Project Description/Goals

Networks In Transition from Response to Recovery following the Haiti Earthquake, 1/12/2010

- Characterize the initial conditions prior to the earthquake in Haiti and document the transition from response to recovery, noting critical points of decision in transition from response to recovery.

- Identify the interdependencies among international, national, provincial, and local organizations that facilitate, or inhibit coordinated action in recovery.

- Produce a documented set of network analyses to show patterns of interaction among the system of international, regional, national, and local organizations that emerged following the January 12, 2010 earthquake.

- Offer insights into the processes of recovery and sustainable development for communities exposed to recurring hazards and risk.
Initial Findings

- Mismatch between design, expectations of UN cluster system and technical capacity, experience of Haitian organizations
- No building codes or coordinated mechanisms to ensure safe construction, water, sanitation
- Insecurity in IDP camps with women and children most at risk.
- Lack of basic health care, diagnosis, monitoring, access to vaccines for children, adults
- Centrality of building the ‘rule of law’ to enable government functions
- Lack of trained teachers, curriculum design, monitoring, evaluation of educational performance
- Need to build knowledge/information infrastructure to support interdisciplinary learning.
Assessing Community-Scale Disruption and Restoration of Basic Needs in Post-Earthquake Haiti

**Aim:** to understand community-level disruption through integration of multiple data sources – field interviews (communities, NGOs, local government), field reconnaissance & remote sensing.

**Field deployment:** 6-16 May (8 people)

1) **Disruption**

2) **Damage (remote sensing):**

   - Damage dataset from GEO-CAN post-disaster damage assessment was used.
   - Damaged buildings were individually assessed in early recovery imagery captured to coincide with field visit.
   - Constructed recovery scale was used to describe physical changes that had taken place since January.
Results: Disruption

**a. Pre- to Post-earthquake trend**

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<th>Community</th>
<th>Drinking water</th>
<th>Energy</th>
<th>Sanitation</th>
<th>Education</th>
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Average: -1.9, -2.4, -1.7, -3.0, -1.4, -3.1, -1.6, -1.6, -0.4, 0.6

**b. Post earthquake to May 2010 trend**

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Average: 1.4, 1.4, 0.6, 1.4, 2.1, 0.4, 0.9, 0.4, -0.4, -1.3, 1.0

Results: Early recovery of damaged structures

- Rebuilt differently
- Rebuilt same
- Under construction
- >50% debris removed
- <50% debris removed
- Demolished & not cleared
- Unchanged

General Insights:

- Only moderate levels of basic services in pre-event Haiti.
- Earthquake was not a discrete event. Set against backdrop of political, environmental & meteorological insecurity.
- “Disruption” does not adequately capture adaptation. A society of coping exists in Haiti.
- Consequences from the earthquake may be deferred (e.g., immediate food provision may lead to less long-term food security).
- No initial relationships between damage and disruption. This requires further investigation.
Cross Cultural Analysis of the Disposition of Unidentified Bodies

• This research aims to improve understanding of disaster behavior and operations
• It seeks to produce new knowledge about the disposition of unidentified bodies in catastrophes
• The study will compare cultural and practical responses to mass fatality events
• The research will generate important recommendations for mass fatality management
Initial Findings

• Many of the deceased are located in damaged buildings to this day
• Others have been recovered and removed by family members, contractors or the government
• Bodies were taken to morgues, hospitals, mortuaries or piled in the street, in parking lots or in open spaces
• Citizens doused bodies in gasoline and set them on fire due to the unbearable smell and slow governmental response
• Although there were exceptions, most of the bodies were buried in mass graves
• The government collected corpses and dumped them in trenches in Titanyen
• Little or no effort was given to identification and forensic analysis
• Common rituals and prayer occurred at the time of disposition by family members or one month later at Titanyen
• More studies are needed, but access to information is carefully guarded
• Planning for mass fatalities is imperative
Project Description/Goals

RAPID Project: Investigation on the Comparative Performance of Alternative Humanitarian Logistic Structures

Principal Investigators: José Holguín-Veras (Rensselaer) and Tricia Wachtendorf (University of Delaware)

Key Collaborators: Lucia Velotti and Jenniffer Santos-Hernandez (University of Delaware), Miguel Jaller (Rensselaer), Natacha Thomas (University of Rhode Island)

