions that resulted in negligible net premiums to buffer the basis risk policy in 2012 (as discussed in Section 4.2.3) further confirms these divergent philosophies playing out in MiCRO's operations. This lack of common goals continues to detract from MiCRO's operations in Haiti, as considerable resources are being deployed through the core cell for exploration of alternative markets in Central America and the Eastern Caribbean.

Root Cause 2: Inadequate initial capital, particularly given the bad fortune experienced in 2011 and 2012.
The initial capital requirements for MiCRO, as described in the design documentation provided by CaribRM, were never realized (as discussed in Sections 3.5 and 4.2.2). However, full launch of the program across the entire portfolio of SFF still occurred within the first year to all of SFF's

nearly 60,000 active borrowers, despite having fallen significantly short of capital targets required to operate a program of this magnitude. Some donor commitments through the multi-donor trust fund supporting MiCRO did not materialize (as discussed in Section 4.1.3). Insufficient capital and the catastrophes facing Haiti in 2011 and 2012 eroded the capital base of the program to the point that it would likely have been unable to provide necessary basis risk coverage in 2013, had such coverage been sought by SFF, and this was noted by MiCRO's management.

Root Cause 3: Varying stakeholder interpretations of the risk context arising from insufficient piloting.
The pilot scheme used to justify the launch of MiCRO was based on a single earthquake event in an *ex post* test (as discussed in Section **Error! Reference source not found.**), which did not serve well to test the program against the most common peril covered under the scheme—rainfall (as discussed in Section 4.2.5). Furthermore, this piloting did not contribute to the depth of understanding by the stakeholders on the risk context facing SFF's borrowers, but rather only confirmed the economics of the earthquake parametric triggers. The rush to launch MiCRO appears to have been largely driven by passion for supporting microentrepreneurs in Haiti. The hasty launch of MiCRO came without sufficient piloting that allowed all stakeholders to carefully understand the risk context facing SFF's borrowers and how risk transfer mechanisms can best be structured.

Root Cause 4: Insufficient technical expertise in insurance and administration at the onset of the program.
While the MiCRO program had strong support from industry leaders in risk modeling and reinsurance, some of the key stakeholders involved in the program design admitted to having had little to no technical expertise in insurance design or administration, particularly the co-owners of MiCRO (as described in Sections 3.5.1 and 4.1.3). While these stakeholders had other relevant expertise to the program, such as the provision of micro credit to rural microentrepreneurs and distributed credit systems, their lack of technical expertise led to an operational design, particularly for claims administration (as discussed in Sections 3.3.1 and 4.2.1), that was unwieldy and required individual validation of claims, counter to the intent of using parametric insurance.

Root Cause 5: Engagement by a large number of stakeholders without a clear "champion."
Many stakeholders played a role in the design, establishment and operations of the MiCRO program, even beyond those primary stakeholders mentioned in this report. However, at no point was there a clear champion that had the technical expertise and dedicated resources to organize the many stakeholders into a successful program. Instead, the champion for most of the program's implementation, at least in terms of the administrative burden for benefit delivery to the end-beneficiaries, was SFF itself; SFF had little technical expertise. MiCRO SCC, the core entity in the program, operated for the first two years as a virtual organization without its own staff or leadership. It was only after the original design was abandoned in late 2012 that Swiss Re seconded a CEO in early 2013. A strong technical leader could have ensured that SFF did not assume insurance risk as it did in the *Kore W* program.

Root Cause 6: Poorly correlated risk models against losses incurred on the ground.
The combination of insufficient historic data (as discussed in Section 3.7), insufficient topographical analysis (as discussed in Section 4.2.5) and absence of specific coordinates for

insured assets (as discussed in Section 4.2.1), the risk models designed through the MiCRO program did not adequately correlate with losses incurred on the ground. The basis risk policy sought to address these inadequacies by allowing for both positive and negative basis risk outcomes for certain events. Even so, the risk models were inadequate in terms of the losses incurred by SFF's borrowers, particularly around smaller but no less catastrophic events.

Root Cause 7: Insufficient engagement with other aggregators to widen MiCRO's market. Passive marketing and the optics of SFF's shareholding in MiCRO prevented it from extending coverage through other aggregators in Haiti. At no point did MiCRO actively pursue other aggregators in the Haitian market, aside from one informational presentation it executed alongside SFF management to other MFIs. The lack of this marketing, coupled with the negative perceptions that other MFIs had about SFF/FKZ ownership of MiCRO, handicapped MiCRO's growth prospects in the Haitian market, which thereby hindered its economies of scale and portfolio diversification across other slightly higher income segments, where both operational and educational challenges are not as resource-consuming to address.

