DATA-DRIVEN INNOVATION

Leveraging the Data Revolution for Peace and Justice

Thomas Baar (Centre for Innovation, Leiden University)

Suzanne van Huijgevoort (Centre for Innovation, Leiden University)

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HUMANITY

COMPLEX SOCIETAL CHALLENGES

Learning Objectives

Introduction : Complex Societal Challenges

- *Differentiate between simple from complex and/or wicked challenges;*
- *Identify and analyse a complex societal challenge;*
- *Recognise how to confront complex societal challenges.*

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(BIG) DATA, BIG PROMISE

Learning Objectives

- *Appraise the concept of (Big) Data and identify its components;*
- *Assess the challenges in applying new types of data for confronting complex societal challenges within the domain of peace and justice;*
- *Recognise and explain the potential of the data revolution for peace and justice.*

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DATA-DRIVEN INNOVATION FOR NGO's

Defining Data-Driven Innovation

SYSTEMATIC LITERATURE REVIEW

"Data-Driven Innovation is about finding new ways to use data and analytics to inform decision making, improve organisational processes and create new methodologies for solving (global) challenges."

SEMI-STRUCTURED INTERVIEWS

additional aspects :

(1) service provision

(2) organisational change

(3) data governance

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BARRIERS OF INNOVATION

From ideas to action

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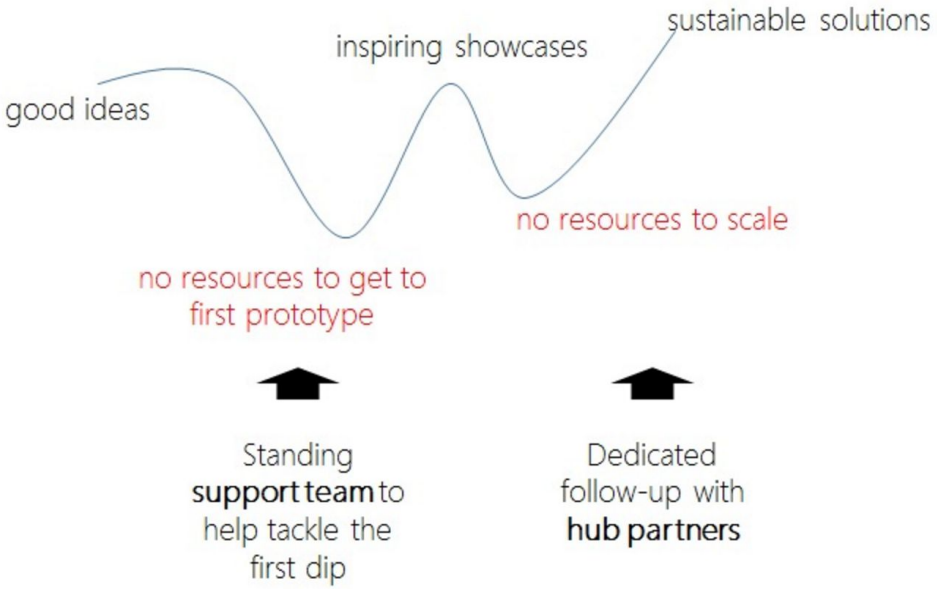
BARRIERS OF INNOVATION

From ideas to action



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AREAS OF INNOVATION

Potential for Innovation

	collect	*analyse*	*dispatch*
practitioners			
algorithms			
crowd			

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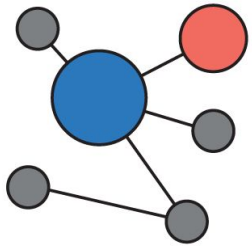
HUMANITARIAN DATA EXCHANGE

