

*This brief is one in a series of five MBP Technical Briefs focused on MFI response to rapid-onset natural disasters. These briefs discuss the potential interventions and actions that MFIs could undertake in the aftermath of a disaster, based on the experiences of MFIs from Hurricane Mitch and the Bangladesh flood of 1998.*

# MFI Liquidity Problems after a Natural Disaster<sup>1</sup>

After a natural disaster, access to adequate liquidity is one of the most difficult issues microfinance institutions (MFIs) face. As MFIs quantified their liquidity needs in the wake of 1998's large natural disasters, a picture emerged that points to the general magnitude of the problem. This brief seeks to document this evidence and point to ways to head off or resolve potential liquidity crises when sudden disasters strike.

## **WHY DO NATURAL DISASTERS CREATE LIQUIDITY CRISES FOR MFIs?**

In the wake of a sudden natural disaster, MFI clients change their borrowing and saving behaviors in four ways:

1. Some percentage of clients will fail to make loan repayments (see Brief No. 1);
2. Some percentage of clients may cease making deposits into compulsory savings programs (see Brief No. 3);
3. Some percentage of clients will request advances against their savings (see Brief No. 3); and
4. Some percentage of clients will demand emergency and reconstruction loans (see Brief No. 2).

Unfortunately, all of these behaviors reinforce one another to create a drain on the MFI's liquidity. The first two practices reduce the level of incoming cash for the MFI, while the last two increase the demand for cash outflows.



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## WHAT PERCENTAGE OF CLIENTS TAKE THESE ACTIONS?

For larger disasters, a higher percentage of clients are likely to take each of these actions, and the behaviors are likely to last longer. There is no public information about the MFI liquidity crises caused by Hurricane Mitch in 1998, which was arguably one of the most extensive natural disasters in recent history.<sup>2</sup> There is, however, documentation from a range of MFIs hit by the 1998 flood in Bangladesh, perhaps the largest flood to have hit Bangladesh since MFIs began operation. These findings provide insights into the extent of the above client practices.

Information on 24 small urban MFIs in Bangladesh provides the following picture:<sup>3</sup>

- ❑ Of the MFIs' 93,621 savers, only 47.9 percent continued to make regular savings deposits after the flood. MFIs had projected collecting 5.8 million taka in savings over the two-month flood period (August-September 1998), but in actuality, took in only 4.1 million taka, a 29.4 percent decline in liquidity.<sup>4</sup>
- ❑ Of the MFIs' 39,354 borrowers, only 57 percent continued on-time repayments after the flood. The MFIs had projected to collect 26.9 million taka in repayments over the two-month flood period (August-September 1998), but in actuality, received only 18.3 million taka for that period, a liquidity shortfall of 31.9 percent.
- ❑ The 24 MFIs projected 4.0 million taka in other income over the two-month flood period (August-September 1998). Following the flood, they received only 2.6 million taka, a decline in liquidity of 35 percent.<sup>5</sup>

Grameen Bank also provided useful data on their liquidity level:<sup>6</sup>

- ❑ Ninety-five percent of member compulsory savings were withdrawn during the flood.
- ❑ Eighty percent of center contingency funds were withdrawn during the flood.

## CAN MFIS PROJECT HOW MUCH LIQUIDITY THEY WILL NEED DURING A DISASTER?

Many of the MFIs experienced in responding to rapid-onset natural disasters (such as those found in Bangladesh) have developed funds for use during emergency times. One can assume that these funds have been improved over time until they have proven adequate to deal with smaller catastrophes that hit more frequently. Unfortunately, there is little public data available from these experienced MFIs to illuminate what they have learned during this process.

The 1998 Bangladesh flood, however, created a liquidity shortfall that undermined even well-prepared MFIs. The resulting requests for public and private funds provide sufficient data to roughly calculate the liquidity requirement of serving each affected client. The figures below illustrate:<sup>7</sup>

- ❑ BRAC reports a liquidity shortfall of 2.15 billion taka to serve 1 million affected clients. The liquidity shortfall per affected client: 2,150 taka/client, or \$45/client.