7.2 Lessons Learned from Root Causes

Arising from the root causes outlined in the previous section, there are some key lessons to be gleaned from the MiCRO experimental program. Furthermore, there are some practical recommendations related to each lesson learned that may be applied going forward in the MiCRO programmes in Haiti, as well as to other microinsurance programmes. These recommendations are structured under the assumption that MiCRO operations will continue in Haiti through engagement with the original aggregator and other aggregators. General recommendations provide guidance to other programs, including engagements in other jurisdictions undertaken by MiCRO.

Lesson 1: Ensure philosophical and strategic alignment through proper documentation

While stakeholders expressed that there was a clear agreement on how MiCRO should be implemented at the onset of the program, no clear documentation exists where all stakeholders have mutually signalled their understanding and commitment to the implementation of the program. Ensuring this collective commitment to the program, along with parameters to determine adherence to the program's expected results, is an absolute necessity for a program with such intricate operational requirements. Furthermore, ensuring this coherence among stakeholders should be articulated in a written and counter-signed document by representatives from all stakeholders.

Specific Recommendations

1. Moving forward, any future operations undertaken by MiCRO should feature the inclusion of a signed memorandum of understanding entailing, in detail, the strategic purpose and inherent limitations of (re)insurance enabled through MiCRO, specifically encouraging aggregators to treat this cover as limited within the range of cover provided in the insurance documentation. All aggregators should sign this MoU. While not legally binding, this would ensure proper mutual understanding and allow MiCRO to drive better technical awareness of the benefits and costs of insurance at the aggregator level. At a secondary level, a clause could be inserted in the insurance contract with aggregators that nullifies some or all coverage if the aggregator assumes insurance risk.

2. MiCRO and the Fonkoze family should work together to explore divestment options of FKZ and SFF shareholdings in MiCRO SCC. Other potential aggregators are unlikely to have access to liquid capital to be able to make similar investments in Cell A, therefore divestment at both levels is warranted. While the original intent of this investment was indicated as an "alignment incentive," most of the resources enabling SFF's shareholding came from external grants and this requirement is therefore irrelevant. A consultative decision on whether to divest SFF's shareholdings in the at least the core cell should be taken by the end of Q1 2015.

General Recommendations

3. Complex microinsurance programs like those enabled by MICRO should always define very clear descriptions of the strategic orientation of the program that includes provisions wherein the scheme **is not** expected to extend coverage beyond what is contractually obliged, regardless of the shareholding structure or other capital sources backing the scheme.

Lesson 2: Scale insurance product to match actual capital available rather than anticipated contributions

While scaling the roll-out of insurance can sometimes lead to concentrated risks depending on how segmenting is undertaken, this concentration risk is far less lethal to a program than assuming more risk than initial capital can reasonably service. While MiCRO never operated in violation of regulatory requirements, it never achieved the initial capital indicated by the design study. Though donors make commitments, it is important to account for delayed or cancelled contribution commitments in the business planning of a microinsurer or reinsurer. While it is important to reach the target beneficiaries completely and quickly, it is also important to ensure that sufficient capital is in place to do so. Exploring alternative capital sources is also critical.

Specific Recommendations

1. It is critical that MiCRO operate within the normal bounds of any insurance company, and not assume risks beyond that for which it is capitalized. As such, ongoing operations in Haiti and operations in other markets must be adequately capitalized before they are brought to scale. Capitalization strategies must not rely on contingent or anticipated commitments by donors, but by cash-in-hand held by MiCRO at the time of launch. This should be a critical go/no-go for any market entry or expansion strategy. By the end of Q1 2015, MiCRO should develop a capitalization strategy for Haiti operations if they are to continue.

2. MiCRO should explore additional investments from other sources, particularly impact investing funds. With a sound business model (see Lesson 7), MiCRO may be able to attract other impact-minded investors beyond the traditional donor community.

General Recommendations

3. Feasibility studies, including forecasting of capital requirements, should always be undertaken prior to the launch of a new microinsurance scheme. The roll out of products should hinge on a critical path derived from sufficient capital, as specified in the feasibility study. If reasonable, the roll-out can be scaled to available capital, but it should never outpace actual capital contributions in terms of the requirements established in the initial study and piloting.

Lesson 3: Undertake piloting that includes managing all types of loss events covered before launching a microinsurance product.