UN OCHA



HDX
Humanitarian
Data Exchange

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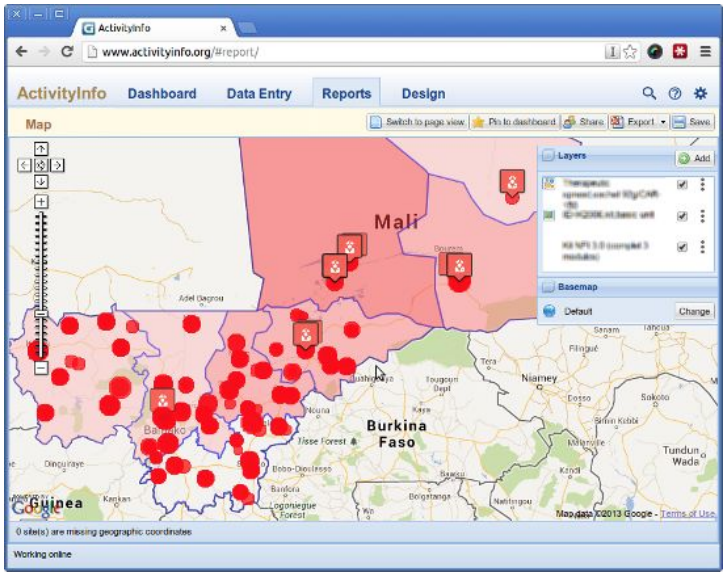
ACTIVITY INFO

Multiple



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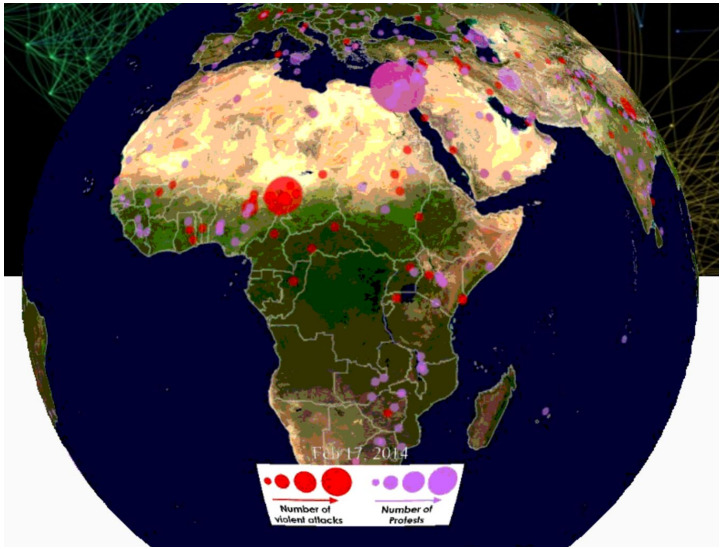
GDELT

Events Database



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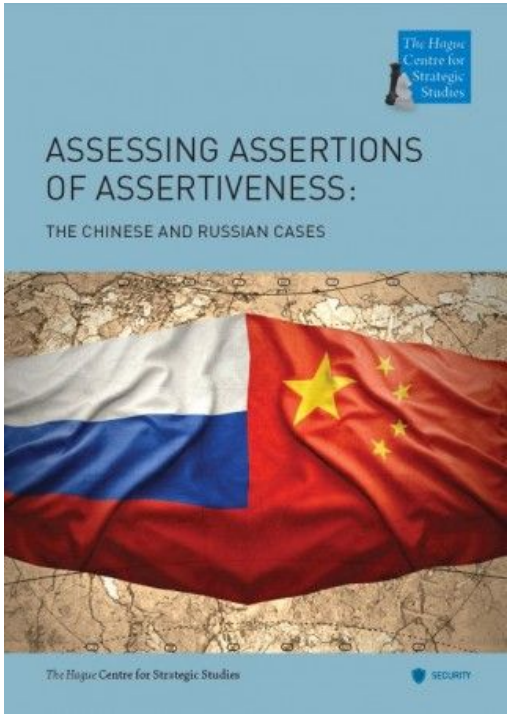
ASSESSING ASSERTIONS OF ASSERTIVENESS

