

INSURANCE TO IMPACT

A GUIDE TO BUILDING RESILIENCE IN A HOTTER WORLD

As global temperatures shatter records, extreme heat has emerged as a silent killer and the deadliest of all climate impacts. It claims more than half a million lives annually, with women disproportionately impacted in all aspects of their lives.

Across the world, women's livelihoods melt away under scorching temperatures. Experience and early science show that their bodies bear unique physiological burdens. Street vendors struggle at their stalls, working pregnant women miscarry, farmers lose crops, and laborers watch their income evaporate as heat limits their working hours. These women are navigating a deadly intersection of livelihood instability, physiological and social vulnerability, and climate change.

Climate Resilience for All (CRA) is a women-led climate adaptation NGO dedicated to protecting the health, income, and dignity of women on the frontlines of extreme heat. Through our **Women's Climate Shock Insurance and Livelihoods Initiative (WCSI)**, we operate across South and Southeast Asia, Africa and the Americas, providing financial protection and adaptation support to hundreds of thousands of women. Read on to discover WCSI's unique, scalable approach, combining parametric heat insurance with complementary measures that amplify impact and drive lasting change for women.



THE SILENT EMERGENCY: EXTREME HEAT

Extreme heat is now one of the world's **most pervasive threats**, yet global systems are still not sufficiently informed, nor well-designed to protect those most affected. While floods and storms trigger visible disaster responses, rising temperatures quietly but devastatingly erode health, income, and dignity.

According to the most recent Lancet Countdown Report¹, **one person dies every minute worldwide from extreme heat** — a figure likely to be significantly underestimated due to incomplete data and reporting. The Intergovernmental Panel on Climate Change (IPCC) warns that by 2100, up to three-quarters of the world's population could face life-threatening levels of heat and humidity², underscoring the urgency of addressing this escalating crisis.

Despite growing recognition of heat as a major hazard, there is a widening protection gap—one that **disproportionately affects women** whose livelihoods often depend on physical labor in heat-exposed environments. Across the world, 772 million women work in the informal economy — running street stalls, farming fields, stitching



Woman selling peppers at the Congo Market in Freetown, Sierra Leone.

WHAT COUNTS AS EXTREME HEAT?

Extreme heat is not just a “hot day.” It is defined as daytime and nocturnal apparent temperatures above the 90th percentile for three consecutive days - a measure that combines both heat and humidity. These conditions can overwhelm the body's ability to cool itself, leading to dehydration, heatstroke, organ failure, and death.

A recent study³ by CRA highlights the alarming rise in nighttime temperatures in cities. The analysis suggests initiatives like WCSI need to take a full 24-hour view when designing and delivering heat resilience interventions.

garments, recycling waste, or providing care — often outdoors or in poorly ventilated spaces. Increasingly, these jobs are becoming unbearable, even deadly.

Empirical evidence and emerging research show that biologically, women experience the effects of heat more severely and at lower temperatures than men. Studies show they are almost four times more likely to be heat intolerant than men, and are more vulnerable to **kidney damage, skin rashes, blisters, urinary tract infections, and headaches**. The impacts are especially dangerous during pregnancy — exposure to temperatures between 28°C and 32°C increases the risk of **miscarriage** by 25%.

The **economic burden on women is also staggering**. Women often bear an extra workload when extreme heat strikes while simultaneously losing income opportunities. The FAO estimates that heat stress widens the income gap between female- and male-headed households by \$37 billion every year⁴. This gender disparity reflects not just biological vulnerability, but systemic inequities that leave women with fewer resources to adapt and recover.

WOMEN: TARGETS OF HEAT, AGENTS OF CHANGE

Without **structured, women-centered protection**, millions of women will continue to bear the brunt of the heat crisis. And yet, as the United Nations notes, “**The climate crisis is not “gender neutral.”**” Women and girls bear the brunt of its impacts, which amplify existing gender inequalities and pose unique threats to their livelihoods, health, and safety.”⁵ At CRA, we know that true climate resilience begins with empowering women and girls, because when they thrive, communities withstand the heat.



Farmer in Gujarat, India

I used the money to buy schoolbooks for my children **instead of taking a high-interest loan.**

- Rameelaban, farmer

This **[WCSI program participation] is affordable. It also brings dignity to us...** Even if the support is small, it gives us satisfaction and happiness. We didn't need more money. We just need some support to bounce back to tell us we are not vulnerable.