Piloting is critical to the success of microinsurance, as stakeholders have uniformly indicated that no microinsurance program is perfect at launch. However, the *Kore W* piloting was hasty and did not encompass exploration of all three perils against which it transferred risk. As such, it is essential that microinsurance be piloted against all the risks it will cover prior to a complete roll out. While a pilot hardly provides adequate data upon which a risk model can be based, it will give all stakeholders a chance to learn and adapt the insurance program, particularly in terms of operations, prior to full launch. Adjustments to the benefits, limits, premia and other parameters should be embraced in this piloting process through the integration of data gathered and operational experience gained for all stakeholders. Therefore, ongoing adjustment to the pilot was critical. Instead, there was no mechanism developed upfront to review and revise.

Specific Recommendations

1. Re-launching a combined parametric/basis risk product in Haiti will require piloting with each of the aggregators engaged, even if the same overall product is offered covering the three risk types previously covered. This is because the distribution and claims management system will either have to be centralized under a separate outsourcing model, or it will have to be designed and tested within the institutional capacities of each new aggregator. Exploring and determining the best model will be part of the new business plan (see Lesson 7), but in all cases at least a full year of piloting is required. Furthermore, the piloting period should not be considered complete until a reasonable number of loss events arising from the most frequent catastrophe covered are endured.

General Recommendations

2. Pilot, pilot, pilot. No microinsurance scheme is properly designed until it has been piloted, refined, piloted again and refined again. Because of the nature of insurance, and particularly microinsurance, it is absolutely critical that microinsurers spend substantial amounts of times studying the risks faced by their clients and the correlation of events to loss (in the case of parametric microinsurance) prior to undertaking a complete roll-out of a given product. While it is very tempting to rush to launch a product, particularly in the wake of catastrophes, not piloting can lead to failed products.

Lesson 4: Provide industry-standard technical assistance to key operational stakeholders from the design phase through piloting and implementation.

Insurance is not straightforward to the uninitiated, particularly when it is structured to cover parametric triggers or other indices. Microinsurance along these structures is even more complex, and it is a relatively new product that has not been successfully deployed in many programmes. As such, it is absolutely essential that those stakeholders dealing with the day-to-day operationalization of insurance, particularly in claims administration, are properly supported. This support should take the form of subject matter experts placed for medium-term tenures within the stakeholder organization. Such support should be a dedicated resource for the stakeholder.

Specific Recommendations

1. While it will be expensive, it is recommended that plans for re-launching in Haiti include the provision of short to medium-term technical assistance provided to each of the aggregators engaged. This will not only lead to better understanding of the implementation of parametric microinsurance by the aggregators, but it will also enable MiCRO to have a better upwards flow of information about operational challenges and technical capacity gaps before substantial problems arise. These issues can be mitigated through hands-on coaching by the embedded technical assistant and buffered by efforts from MiCRO themselves. This could be an excellent use of some of the capital allocation provisioned by the CDB to the multi-donor trust fund for MiCRO Haiti operations, as it will be very difficult for MiCRO to fund such a program itself since it is fundamentally non-revenue generating.

General Recommendations

2. Sound technical expertise is essential at the level of those institutions which are charged with the delivery of insurance to end-clients in microinsurance schemes. The success of such schemes relies on such technical expertise present at all levels, including in the provision of client education to end-beneficiaries. The absence of such expertise can lead to operational practices that are not in line with best practices and may in fact assume unnecessary operational and insurance risk. Furthermore, adequate technical expertise at the level of the aggregator.

Lesson 5: A technical lead, such as a reinsurer or a reinsurance broker, should head the program's design and implementation

Even with the best intentions, microinsurance is a product class that has been a challenge to implement successfully in many contexts, within Haiti and in fact globally. It is essential that the stakeholder leading the formulation of the business plan, risk analysis and product design be a stakeholder that has the capacity to underwrite this business plan. The MiCRO program had the advantage of strong support from SwissRe, but the placement of a seconded CEO came only after the original design had collapsed. Ensuring the placement of strong technical leadership representing a champion stakeholder is critical to the future success of MiCRO.

Specific Recommendations

1. The appointment of a CEO to oversee MiCRO and report to the Board of Directors is an excellent first step in employing this lesson. However, the first CEO's brief tenure, and the overall structure of the appointment as a secondment, inhibits the strategic impact of the position's leadership. It is recommended that the CEO be appointed for more significant terms, and similarly that the CEO be fully empowered to drive the strategy of MiCRO in Haiti and in other jurisdictions.

General Recommendations

2. Microinsurance is a niche sector, but the large players—insurers, reinsurers and brokers—have shown a substantial interest in the sector. As such, donors should seek to engage with these players. Donor capital can be used to incentivize and subsidize, as necessary, microinsurance schemes, but their design and administration should be led primarily by these private stakeholders that have deep expertise and extensive networks within the insurance market. Absent this, donors and their representatives will constantly be playing catch-up to meet best practices, and the learning curve will remain steep.