GDELT;

Hague Centre for Strategic Studies



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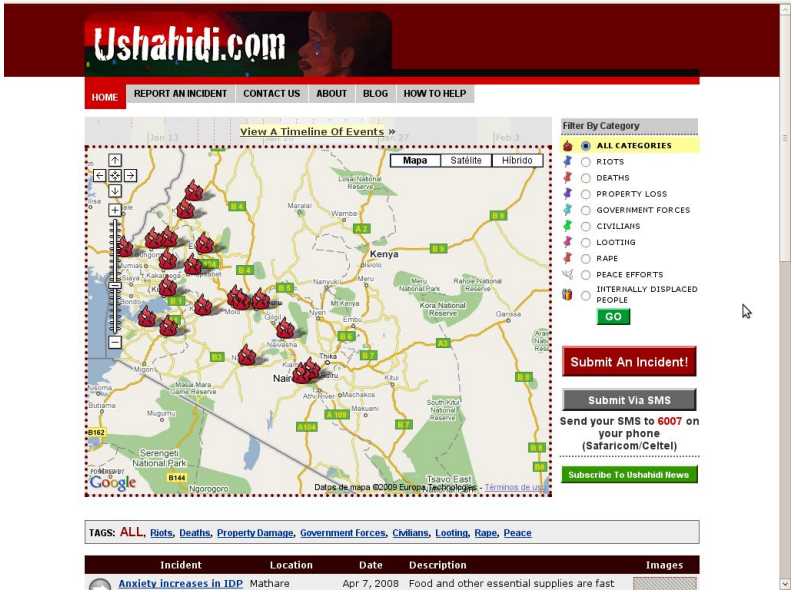
USHAHIDI

Kenya (2007)



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VOIX DES KIVUS

DR Congo

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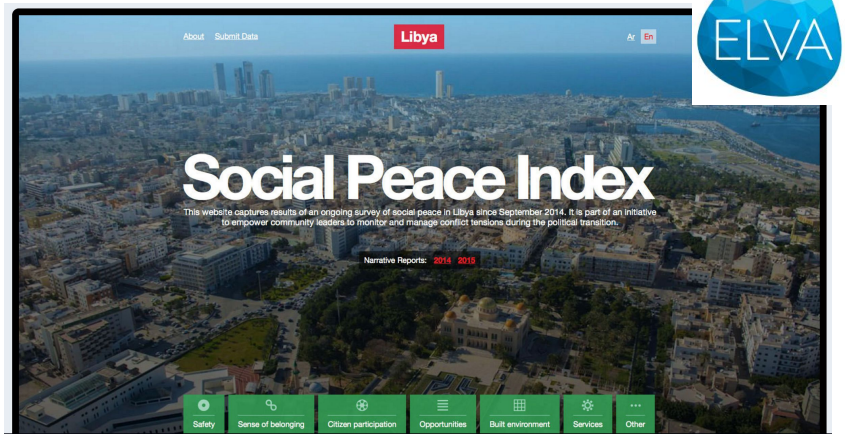
ELVA

Multiple Countries



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SISI NI AMANI

Kenya (2013)