- Saroj Ben, grassroots leader

Whilst women face disproportionate risks from rising temperatures, they are also **powerful agents of change**. As household managers, business owners, community leaders, risk managers, and caregivers, women are not only most affected by heat, they are also the key to building resilience for themselves and everyone around them. This has always been CRA's perspective, reflected in our guiding belief: “**When women are climate resilient, we will all be climate resilient.**”

HOW DO YOU PUT WOMEN AT THE CENTER OF HEAT INSURANCE?

Programs offering financial protection for extreme heat, including parametric insurance initiatives, should take a **woman-centered approach**, directly engaging women and reflecting their realities, needs, routines, and responsibilities in the design of insurance policies and complementary activities.

For example, payouts should trigger at the point women's bodies experience serious impacts, and support should drive women's inclusion in the formal financial sector, strengthening independence and self-respect. As women engage in our WCSI program, they gain the confidence and tools to **make decisions, manage finances independently, and take action** to strengthen their own and their families' resilience to rising temperatures.

In the 2024 WCSI group in India of 50,000 women, **11,000 opened or reactivated bank accounts in their own names** while enrolling in a policy with CRA and the Self-Employed Women's Association (SEWA).

A GUIDE TO CRA'S PIONEERING APPROACH

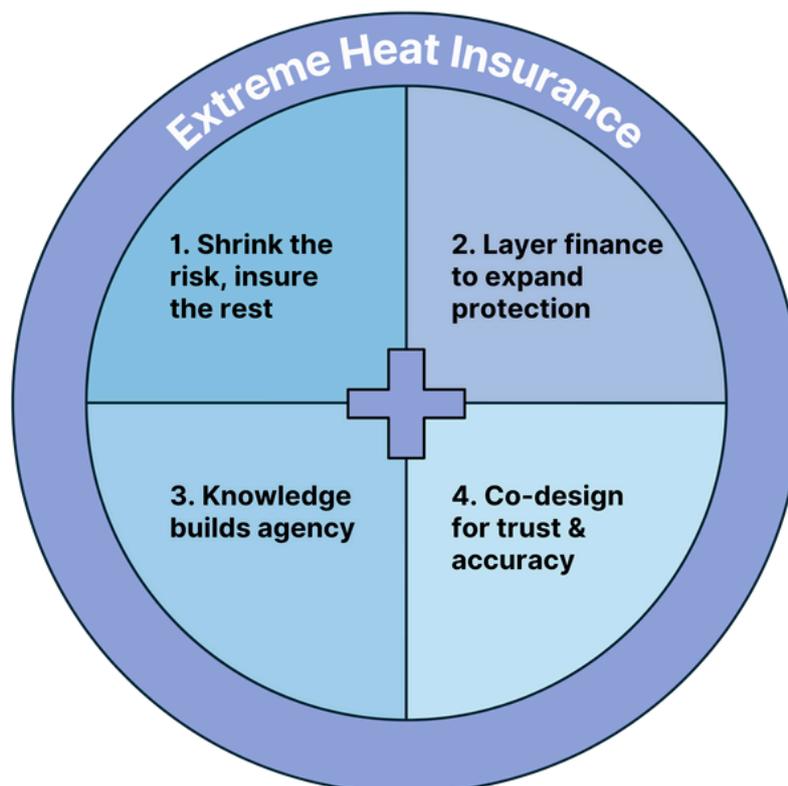
As more actors experiment with climate and livelihood insurance, we want to share our proven approach to help maximise impact and avoid maladaptation. We believe **our model has global relevance** and are rolling it out across diverse contexts, from **Asia to Africa to North America**. The pages ahead unpack the key steps of our approach and our **guiding principles**, with practical examples and stories from the women battling extreme heat.

WCSI has **parametric insurance** at its heart to protect women from extreme heat. This type of insurance pays out a fixed amount when a specific temperature threshold is reached, rather than after time-consuming loss assessments.

Benefits of this type of insurance include:

- Faster payouts – money is promptly released without needing damage assessments
- Transparency – payments are based on clear, objective, pre-agreed data
- Predictability – people know in advance how much they will receive under what conditions, providing assurance and helping them to plan and prepare
- Lower costs – fewer assessments can mean lower overheads and costs

However, parametric **insurance alone is not enough to build resilience** – specific additional components are needed to really drive impact. We have identified four hard-won lessons on what works, which we share here as guiding principles for heat insurance programs to ensure effectiveness and sustainability:



1. SHRINK THE RISK, INSURE THE REST

Insurance and risk reduction should work hand in hand: an insurance program will be most effective if there is also a focus on **shrinking risks wherever possible and using insurance only for what cannot be prevented**. In other words, protection should start with practical measures that lower exposure and vulnerability, with insurance serving as a safety net for what remains. Insurance is for the worst of the worst. This means pairing insurance with **carefully designed risk reduction interventions** that make everyday life safer and prevent harm today, as well as lowering the risk of impacts tomorrow.



