

Bridging Ethics and Technology in Disaster Response:

How the DizRec Platform Operationalizes Humanitarian Principles

A Technical Response to the Call for Ethical Disaster Governance in Jamaica and the Caribbean

Dr. Shaun A. Jones, MBBS, MBA, CHPS

December 2025

Introduction: From Principles to Practice

The scholarly literature on ethical disaster response is unequivocal: affected populations have the right to life with dignity and the right to assistance. The Sphere Humanitarian Standards, human rights-based approaches, and international frameworks like the Sendai Agreement articulate these principles with clarity and moral force. Yet a persistent gap remains between what ethics demands and what disaster response delivers. As the IMF's 2023 working paper "Corruption Kills" documents, this gap costs lives—through diverted resources, weak accountability, and governance failures that leave vulnerable populations without assistance they are entitled to receive.

The DizRec Disaster Relief and Recovery Platform represents a technological response to this ethical challenge. Developed in the aftermath of Hurricane Melissa's unprecedented devastation of Jamaica in October-November 2025, the platform addresses the specific accountability gaps identified in scholarly research on disaster ethics. This article examines how the synchronized operation of DizRec's relief donation interface and disaster recovery coordination system translates ethical principles into operational capabilities—creating what may be the first comprehensive technological framework for ethical disaster governance.

The Accountability Gap: What Research Reveals

Competitive analysis of over forty disaster management platforms globally reveals a striking finding: **no existing solution combines transparent donor-to-victim tracking with real-time government coordination and volunteer connection.** The disaster technology market has matured into specialized silos—emergency operations centers for government coordination, donation platforms for fundraising, volunteer systems for field logistics—but these ecosystems do not communicate with each other.

The consequences of this fragmentation are severe. During Hurricane Maria's aftermath in Puerto Rico, FEMA lost visibility of 38% of commodity shipments—representing \$257 million in resources that could not be tracked from donation to delivery. The U.S. Government Accountability Office documented that six years after Maria, only \$1.8 billion of \$23.4 billion in approved FEMA Public Assistance had actually been spent. These failures occur precisely because donation and

coordination systems operate in isolation, with no mechanism for accountability across the relief chain.

Current platforms exhibit characteristic limitations. Donation platforms like GlobalGiving and GoFundMe collect funds but have no visibility into how government recovery operations deploy them. Emergency management platforms like WebEOC and DisasterLAN coordinate logistics but cannot surface funding needs to donors in real-time. The handoff points where these systems fail to connect are precisely where accountability breaks down—and where corruption, waste, and inequitable distribution flourish.

The DizRec Architecture: Closing the Loop

The DizRec platform addresses these gaps through a synchronized two-system architecture that maintains end-to-end visibility across the entire disaster relief and recovery chain. The architecture comprises two integrated components: a public-facing Disaster Relief Interface for donors, victims, and volunteers; and a government-facing Disaster Recovery Coordination System for multi-agency operations.

The Bidirectional API Integration

The critical innovation lies in the bidirectional API layer connecting these systems. Unlike existing platforms that operate as one-way streets, DizRec enables **relief donations to flow into the recovery side for logistics coordination with full agency visibility, while government-created projects can be funded directly by donors on the relief side.**

This bidirectional flow eliminates the handoff problem where accountability traditionally breaks down. When a donor contributes to a hurricane relief project, that contribution is visible not only to the donor but to the government agencies coordinating recovery logistics. When a government agency, NGO or international partner identifies a reconstruction need—a damaged school, a collapsed bridge, a destroyed community center—that need can be surfaced to donors who can fund it directly with full traceability.

The integration creates a purpose-built public-private partnership mechanism embedded in the platform itself. Large donors—foundations, corporations, diaspora organizations, international development banks—can see verified government-defined needs and fund them directly, bypassing the traditional grant pipeline that requires 6-12 months of bureaucratic processing. This is neither purely governmental allocation nor uncoordinated crowdfunding; *it is a new model that combines the credibility of government-verified needs with the speed and flexibility of direct donor funding.*

Operationalizing Transparency: The Tracking Architecture

The Sphere Humanitarian Standards emphasize that affected populations have the right to information about assistance programs. The Core Humanitarian Standard

requires that humanitarian action be accountable and that affected communities have access to information and can participate in decisions affecting them. DizRec operationalizes these principles through comprehensive tracking that follows resources from donation to delivery.