Lesson 6: Undertake ongoing research to enhance risk data availability

Each year, and each catastrophe, is a learning experience for MiCRO and programmes like it. However, it is essential that these experiences, from both risk data and operational experience perspectives, be assessed on an ongoing basis, ideally through periodic strategic reviews. These reviews were undertaken by the MiCRO technical team, but conversion into actionable changes to the business strategy of MiCRO is not evident.

Specific Recommendations

1. Following the empowerment of the CEO to establish and work towards a strategic vision for MiCRO, the organization should also work with its aggregators in Haiti to build up more methods for data capture. For example, partnering with SFF to map the locations of its over 2,000 credit centres would both SFF and MiCRO better assess the risk faced by SFF's portfolio. This is relevant with or without the basis risk component.

2. Establishing enhanced data capture techniques, such as the installation of rain gauges and partnership among the insurers and reinsurers active in Haiti, should be explored by MiCRO as it considers further expansion in the Haitian market, as well as in new markets it enters. At the least, it should work with aggregators to install monitoring systems at branch locations, which can be used as one method to verify the correlation of parametric triggers with risk and loss models.

General Recommendations

3. Microinsurance, as stated in lesson 3, is fundamentally structured on imperfect information and therefore requires ongoing analysis and refinement. Microinsurance in emerging markets is particularly subject to imperfect or incomplete data sets, and microinsurers and their reinsurers should be prepared to work alongside insureds and other insurers to discover innovative ways to draw together more data. Furthermore, additional or more refined data should be integrated as soon as it can be verified and analyzed into the models used to create products and assess potential losses.

Lesson 7: Microinsurance must operate with a comprehensive business strategy

MiCRO has a good operations manual, but this manual hardly serves as a business strategy. MiCRO SCC has no concrete business plan or strategy. Instead, it seems guided by the availability of donor and in-kind resources to expand business operations to other markets, without having a concrete path or business continuity decision points established for its operations in Haiti. In order to function as a proper reinsurance company, MiCRO SCC must formulate a detailed business plan that justifies the expenditure of resources in pursuit of increased business and eventual profits, just as any private company would. While it may continue to rely on subsidies provided to it and some of its clients, MiCRO SCC needs a strategy that will expand or end operations in Haiti, as well as guide its expansion into other possible markets. MiCRO SCC itself needs strong executive leadership and a jolt of entrepreneurial spirit to re-launch itself as a serious catastrophe reinsurer in order to provide value added to its insureds and end-beneficiaries.

Specific Recommendations

1. MiCRO, as a segregated cell company, needs to formulate a coherent and complete business plan. For much of its existence, it has functioned as a virtual company. While this is not uncommon for SCCs in Barbados, the unique nature of MiCRO's mandate requires inspired leadership underpinned by a strong business plan. While the overall objective for the business plan should not be maximizing shareholder profit, the plan and overall business strategy for MiCRO **must** hinge upon MiCRO SCC functioning as a self-sustaining entity. Success in this regard will attract substantial additional capital from traditional and non-traditional donors. At the least, this business plan must specify:
    a. The target market/aggregators in Haiti
    b. The range of product offerings, based on a best mix of demand from aggregator(s) and internal capacity
    c. The capital required to support this product offering, and capital sourcing strategy to secure additional capital as required
    d. A pricing model that is both competitive and fair
    e. Risk limits on parameters such as risk type/event, aggregator, end-insured income segment, etc.

    This plan should be put in place ideally by the end of 2014, if not prior to the next renewal of coverage by SFF.

2. The CDB, having already approved a substantial grant from the SDF, should continue to withhold disbursement of this grant subject to the delivery of a convincing and comprehensive business plan. However, the terms and conditions of the SDF grant should be made as flexible as possible, provided that the proposed new business plan meet the overall strategic objectives of MiCRO, in order to best facilitate rapid and successful deployment of such a business plan.

General Recommendations

3. Insurance does not operate well on a concessional basis, and continued reliance on insurance as a panacea for all catastrophic events, both large and small, does not work. Specific limits on risk taken by an insurer or reinsurer, particularly those operating in the microfinance space, need to be based first on the sustainability of the entity as a self-

supporting business venture. Development impact is secondary to this, because development impact is unachievable without an insurer that has the business discipline to survive all the risks it underwrites. Inclusion of subsidies to enhance a product's attractiveness or impact is acceptable, as long as those subsidies are not the lynchpin enabling an insurance scheme to be sustainable.