

Part 1: The Resilience Pulse

How a WhatsApp chatbot turned soft hunches into harder signals

There's a point in every impact program where good intentions meet the wall: budgets, timelines, and the reality that people don't live inside our questionnaires. Climate shocks don't wait for procurement. Founders can't halt operations for six-month surveys. And yet we (founders, investors, and donors alike) still need to know: *are our companies, portfolios, and their products and services actually helping people become more resilient, or are we telling ourselves a tidy story?*

So we tried something different. We built a short, standardized Resilience Chatbot on WhatsApp, a channel that people already use daily, to collect quick, repeatable signals on how users experience and recover from shocks. No field teams, no interpreters, no clipboards. Just a carefully designed question set focused on five building blocks of resilience:

- **Preparedness:** whether people feel ready for an emergency
- **Recovery confidence:** whether they believe they could rebound within six months
- **Liquidity:** whether they have a short-term savings buffer
- **Credit access:** how easy it is to borrow small amounts when needed
- **Income sufficiency:** whether earnings match basic needs

Each of these can move independently, but together they start to map how financial resilience is built, or lost over time. And while initially deployed as a tool for financial resilience, the chatbot's fast, comparable signals also tell us something deeper: how households experience climate stress - a link we explore in Part 3.

Two pilots, one purpose

The goal was to see whether a short, low-cost tool could surface meaningful signals across very different user groups. We deployed the chatbot twice:

- With Assuraf, an inclusive insurance provider in Senegal, surveying 65 clients out of 548 valid invites (20% response rate).
- With Scrapays, a recycling startup in Nigeria, where 52 agents completed the chatbot.

The two groups could not be more different - one insured, one informal; one steady-income, the other daily-wage. Yet across both, the signals converged, and the pattern was clear. Illness, not floods or fires, was the most common and destabilizing emergency. Preparedness lagged experience: many said they were not ready for their last shock but expected to handle the next one better. Liquidity, ie. a small two-week savings buffer, was a stronger predictor of confidence and satisfaction than income diversity. And the experience of credit, not access alone, mattered most: agents who described repayments as manageable felt far more secure than those who found them burdensome.

The contrast is instructive: Assuraf represents inclusion through protection, Scrapays through income. Yet the same resilience fault lines cut across both: limited liquidity, fragile recovery, and optimism outpacing structure. These repetitions, across sectors and geographies (despite the small sample size), are what make this approach credible. The chatbot doesn't replace evaluation. Rather, it complements it by showing where to look next.

Who we spoke to

At Scrapays, respondents were *collection agents*: independent recyclers who use the platform to collect and sell waste. Most worked in urban or peri-urban neighborhoods and reported irregular daily income, often balancing multiple jobs. More than half (56%) were new to the waste trade, and roughly three in four reported another source of income. For them, Scrapays is not a full-time job; it's a steady income supplement that brings predictability to otherwise volatile earnings.

At Assuraf, respondents were clients of micro-insurance and inclusive health policies, largely low to middle-income households balancing daily expenses and climate-linked risks such as flooding or heat-related illness. Most were urban, French-speaking, and part of small to midsize households (1–6 members). Nearly 40% had experienced a disaster in the past year (most commonly illness), and while 60% said they eventually recovered, three in four admitted they were not well prepared for the next one. Just under half reported being able to manage two weeks of expenses from savings. This gap between exposure and readiness underscores how even insured households face thin financial margins - insurance mitigates loss, but doesn't always build liquidity or preparedness habits.

What the chatbot adds

Traditional surveys still have their place, but they're slow, expensive, and often outdated by the time results arrive. A well-run chatbot, by contrast, delivers three practical advantages:

1. **Speed:** from field to insights in days, not months.
2. **Comparability:** the same indicators tracked across multiple startups.
3. **Transparency:** every figure shows its base (n=), and every limitation is stated.

The trade-off is that it captures signals, not proof. The data are directional, small-sample, and self-reported. But, when the same relationships repeat across contexts, those signals become hard to ignore.

Where it fits

The chatbot now forms the first rung of a learning ladder called *The Resilience Pulse*:

1. **Pulse (chatbot):** fast, standardized signals
2. **Panel:** baseline and six-month follow-up with the same users
3. **Ops joins:** linking survey responses to real transaction data
4. **Experiments:** testing product changes against those indicators

Every deployment follows the same simple protocol: transparent questions, small-N cautions, and respect for data privacy. That discipline keeps the signal credible without slowing teams down. Used together, these tools turn resilience from an abstraction into an operational metric that early-stage startups can actually afford to measure.

Why funders should care

Impact measurement often rewards complexity. The chatbot rewards consistency. One instrument, many startups, and the same constructs. The result is faster feedback loops, comparable portfolio-level insights, and stronger governance at a fraction of traditional cost.

For FSD Africa, Catalyst Fund and BFA Global programs like TECA, this approach has become an entry point for credible, data-driven learning across ventures - especially those at the intersection of resilience and climate adaptation.

The next step was to move from metrics to meaning - from data points to lived experience.

From signal to story

The chatbot worked. But the data only matters if it tells us something real about the people behind it. The next **post** looks beyond the tool to the lives it touched, and what those resilience signals actually reveal.