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DIGITAL HUMANITARIANS

e.g. Haiti Earthquake

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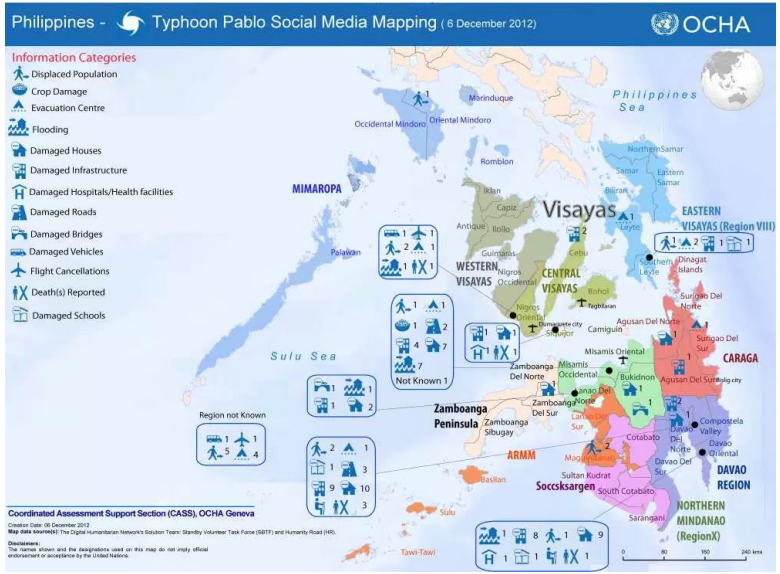
DIGITAL HUMANITARIANS

e.g. Pablo, Philippines (2012)



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DATA 4 DEVELOPMENT

Ivory Coast;
Senegal

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NEPAL EARTHQUAKE

Flowminder

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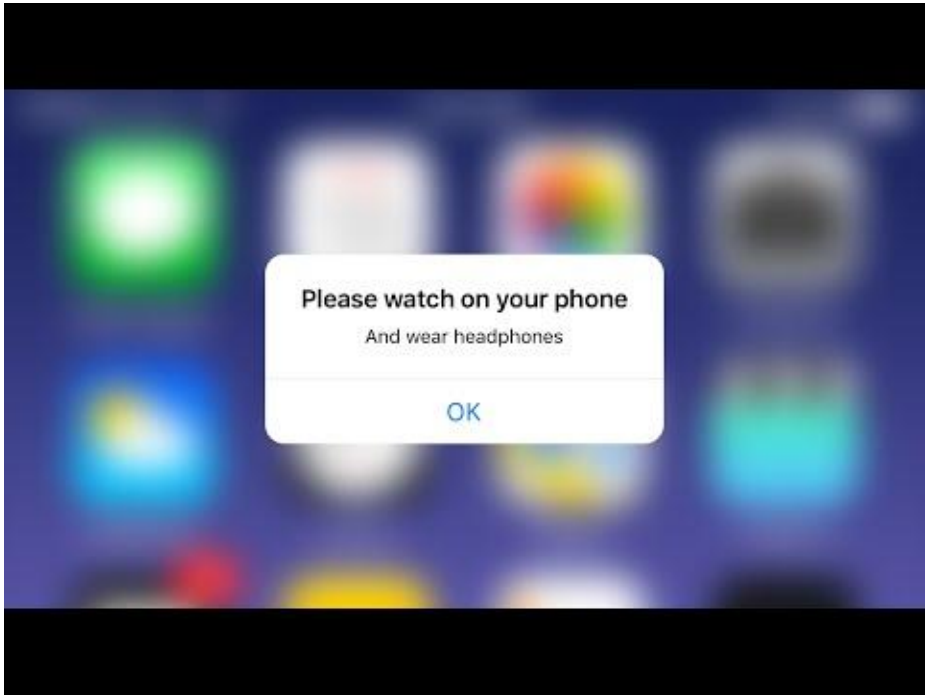
REFUGEE CRISIS

BBC Media Study



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GETTY

THE BIGGER PICTURE

World Press Photo;
Centre for Innovation (LU)

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CHALLENGES

Data-Driven Innovation

1) *What is the information need? (focus)*
   a) *define your challenge*
   b) *ask questions*

2) *Where does data come in? (potential)*
   a) *identify available data sources*
   b) *alternative / new types of data*

3) *How to apply Data-Driven Innovation? (operationalisation)*
   a) *benchmark*
   b) *9 areas of data-driven innovation*

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CHALLENGES

Data-Driven Innovation

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   a) *benchmark*
   b) *9 areas of data-driven innovation*