Informal women workers participate in a CRA-SEWA co-design workshop

By providing what women want and need now as a complement to any potential future insurance payout, we can reduce physical impacts, build trust, and motivate women to participate in the program.

For extreme heat, this can work in practice by introducing simple but effective tools such as **tarpaulins** for shade, **water flasks** to increase hydration and **protective gloves** for women using metal agricultural equipment. These interventions are most powerful when designed by the women themselves, reflecting their priorities and lived experience.

"Nobody was willing to enroll. They said I was fooling them. Then they got umbrellas... Then 120 vendors enrolled. **Some of them got jugs and umbrellas... Some got 400 rupees, some 800 rupees.** Then they said I was not fooling them."

- Shiva Ben, community leader

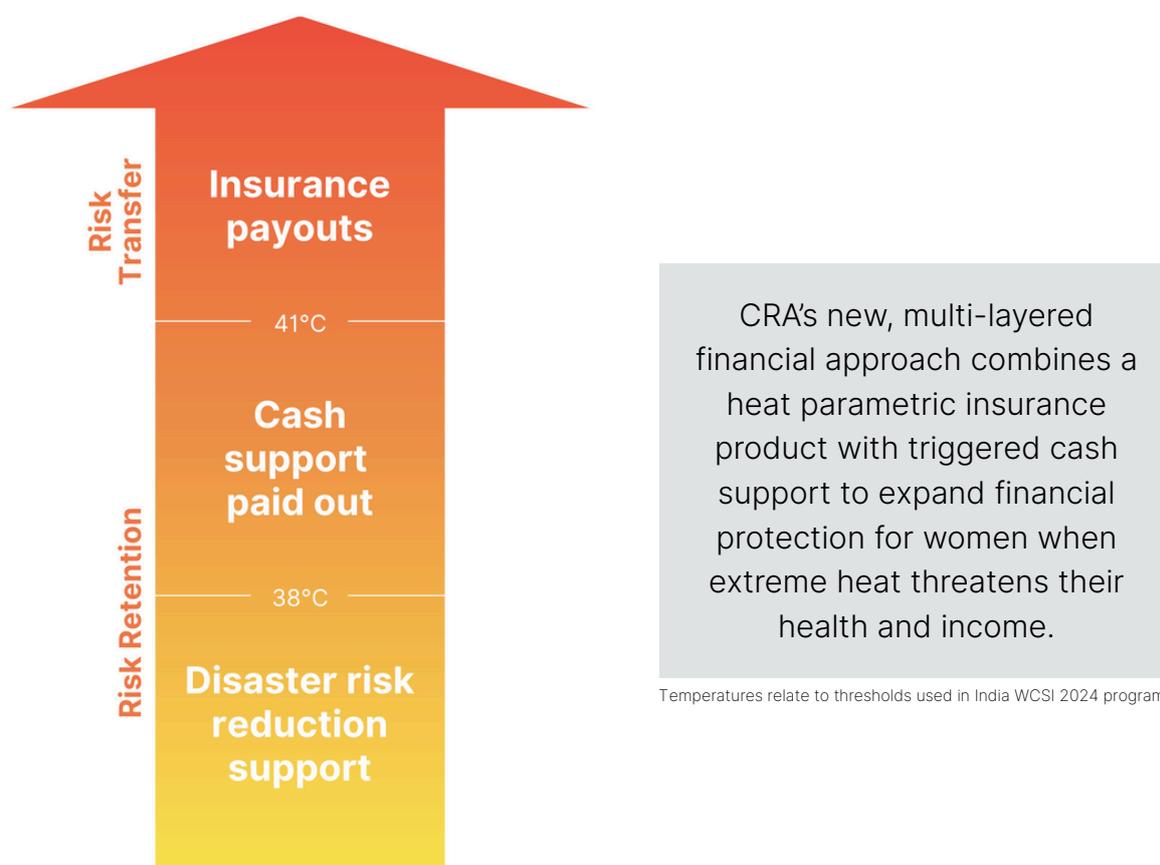
Larger, community investments can have an even greater impact in reducing the effects of extreme heat. For example, we have supported and co-created the development of **Early Warning Systems (EWS) and community cooling and health stations**, helping entire communities prepare for and cope with intensifying extreme heat conditions.

