

Maximizing community assets in Indonesia

A Zurich flood resilience program case study



Baseline data gathering in Bukit Duri, South Jakarta, Indonesia

The data we gather in our community flood resilience programs offers valuable insights, including how communities use their existing 'assets' and ways to get more out of what is at hand. A recent visit to our community flood resilience program in West Java on the Ciliwung river allowed us to observe and analyze information telling us more about how communities upstream and downstream interact, which has important implications for flood resilience.

Using community capital to set a baseline

Over the last year, the Zurich flood resilience alliance has been developing a tool to measure flood resilience based on the idea that successful flood resilience depends on how well a community manages and enhances its assets, or 'capitals' – resources that can mean the difference between success and failure.

Our approach is based on the sustainable livelihoods framework which groups community assets into five types of capital: human; social; natural; physical; and financial. (To see more on this approach visit: <https://www.zurich.com/en/corporate-responsibility/flood-resilience>)

Downstream: assessing Bukit Duri's 'capitals'

A visit by our flood resilience team in December 2014 took us to Bukit Duri, a 'downstream' community in the southern part of Jakarta. As is often the case in large cities, run-down housing and facilities sit right next to affluent neighborhoods. Bukit Duri is situated on the banks of the Ciliwung river and it is frequently flooded. The Indonesian Red Cross (PMI) has established a community-based action team or 'SIBAT' here, which is trained to do flood resilience work.

Learning from our approach in Mexico, we have designed questionnaires to collect information to serve as a baseline to measure progress, structured along the lines of the community 'capitals.' This makes it easier to analyse the information and to apply our resilience measurement tool to the data. The information was collected on low-cost tablets, and uploaded to freeware – called 'Open Data Kit' (ODK) – that collates and aggregates the information. Using this approach reduces the risk of transcription errors that often occur when surveys are done on paper.

Besides seeing our survey carried out, we also were on hand to watch as teams of SIBAT members conducted a risk-mapping exercise to mark where facilities, houses, etc., are located and the extent to which these are at risk from flooding.



A 'raft' of rubbish being cleared by the Army in Bukit Duri.

Upstream: how Cisarua uses resources

Cisarua is a small community upstream from Bukit Duri, along the Ciliwung river in the hills above Bogor. It is popular with tourists from Jakarta and the Middle East, especially during holidays and on weekends, and tourism is an important source of income for those living in the area.

Our visit to Cisarua coincided with the start of a 'vulnerabilities and capabilities assessment' (VCA) carried out by new SIBAT recruits. Most of those conducting the survey, with only a little support from PMI staff, were young volunteers who had recently received initial training from PMI. They were able to do the survey with groups from across the community assigned to one of five locations, each conducting different exercises based on the five different capital types.

The data they obtained will be fed into resilience measurement tools, along with baseline data, and will provide a basis for valuable discussions on the projects that could best work within the community to build on its existing assets and enhance resilience.



Rubbish along a river in Cisarua

Identifying how to improve the upstream/downstream relationship

Unlike the areas of Cisarua next to the main road where garbage trucks pass by, those parts of the community along the river deposit rubbish at the riverbank. There used to be a place where it was collected (although where the rubbish went next was unclear) but this system has now broken down. Garbage is simply thrown down the embankment into the river, where much of it is carried away toward communities downstream including Bukit Duri.

During our visit, we saw a self-appointed community 'volunteer' clearing one area of the embankment. This was so that he could plant trees, he told us. But his method involved stripping away all of the roots in the embankment, creating instability and the possibility of landslides. He was also ensuring that all of the waste was finding its way into the river by shoving it back down the bank.

Based on what we saw here, it is clear that poor waste management in Cisarua threatens to erode river banks and make housing along the banks unviable. It also contributes to choking the river with silt and waste. What is dumped into the water flows downstream to Bukit Duri.

Developing a sustainable waste management approach could help tackle the issues that both the upstream and downstream communities face. This is one area of focus that PMI already is actively discussing with community leaders, in order to find ways to best address these problems and improve flood resilience not in just one community, but within the chain that is interconnected by the entire river system.

About the Zurich flood resilience alliance

An increase in severe flooding around the world has focused greater attention on finding practical ways to address flood risk management. In response, Zurich Insurance Group launched a global flood resilience program in 2013. The program aims to advance knowledge, develop robust expertise and design strategies that can be implemented to help communities in developed and developing countries strengthen their resilience to flood risk.

To achieve these objectives, Zurich has entered into a multi-year alliance with the International Federation of Red Cross and Red Crescent Societies, the International Institute for Applied Systems Analysis (IIASA) in Austria, the Wharton Business School's Risk Management and Decision Processes Center (Wharton) in the U.S. and the international development non-governmental organization Practical Action. The alliance builds on the complementary strengths of these institutions. It brings an interdisciplinary approach to flood research, community-based programs and risk expertise with the aim of creating a comprehensive that will help to promote community flood resilience. It seeks to improve the public dialogue around flood resilience, while measuring the success of our efforts and demonstrating the .benefits of pre-event risk reduction, as opposed to post-event disaster relief.

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