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- ❑ Grameen Bank reports a liquidity shortfall of 4.75 billion taka to serve 1.2 million affected clients. The liquidity shortfall per affected client: 3,958 taka/client, or \$82/client.
  - ❑ Proshika reports a liquidity shortfall of 1.18 billion taka to serve 500,000 affected clients. The liquidity shortfall per affected client: 2,360 taka/client, or \$49/client.
  - ❑ ASA reports a liquidity shortfall of 663 million taka to serve 300,000 clients. The liquidity shortfall per affected client: 2,210 taka/client, or \$46/client.
  - ❑ One hundred twenty-six small partners of the apex organization, PKSF, report a liquidity shortfall of 45 million taka to serve 225,000 clients. The liquidity shortfall per affected client: 2,000 taka/client, or \$42/client.

Of course, interpretation of the data depends on learning what liquidity reserves each of these MFIs used that do not appear in these figures. Grameen, for example, had at least three internal sources of liquidity to deal with disasters that do not appear in these figures (and still Grameen shows the greatest liquidity shortfall per client). What is interesting, however, is the relative similarity of these figures. Overall, the data suggest that MFIs in Bangladesh need roughly \$45 per affected client to meet the liquidity needs of a major natural disaster. Of course, the required amount in other settings will depend upon loan size, per capita income, and a range of other factors that vary by MFI, by country, and by disaster.

## **WHERE CAN MFIs FIND EMERGENCY LIQUIDITY?**

Liquidity crises hit almost instantaneously—within days after a disaster—when affected clients look to the MFI as a source of emergency financing. On such short notice, MFIs can expect to find liquidity from two internal sources: required cash reserves and funds committed for new loan outlays. A third internal source—incoming loan repayments—also will dwindle in post-disaster conditions, so it is unlikely to prove helpful. In addition, the MFI can search out loans (perhaps from commercial banks with whom the MFI has a long-term relationship) and grants (usually through international fund-raising efforts and emergency requests to donors). Donor disaster response monies usually require several weeks to access, which will be too late for clients' immediate emergency needs.

Unfortunately, tapping all of these sources of funds may still be inadequate to meet requests for immediate withdrawals. Some MFIs cope by postponing payment of institutional bills, cutting salaries by 50 percent or negotiating reductions in rent and other regular expenses. Salary payments—often the largest regular cash expense after new loan capital—are often the most obvious target, but such measures may reduce staff morale at the exact time when it is most essential. Given these distasteful options, MFIs working in chronic disaster areas have discovered that having adequate liquidity for disaster response requires setting aside program funds on a regular basis for use in times of unexpected emergencies. When disasters strike, funds are available to put liquidity in the hands of clients. But in areas that do not face chronic disasters, it may be hard to justify setting aside MFI operating funds for disasters that do not appear likely to strike. In such cases, developing client-funded contingency accounts (where clients make regular deposits into an emergency reserve account) may be a sound alternative that does not affect the MFI's bottom line.

### **Grameen Bank's Multilevel Approach to Meeting Emergency Liquidity Needs**

Grameen Bank, which faces chronic disaster conditions, has developed three permanent sources of emergency liquidity. First, each five-person group creates an emergency fund, into which clients pay five percent of each loan. Second, at each of Grameen's 65,000 centers, borrowers pay an amount equivalent to 25 percent of total interest due into a center disaster fund. Third, Grameen Bank maintains a \$100 million disaster fund at the headquarters level. But even such extensive advance planning may fail to meet the needs of extreme natural disasters. For the 1998 floods, for example, Grameen still estimates a shortfall of \$100 million to serve 1.2 million affected clients.

(Source: S. Khandker and Khalily, 1996.)

Developing MFI emergency funds is no small undertaking. These funds immediately raise questions of ownership, rights to access, decision-making control, and terms and conditions of deposits and advances. Some client-funded emergency accounts are self-managed by client groups, while others remain in the control of MFI officials. For those managed by clients, funds that bear lower interest rates than standard MFI loans may fall prey to self-serving group members. For funds managed by MFI officials, questions of transparency and use of client funds may arise. In any case, client-funded disaster accounts translate into additional fees or higher interest rates paid by clients.