In partnership with SEWA, CRA created a cooling and health station in one of Ahmedabad's largest markets that hosts 5,000 head loaders. The station, located within a storefront, offers a cool place to rest, physiotherapy, a place to store your lunch and a safe washroom for their use. Together, these features create **a safe, dignified, and restorative space**, encouraging regular use and strengthening women's resilience to extreme heat.

2. LAYER FINANCE TO EXPAND PROTECTION

Insurance is most cost-effective when it is used for more severe, less frequent events, yet women still experience real impacts long before temperatures reach the thresholds needed to trigger a payout. To fill that gap, it's important to pair insurance with **other mechanisms that provide earlier, more flexible support**.

In financial terms, this approach is known as **risk layering**. It means taking responsibility for paying for the more common, lower-impact heat events (**risk retention**) while relying on market-based instruments like insurance for the rarer, more devastating heatwaves (**risk transfer**). Together, these layers create a balanced, financially-efficient system that ensures help reaches people across a spectrum of temperatures — from the first signs of stress to the most extreme conditions.



At CRA, we use our own philanthropic grant funding to complement heat insurance, in a carefully layered approach. That means we can provide cash support as soon as rising temperatures begin to affect women's health and livelihoods, rather than having to wait until the higher temperature thresholds at which insurance payouts are triggered. It also means that we can keep premium costs down, by only buying insurance for more extreme temperatures.

We have found this **additional layer of protection builds trust and buy-in through predictable and earlier support**. Women contribute their own resources to participate in the program, so this approach increases the chances that they will recoup their initial investment. Women tell us they value the flexibility and freedom that cash provides. Paid directly into their own accounts, it meets immediate needs, builds financial inclusion, and preserves dignity.

Case Study: Scaling real results for working women on low incomes in India

In 2024, CRA partnered with SEWA, Swiss Re, and ICICI Lombard to test our novel approach with 50,000 women across India, working as agricultural laborers, street vendors, waste recyclers, salt pan miners, and in other heat-exposed and economically vulnerable sectors. We designed the program so that all women would receive cash support once temperatures hit 38°C, paid for by CRA's philanthropic support. 100% of the women received this assistance. 92% received an additional insurance payout when temperatures in their districts climbed to the policy threshold of 41°C, bringing the total distributed to \$600,000.



Salt pan worker in Little Rann of Kutch, India

In 2025, **we scaled the program almost five-fold to cover 225,000 women across 34 districts** in India. The insurance premium costs approximately \$8 per person, with each woman contributing approximately \$3.50 and CRA covering the difference (average daily earnings are approximately \$3). A cooler year meant fewer insurance payouts triggered according to high-resolution temperature data from the Indian Meteorological Department, although over 15% of the women still benefited from \$42,500 distributed across seven districts. Temperatures did reach 38°C in all participating districts, so women received cash support of \$5 each, more than they had originally contributed to participate in the program. The money was paid directly into the women's bank accounts, through direct digital payments, giving them greater control over their finances and autonomy over their lives.

While the money women receive provides a tangible benefit, many describe equally powerful intangible gains: greater independence, being credit worthy in their community, confidence and dignity, as well as a new sense of choice, agency, and belonging within formal systems, often for the first time in their lives.

3. KNOWLEDGE BUILDS AGENCY

For insurance to truly provide protection for women, it must be paired with **knowledge of risk and a clear understanding of insurance principles**. Women need to know both **how heat affects their bodies** and **how the insurance works** so they can make informed decisions, plan, and adapt their behaviour to stay safe. Without this understanding, insurance may replace income during a heatwave, but women could still face life-threatening exposure if they continue working in dangerous conditions.

This is why insurance should always be accompanied by a strong **education and awareness-raising component**. When women understand the health risks of extreme heat — the so-called “silent killer” — and adopt simple adaptation strategies, such as **changing working hours, taking regular breaks, or buying less inventory for their stall**, they gain additional agency to protect themselves.

Equally important is **understanding how parametric insurance functions**: what triggers a payout, what thresholds apply, and situations when a payout would not be made. Many informal workers on low incomes have little or **no prior experience with insurance**, yet once they understand the basics, including the potential for basis risk, confidence grows. Women begin to see that they can safely adjust their work — for example, reducing hours during a heatwave — knowing that the **insurance will reliably and soon cover their lost income**.