Donor-to-Victim Visibility

Every donation—whether cash or in-kind—receives a unique tracking identifier that accompanies it through the entire relief chain. Donors can observe in real-time as their contribution moves from receipt through warehouse staging, customs clearance (for international donations), logistics distribution, and final delivery to verified recipients. For physical goods, QR codes enable tracking at each transition point; for cash assistance, the platform records disbursement to specific verified recipients with outcome confirmation.

This granular visibility addresses the trust deficit that research identifies as a barrier to donor engagement. As the scholarly literature documents, many potential donors hesitate to contribute to disaster relief due to uncertainty about where funds actually go. By providing verifiable proof that specific contributions reached specific recipients, the platform transforms donor trust from an article of faith to an empirically demonstrable reality.

Victim Verification and Dignity

The platform's victim registration system balances verification requirements with respect for dignity. Affected individuals register with government-issued identification (Tax Registration Number in Jamaica's case) and document their household composition, specific needs, and location. This information enables matching with appropriate assistance while creating the verification infrastructure that legitimate donors require.

Critically, the system treats affected individuals as rights-holders rather than passive recipients. They articulate their own needs—specifying requirements from general categories to specific items—and can track the status of assistance matched to their profile. This design reflects the IASC's mandate for "direct, responsible, respectful relationships" with affected communities, enabling participation rather than merely reception.

Grant-Style Discipline for Emergency Response

One of the platform's most significant innovations addresses the accountability gap in large-scale recovery projects. Government agencies seeking to surface funding needs to donors must submit structured project documentation including:

- **Project Design:** What is being done and how will it be accomplished?
- **Project Scope:** What are the specific deliverables and beneficiary populations?
- **Project Budget:** What resources are required and how will they be allocated?

This structure embeds grant-style discipline into disaster relief funding without the 6-12 month bureaucratic timelines of traditional grant processes. Agencies cannot

receive funds into a "black box"—they must articulate what they're doing, how much they're doing, and what it costs. The result is that donors fund specific bridge repairs, shelter operations, or medical supply distributions with defined deliverables, not vague "disaster relief" that disappears into general budgets.

For agencies, this discipline improves coordination. Instead of competing for general relief funds, agencies define discrete needs that can be matched to donor capacity. The platform becomes a coordination mechanism as much as a funding mechanism—surfacing needs, preventing duplication, and enabling rational allocation of limited resources.

Addressing the Corruption Imperative

The IMF's empirical research establishing that "Corruption Kills" transforms anti-corruption from a governance preference to an ethical imperative with life-and-death consequences. The NIH study on decreasing corruption in disaster management proposes shifting from "damp-ground" corruption-breeding environments to "sunshine-based" models emphasizing ethics, structure, and transparency. The DizRec platform operationalizes this sunshine model through multiple mechanisms.

Eliminating Opacity

Corruption thrives in conditions of opacity—when resources flow through channels invisible to oversight. The platform eliminates opacity by making every transaction visible to appropriate stakeholders. Donors see where their contributions go. Agencies see what resources are available. Oversight bodies can track resource flows across the entire system. The Jamaica Auditor General's announced real-time auditing of Hurricane Melissa recovery funds becomes operationally feasible because the platform generates the granular transaction data required for continuous oversight.

Structural Accountability

Beyond transparency, the platform embeds structural accountability through its integration architecture. When donations flow from the relief side to the recovery side, they carry accountability requirements with them. Agencies receiving resources must report on deployment; donors receive visibility into outcomes. This reporting reciprocity—if agencies get visibility into incoming funds, donors get visibility into deployment and outcomes—creates accountability feedback loops that persist throughout the relief chain.

Multi-Agency Coordination and Participatory Governance

The Disaster Recovery Coordination System component addresses the multi-agency coordination challenges that complicate disaster response. In Jamaica's Hurricane Melissa response, coordination requirements span ODPEM, National Solid Waste Management Authority, Jamaica Public Service, National Works Agency, Jamaica Defence Force, Jamaica Constabulary Force, Jamaica Fire Brigade, National Water Commission, and numerous other government agencies alongside NGOs and international organizations.

The platform provides a unified dashboard where all agencies can see resource availability, work assignments, completion status, and coordination needs. This visibility prevents the duplication and gaps that characterize fragmented response—where some communities receive assistance from multiple agencies while others receive nothing. Geographic mapping capabilities ensure coverage analysis identifies underserved areas before they become crisis points.