## **WHAT CAN MFIS DO TO PREPARE FOR FUTURE DISASTER-INDUCED LIQUIDITY CRISES?**

MFIs can take internal steps to mitigate liquidity crises *before* they hit. First, they can strive to diversify geographically, ensuring that they also serve clients in areas less frequently affected by natural disasters. Geographic diversification can allow branches unaffected by disaster to provide bridge funding to affected regions. Second, MFIs can diversify their clientele. MFIs that serve only agricultural clients, for example, are particularly vulnerable to the effects of natural disaster. By serving those involved in more than one sector of the economy, MFIs have a better chance that some clients will weather the disaster more successfully than others. Third, MFIs can examine whether emergencies tend to be seasonal, as they are in the typhoon belt in the Pacific or in the northern districts of Bangladesh. If so, MFIs can plan in advance to have more cash on hand during that period. Identifying seasonal trends also allows an MFI to predict periods likely to show downturns in loan repayments or new loans, both of which affect the MFI's financial projections.

Even if MFIs with more foresight develop emergency funds, post-disaster liquidity problems still will arise for two reasons. First, many MFIs will remain unable or unwilling to maintain disaster funds. It is difficult to make the case that these MFIs should be forced to abandon their clientele when a disaster strikes. This is particularly true for MFIs hit only rarely by natural disasters. Second, even the best prepared MFIs cannot cope with massive natural disasters of the scale seen in 1998. What larger system can be put into place to provide a short-term liquidity safety net to MFIs operating in crisis conditions?

MFIs and donors are now experimenting with the development of disaster loan funds (DLFs), which serve as emergency lenders during large-scale emergencies. DLFs, capitalized by an initial donor grant, hold funds in reserve against natural disasters. When disasters strike, the funds are

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released to MFIs so that they can make loans to households to help them cope with the effects of the disaster. The primary purpose is to meet households' immediate need for cash, not to cover unexpected losses of the MFI itself. DLFs can play a particularly important role for a grouping of smaller MFIs, each one of which may be highly vulnerable to liquidity shortages when disasters strike.

As with most of the best disaster-response tools, DLFs function best when set up in advance of a disaster—and provide very little emergency support when set up in the wake of a disaster. For chronic disaster areas, DLFs are likely to become part of the institutional landscape, serving their function regularly and well. For areas less frequently hit by disasters (as in the case with Hurricane Mitch), DLFs may be difficult to sustain as permanent institutions because political support for a set-aside fund will dwindle when memory of the disaster fades. This is a significant challenge facing microfinance donors and even governments: to protect MFIs against the least-expected natural disasters. For more information on this mechanism, see the MBP paper, "Disaster Loan Funds for Microfinance Institutions: A Look at Emerging Experience" (see Endnote 1).

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## ENDNOTES

- <sup>1</sup> This document draws on information presented in two MBP papers, "Microfinance in the Wake of Natural Disasters: Challenges and Opportunities," by Geetha Nagarajan, 1998, and "Disaster Loan Funds for Microfinance Institutions: A Look at Emerging Experience," by Warren Brown and Geetha Nagarajan, 2000 (both available at [www.mip.org/pubs/mbp-def.htm](http://www.mip.org/pubs/mbp-def.htm) under "Managing Risk"). It also draws from web postings and e-mail discussions on the 1998 Bangladesh flood and 1998 Hurricane Mitch.
- <sup>2</sup> The following anecdotal information was provided by participants at an MBP-sponsored seminar on "Microfinance and Natural Disasters" on December 3, 1998: one MFI reported that its affiliates in Honduras and Nicaragua lost all of its capital reserves; another MFI reported that it lost 40 percent of its lending capital because of the disaster. Whether these comments refer to liquidity shortfalls or long-term losses to the institution remains unclear.
- <sup>3</sup> CARE/Bangladesh, "Effects of Flood 98 on 24 Partner NGOs of CARE," mimeo, October 1998.
- <sup>4</sup> It is unknown whether these savings are voluntary or compulsory.
- <sup>5</sup> The flood began in August 1998 but peaked in September. Looking only at September data, the picture of the 24 NGOs' liquidity crisis worsens: savings liquidity was 32 percent below projections; repayments were 41 percent below projections; and other income was 45 percent below projections.

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- <sup>6</sup> Barua, Dipal, "The Grameen Strategy to Combat the Flood of 1998," presented at the SEEP Network 1998 Annual Meeting, Washington, D.C., October 1998. Notice that these data are for the period during the flood, suggesting that Grameen accessed liquidity sufficient to make these payments within roughly 10 days—a remarkable disaster response.
- <sup>7</sup> Ahmed Salehuddin, "Post Flood Rehabilitation: Microcredit Requirements," Dhaka: PKSF, January 1999. Exchange rate used: US\$1 = 48 taka.