By combining education and awareness with financial protection, the approach **turns insurance from a passive safety net into a tool of empowerment and behavioural change**.



Informal women workers participate in a CRA-SEWA workshop in India

“I enrolled 350 members. When they got ₹400 [just under \$5], they said **it was like ₹4000, as it came at a critical time of life...**”

- Jigyasa, SEWA grassroots leader

CRA works globally to raise awareness of the growing, varied, and deadly impacts of extreme heat and educate people on what can be done, including how to build early warning systems, how to deliver adaptive measures, and how financial services such as insurance can help. In communities across CRA's regions, we co-design and run **workshops and community education programs**, carefully tailored to women's daily realities. We build on their existing knowledge and use trusted, familiar information sources and channels to ensure learning is relevant, practical, and easy to apply.



A shipbreaker from Bhavnagar, India, recycling anchor lines

CRA looks at each geography's and partner organization's specific needs, to understand the best combination of digital and financial tools. No single solution can successfully address the challenges. It requires a complementary set of solutions, and the ability for women to easily use them.

"Insurance is not clearly understood. **We need to put educational, digital and financial literacy** into that."

– Reema Nanavaty, Director, SEWA

4. CO-DESIGN FOR TRUST AND ACCURACY

Designing effective insurance for extreme heat means **bringing together very diverse actors as co-creators**. While the principle of **co-design** — developing programmes with affected communities, not just for them — is well established, we have found that **heat insurance reaches its full potential when this collaboration goes even further**. It is essential to draw on a **wide ecosystem of actors**: including informal women workers and grassroots organisers; doctors and meteorological agencies; trade unions, global reinsurers, and national insurance companies alike.



Motorcycle delivery drivers and home-based workers participate in a CRA-HomeNet extreme heat and health workshop in Bangkok

This field is still emerging, and our collective understanding of how heat affects people — and how best to design parametric insurance around those impacts — is evolving rapidly. High-quality, effective products can only be built through **continuous learning and cross-sector collaboration**. For example, in 2024 CRA consulted with doctors and health experts at SEWA, deepening our understanding of how sustained heat exposure affects women’s health. Their knowledge and first-hand experience as medical practitioners prompted a change to the insurance payout thresholds, ensuring the product better matched impacts on women’s bodies.

Engaging women and their communities is essential to ensure that product design truly reflects their lives and is culturally appropriate. Scaling these programmes relies on partnerships with membership organisations and **trusted local networks** that have both **reach and credibility** especially as insurance is often new or unfamiliar. Working with **established local partners**, ensuring **genuine participation**, and **listening carefully to women’s perspectives** all help to foster trust and strengthen ownership.

REACH OUT TO US

The right partnerships are critical. In India, CRA's long-term collaboration with SEWA, alongside Swiss Re and ICICI Lombard, has been central to our success. SEWA's trusted network of grassroots leaders — each supporting around 2,000 women — provides both local insight and scale. CRA is currently expanding to new geographies, including **Ghana, Sierra Leone, Thailand, and the United States**, with similar respected grassroots and community organizations, ensuring each partnership is grounded in **trust and shared purpose**.

Are you implementing a heat insurance program?

We're eager to connect with like-minded organizations working to deliver local community solutions. Please get in touch to explore how we can collaborate.

Do you fund heat resilience programs?

We have major plans for expansion to additional communities and countries. Please get in touch.



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REFERENCES

- [1] The Lancet, 2025: “The 2025 report of the Lancet Countdown on health and climate change: Climate change action offers a lifeline”. <https://lancetcountdown.org/2025-report>
- [2] Dodman, D., B. Hayward, et al, 2022: Cities, Settlements and Key Infrastructure. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.
- [3] Kalkstein, L., Sheridan, S., et al, 2025: “Extreme Heat and the Shrinking Diurnal Range - A Global Evaluation of Oppressive Air Mass Character and Frequency”. Climate Resilience for All.
- [4] The Food and Agricultural Organisation of the United Nations, 2024: “The Unjust Climate: Measuring the impacts of climate change on rural poor, women and youth”. <https://doi.org/10.4060/cc9680en>
- [5] UN Women, 2025: “How gender inequality and climate change are interconnected”. <https://www.unwomen.org/en/articles/explainer/how-gender-inequality-and-climate-change-are-interconnected>