Supporting Community Participation

The scholarly literature emphasizes the transition from command-and-control disaster management toward participatory approaches where affected communities shape response activities. The platform supports this transition by enabling community-level visibility and input. Jamaica's National Zonal Programme for community-based disaster management can interface with the platform, allowing local committees to register needs, track assistance, and participate in allocation decisions rather than merely receiving externally-determined interventions.

The Accompong Maroon Council's decision to decline military involvement in post-Hurricane Melissa rebuilding—asserting community autonomy under the 1738 Peace Treaty—illustrates the importance of community agency in disaster response. A platform that supports participatory governance enables such communities to engage with relief systems on their own terms, accessing resources while maintaining the autonomy that dignity requires.

A New Model for Public-Private Partnership

Traditional public-private partnerships in disaster response operate through formal agreements, lengthy negotiations, and institutional relationships that are difficult to establish in emergency timeframes. The DizRec platform embeds public-private partnership mechanisms directly into its architecture, enabling flexible collaboration without the overhead of traditional partnership structures.

Government Credibility, Private Flexibility

Government-created projects carry institutional credibility that crowdfunded campaigns lack—a trust signal that large donors value. When the National Works Agency posts a bridge reconstruction project with engineering specifications and cost estimates, that project carries government verification that individual fundraising campaigns cannot match. Yet donors retain the flexibility to choose which verified projects to fund, directing resources according to their priorities and values.

This model is particularly valuable for diaspora engagement. Jamaicans abroad who want to support specific communities—their home parishes, their former neighborhoods—can identify verified projects in those locations and fund them directly. The platform transforms diaspora remittances from undifferentiated cash flows into targeted investments in community recovery, with full accountability for outcomes.

Institutional and Corporate Engagement

Foundations, corporate CSR programs, and international development institutions increasingly require the transparency and accountability that the platform provides. Rather than contributing to general disaster funds with uncertain allocation, these institutional donors can identify specific large-scale projects—school reconstruction, hospital rehabilitation, infrastructure restoration—and fund them with the documentation and reporting they require for their own accountability obligations.

The US\$6.7 billion Hurricane Melissa recovery package coordinated by the IMF, World Bank, and regional development banks demonstrates the scale of institutional resources available for Caribbean disaster recovery. Platforms that can provide the transparency these institutions require become essential infrastructure for accessing and deploying such resources effectively.

Protecting Vulnerable Populations

The ethical literature emphasizes that disasters affect populations differentially based on pre-existing vulnerabilities. UN documentation establishes that persons with disabilities face mortality rates 2-4 times higher than the general population in disaster contexts. Gender analyses document women's heightened vulnerability to violence, livelihood loss, and increased care burdens post-disaster. Rawlsian theories of justice argue that resource allocation should preferentially benefit the most vulnerable, even at some cost to aggregate efficiency.

The DizRec platform supports equity-focused allocation through its needs-based matching system. Victim registration captures household composition including dependents, ages, and specific vulnerabilities. The matching algorithm prioritizes critical needs and vulnerable households (children, elderly, women), ensuring that the most severely affected receive assistance before less urgent needs are addressed. Geographic mapping identifies communities that may be underserved, enabling proactive outreach rather than passive waiting for applications.

Cash assistance capabilities—enabled through Caribbean-first payment processing via PowerTranz with Stripe fallback—respect beneficiary autonomy by enabling affected households to make their own decisions about priorities. As the scholarly literature documents, cash programming preserves dignity by treating beneficiaries as capable decision-makers rather than passive recipients of externally-determined assistance packages.

Supporting Climate Justice for Small Island Developing States

Thomas et al.'s concept of "double inequality" captures the fundamental injustice facing Caribbean SIDS: minimal contribution to climate change combined with disproportionate impact and limited recovery capacity. Jamaica's average disaster losses of 2.1% of GDP per event—versus 0.3% globally—demonstrate the structural vulnerability that compounds individual suffering.

While no technology platform can resolve the underlying injustice of climate change's unequal impacts, DizRec supports climate justice in several practical ways. Caribbean-first payment processing ensures that transaction fees and settlement

services retain value within the regional economy rather than leaking to international payment processors. The platform's design for multi-disaster support enables Jamaica and other Caribbean nations to build permanent disaster response infrastructure rather than recreating systems with each new event.

Perhaps most significantly, the platform's transparency capabilities strengthen Jamaica's position in international climate justice advocacy. Demonstrable accountability for disaster resources counters narratives that question SIDS capacity to manage assistance, supporting arguments for increased climate finance and loss-and-damage funding mechanisms.

