

**Local responses to disasters
in Peru and Puerto Rico:
An approach from Zero-Order Responders
(ZORs)**

Fernando Briones
Consortium for Capacity Building
INSTAAR

From victims to responders in DRR/DRM

- During disasters there is a window of time **before** official and/or **external support** arrives.
- During this period, affected people **must act** unsupported by first responders, devising **self-coping strategies** in order to **survive**.
- In the days, weeks and months following a disaster, local populations are still facing **recovery by their owns**: the actions and experiences of people pro-acting to pave fruitful futures is valuable commentary on improvements for disaster risk reduction and management.

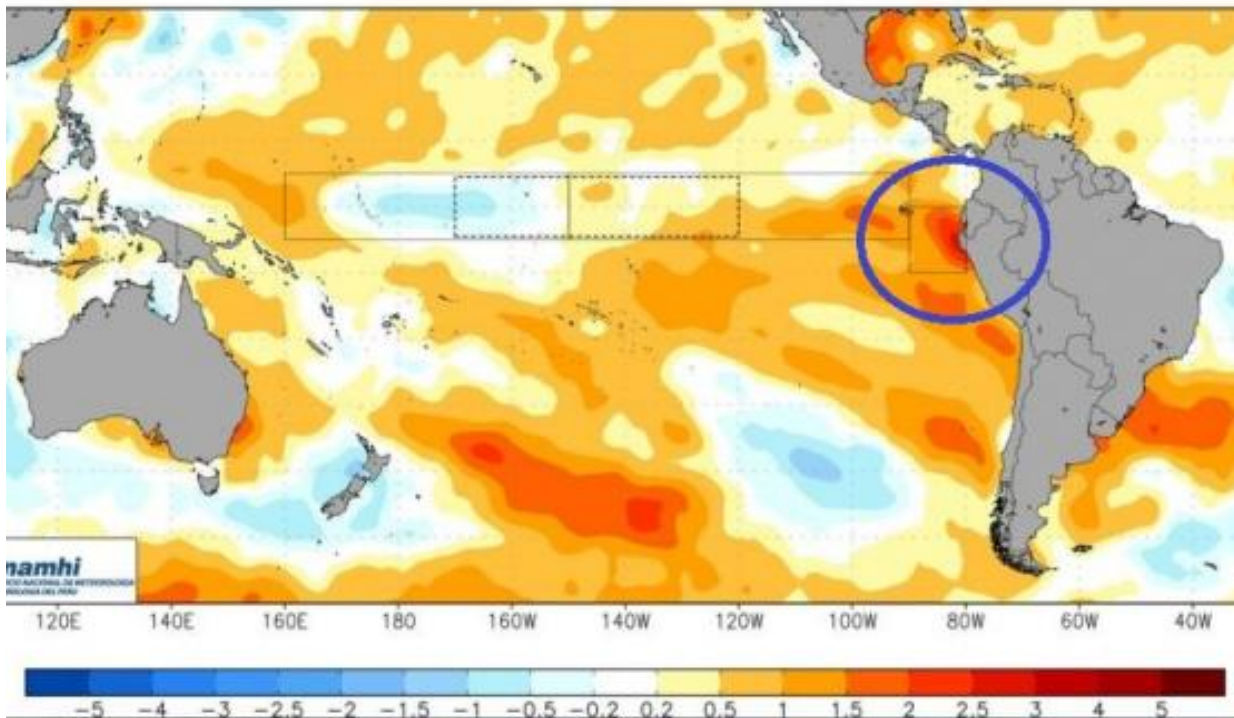
- Disaster-affected people are usually identified as **surviving victims**. This idea can insinuate that they are populations **passively waiting for assistance**.
- As victims, outside organizations and governments tend to ignore their capacities to **cope**, **improvise** and **be creative** to survive and recover. This is to their detriment – for these skills are valuable resources to advance DRR and DRM.
- Here we redefine living victims to be ZORs – valuable actors in DRR and DRM.

Approach

- To support this concept, we review two extreme hydrometeorological events, illustrating how local populations cope with disasters during the period before external support arrives.
- The empirical evidence was collected by direct observations during the 2017 El Niño Costero-related floods in Peru, and by the review of press following 2017 hurricanes Irma and Maria destruction in Puerto Rico.

Lessons from El Niño Costero, Peru 2017

Reynolds — ANOMALIA DE LA TEMPERATURA SUPERFICIAL DEL MAR (°C) — CLIMATOLOGIA (1981 — 2010)
Febrero de 2017



- The **extraordinary** rains of March 2017 have been attributed to “**El Niño Costero**”.
- The heavy rains have affected the Peruvian coastline, causing more than **100 casualties**, affecting **1 million people** and gravely damaging national infrastructure.
- **3 billion USD** in economic losses.