Key Goal: To Study the Performance of Alternative Logistic Structures

Key Objectives: (1) Identify typology and basic features of the alternative humanitarian logistic structures that emerged; and (2) Gather insight into effectiveness, positives/negatives, manpower provided, coverage/extent of operations

Based on: Eight trips to Haiti/Dominican Republic/Florida; formal and informal interviews with individuals directly involved in the logistical response
Initial Findings: Immediate Impacts

- The earthquake severely disrupted the centers of power (Government, United Nations, Catholic Church) and in doing so posed a huge obstacle to aid efforts that did not have alternative paths to distribute critical supplies.

- Two structures emerged: Agency centric efforts, Collaborative multi-agent

Diagram:
- Foreign aid flowing directly to Port au Prince
- Physical and social links with local distribution networks were severely disrupted
- Aid arriving from the rest of Haiti and Dominican Republic
- Local physical / human distribution network
- Entry points

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## Initial Findings

### Agency centric efforts

Efforts of large foreign aid agencies were hampered by:

- **Lack of suitable interlocutors**: the earthquake impacted the centers of power, thus removing their natural partners
- **Difficulties in articulating efforts with locals**
  - Could not find enough manpower and trucks (list of truckers was created two weeks after the disaster)
  - Lacked local knowledge needed for widespread effort
  - Faced numerous security problems
- **Very few points of distribution (PODs) in place**
  - Trying to deliver aid to tens of thousands
    - Instability at some PODs, helicopter drops
  - Some had to walk miles to get aid
  - Structural inertia made it difficult to adjust
  - Earthquake survivors forced to choose between maintaining social ties by staying near their destroyed homes or moving to camps to better position themselves to receive aid

### Collaborative multi-agent

Created for another purpose, extended to humanitarian aid:

- **Highly decentralized and redundant networks**, with thousands of individuals in Haiti/DR (the networks survived the earthquake)
- **They are locals**, knew and trusted the others
  - Found all the trucks, drivers, and helpers needed; and had manpower to man points of distribution (PODs)
  - Geographically distributed and with local knowledge
  - No security problems (protected by locals)
  - Enjoyed the trust of the population
- **Their coverage enabled them to organize the population**, engage their support in aid distribution, and deliver to small groups of people in coordination with local community leaders
Initial Findings

- American *national* messaging efforts to discourage material donations (particularly in the form of clothing) were immediately clear, specific, and provided alternatives. Meanwhile, very *local (U.S.) emergent efforts* still frequently undermined national messaging by requesting clothing donations.

- Although a wide range of donation efforts emerged in Florida, many eventually funneled good to a small number of organizations ultimately responsible for foreign transport, some emergent with strong representation from the Diaspora, while others had long-standing and trusted experience with Haiti development or disaster relief.

- Emergent organizations consisting primarily of members of the Haitian Diaspora directed aid not only to areas heavily impacted by the earthquake, but also to non-damaged communities beginning to see an influx of post-disaster evacuees.
RAPID: Collaborative Research: Identification of Key Dynamics for Optimal Distribution and Sustainable Partnership in Haitian Disaster Recovery

Objectives
• Identification of significant trends in inter-agency partnerships
• Development of framework for resource flow
• Development of metrics for comparison of response efficacy

Methods
• Survey and network development with Texas Task Force 1
• Research trip in Haiti (June 21st-July 17th) working in Port-au-Prince at New Life Orphanage to:
  • Establish credibility
  • Expand Network
• Interviews with 18 agencies

Research Team
• Mr. John Coles, Graduate Student (Traveler), Texas A&M University
• Dr. Justin Yates, Assistant Professor, Texas A&M University
• Dr. Jun Zhuang, Assistant Professor, University at Buffalo

Award #1034730 and #1034740
Initial Findings

• Partnerships between local actors and international actors are viewed differently by the two agencies
  • Stability
  • Necessity
  • Utility

• Agencies performing response and recovery operations tend to rely on
  • Active partnerships
  • New contacts

• Commodity pricing
  • Heavily influenced by partnerships
  • Provides an unbiased technique to analyze partnership efficacy

• An agency’s involvement prior to the earthquake heavily influenced the level of involvement after the earthquake