Regional Scalability: The Caribbean Opportunity

CDEMA's 90% donor dependency and the multi-island coordination challenges facing Caribbean disaster response create ideal conditions for regional platform deployment. The DizRec architecture, while developed for Jamaica's Hurricane Melissa response, is designed for geographic scalability. Location services, agency configurations, and payment integrations can be adapted for any country, enabling deployment across CDEMA member states.

Regional deployment would address the coordination challenges that currently fragment Caribbean disaster response. When hurricanes affect multiple islands—as they frequently do—a unified platform could coordinate assistance across national boundaries, prevent duplication between national responses, and provide donors with visibility across the entire affected region. This represents the kind of regional solidarity mechanism that Caribbean integration frameworks envision but have struggled to operationalize.

Comparative Analysis: DizRec vs. Existing Solutions

The following comparison illustrates how DizRec addresses gaps in existing disaster management platforms:

Capability	Existing Solutions	DizRec Platform
Donor-to-Victim Tracking	None offer granular tracking	Full visibility from donation to verified delivery with QR tracking
Donation + Coordination Integration	Separate ecosystems; requires switching between systems	Bidirectional API connects relief donations with recovery logistics
Multi-Agency + Donor Visibility	No combined transparency mechanism	Unified dashboard for agencies; reporting reciprocity for donors
Project-Based Funding	General fund donations; organizational-level tracking only	Government-verified projects with design, scope, budget requirements
Volunteer-Victim-Donor Connection	Crisis Cleanup connects volunteers-victims; donation layer missing	Complete three-way matching with skill-based volunteer deployment

Capability	Existing Solutions	DizRec Platform
Public-Private Partnership	Requires formal agreements; slow to establish	Partnership mechanism embedded in platform architecture
Regional Payment Processing	International processors with value leakage	Caribbean-first processing (PowerTranz) retains regional value

Conclusion: Technology in Service of Ethics

The scholarly research on ethical disaster response establishes clear principles: dignity, participation, transparency, accountability, equity, and respect for community autonomy. The DizRec platform demonstrates that these principles can be operationalized through thoughtful technology design. By connecting donation transparency with government coordination, embedding accountability mechanisms in system architecture, and enabling participatory engagement by affected communities, the platform translates ethical imperatives into practical capabilities.

Hurricane Melissa's devastation has created both urgent need and an opportunity to demonstrate that disaster response can be done differently—that transparency is achievable, that accountability can be maintained even in emergency conditions, and that affected communities can be partners rather than merely recipients. The DizRec platform provides the technological infrastructure for this vision, offering Jamaica and the Caribbean a path toward disaster governance that honors both the urgency of humanitarian need and the dignity of those it serves.

The platform is not a complete solution to the ethical challenges of disaster response. Technology cannot substitute for political will, institutional capacity, or genuine commitment to the welfare of affected populations. But technology can create conditions that make ethical behavior easier and unethical behavior harder—providing transparency that deters corruption, accountability mechanisms that reward performance, and participation channels that amplify community voice. In this sense, DizRec represents not merely a software platform but a contribution to the ongoing project of building disaster governance systems worthy of the populations they serve.

"Every dollar spent, every aid given, every commitment made, will be used in a way that quickly advances the recovery." — Prime Minister Andrew Holness, November 2025

The DizRec platform provides the infrastructure to make this commitment verifiable—transforming aspiration into accountability, and ethical principles into operational reality.

References and Further Reading

Jones, S.A. & Lemard-Marlow, G. (2025). An Ethical Approach to Post-Disaster Relief, Response and Recovery: A Case for Jamaica. [Scholarly article]

IMF Working Papers. (2023). Corruption Kills: Global Evidence from Natural Disasters. IMF eLibrary.

Sphere Association. (2018). The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response (4th ed.).

U.S. GAO. (2024). Puerto Rico Disasters: Progress Made, but the Recovery Continues to Face Challenges (GAO-24-105557).

Thomas, A., et al. (2016). Climate Justice and the Caribbean: An Introduction. Geoforum.

IASC. Humanitarian Programme Cycle Reference Module. Inter-Agency Standing Committee.

Berke, P.R. & Beatley, T. (1993). Hurricane Gilbert strikes Jamaica: Linking disaster recovery to development. *Coastal Management*, 21(1).

Donor, Victim, Partners & Volunteer Visibility Platform: Disaster Response Global - <https://drglobal.org>

Government Multi-Agency Coordination Platform - <https://dizrec.com>