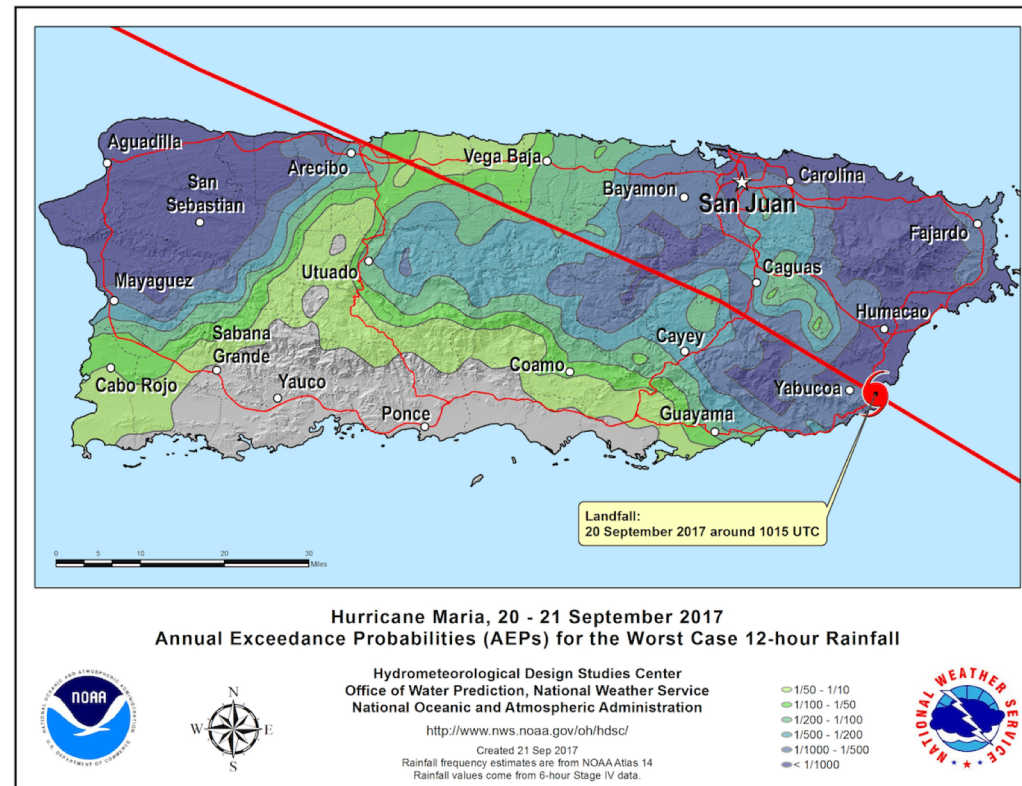
Situation	ZOR actions	Lesson learned
-Extraordinary heavy rains. Lack of clarification and Early Warning.	-Local populations in vulnerable places choose to stay in their house or to leave.	- In risk situations, people's decisions made with immediate and long-lasting needs in mind.
-Flashfloods and landslides.	-Families leave their houses to looking for shelter with relatives. In some cases men stay near home to ensure security.	- Families and neighbors are perceived as the first line of support during emergencies. Community traditions and norms define the hierarchy of pro-action.
-Damaged and destroyed houses.	-Family leaders returned back to their houses to clean up and rebuild.	- Local population rely on personal expertise, skills and resources.
-Damage community infrastructure.	-Locals improvised to produce electricity and procure gasoline.	- Local volunteers with skills and expertise (e.g. electricians) dole out charge for damage repair.
-Local population displacement to refugee camps.	-Local communities self-organized refugee camps. Partial help came from first responders (tents form municipalities and food supplies form civil society). -People organized their camps by task sharing: cooking, child care, camp management and energy production.	-Social cohesion and local organization are the foundation for resource management and duty assignment during disasters.



Affected **people** for flashfloods in Lima Metropolitan Area, April 2017 .

Photos: Fernando Briones.

ZORs lessons from 2017 hurricane season in Puerto Rico



Situation	ZOR actions	Lesson learned
Back to back hurricanes demolishing the already prone electric power grid.	Individuals and small business inverted direct current from cars to alternated current to run small appliances.	Improvisation is used by ZOR to met primary and secondary fundamental needs.
High rains, winds and landslides wiped out community infrastructure.	Transportation of hard goods across impassable rivers was rigged by suspended shopping carts on high-tension ropes.	When pre-existing DRR infrastructure is lacking ZORs immediately innovate to fill in the gaps.
Communities become isolated from FR and FEMA. In some cases for months.	Without potable water communities tapped mountain streams and boiled resulting water for sanitation.	Threats to community resources are resolving by individual creativity founded upon community-first values.

Findings and discussion

- ZORs are **not hapless victims**. They partake in the survival process because they are **forced to take actions** to protect their families and neighborhoods. The titling of surviving victims as ZORs formalizes the recognition of their non-formal and professional expressions of disaster management. Above and beyond working within preexisting DRR programming, they are wielders of **improvisation** and **creativity**. This shift in framing acknowledges that ZORs interact with DRR resources and how they do this is a guiding factor in future DRR development.
- The local communities know their environments; and when acknowledged and brought into DRR and DRM development planning they will be empowered to take more **informed, trusted** and **effective responses**.

ZORs, an underutilized resource in DRR/DRM

- They are the true end users, leveraging all resources in worst-case scenarios. This makes them probably the closest and most authentic test of programs. Individuals limited by cellphones without signal, lack of running water or dysentery outbreaks, will react to use what is in place through the lenses of their priorities and **knowledge**, and their understanding and appreciation for infrastructure in place.
- As much as infrastructure or lines of information flow are critical resources in reducing community risk to hazardous events, ZORs command **creativity, improvisation, and resilience** during recovery. Their approaches could inform workshops dedicated to training communities in calculated improvisation in situations of duress.
- The inclusion of ZORs in the host of essential DRR/DRM stakeholders formalizes the integration of community perspectives in the pursuit of **more effective disaster risk management programs**. Many of the bottlenecks or limitations of preemptive actions to reduce community vulnerability to hazards could be sidestepped at least to some extent by the advanced assimilation of ZORs perspectives and knowledge.