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HUMANITY X

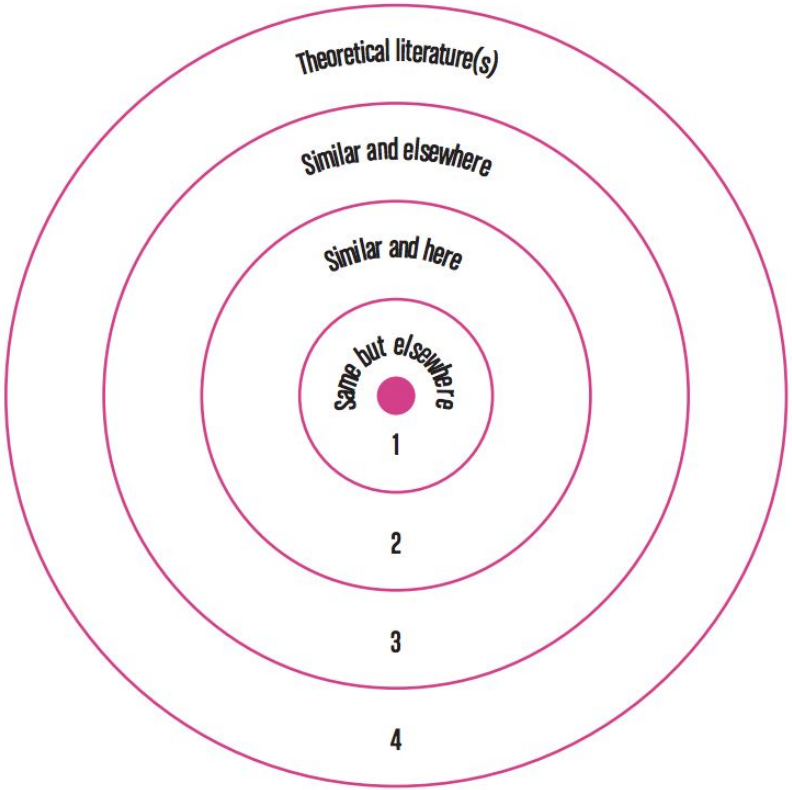
BENCHMARKING

SAME BUT ELSEWHERE
Situation with a comparable analytical value (e.g. retail stores in different sectors)

SIMILAR AND HERE
Not same, but similar activities within your community or location (e.g. online retailers in The Hague)

SIMILAR AND ELSEWHERE
Activities with good reputation in a related field (e.g. best practices in retailing)

THEORIES, LITERATURE
Theoretical underpinnings of the problem at hand (e.g. shopping behaviour)



Suggested reading: De Spiegeleire, S. (2006) Towards a Benchmarking Methodology for Defence. TNO- DV 2006 C345. December, 2006

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An Earthquake's Aftermath

Daniel Berehulak (New York Times)

May 9, 2015

A helicopter delivers aid to villagers 100km northwest of Kathmandu, in Gumda, Nepal.

Just before noon on 25 April, a 7.8 magnitude earthquake struck northwest of the Nepalese capital Kathmandu, followed by a series of severe aftershocks. More than 8,000 people were killed, and some 21,000 injured. Homes, buildings and temples were destroyed in the capital, but rural mountainous districts were hardest hit. Although relief teams arrived from around the world to assist, people in remote villages - rendered inaccessible by the earthquake - had initially to fend for themselves. Across the region some 2.8 million people were made homeless.

HUMANITY X

CONFLICT IN SYRIA

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Aftermath of Airstrikes in Syria

Sameer Al-Doumy

December 9, 2015

A man pushes his bicycle past debris following airstrikes in Hamouria, Syria.

The city of Douma in Syria lies in opposition-held Eastern Ghouta, an agricultural area on the outskirts of the capital Damascus. Douma and other small towns in Eastern Ghouta came under heavy shelling and bombardment. Responsibility for the attacks was difficult to verify.

The UN Office for the Coordination of Humanitarian Affairs says that parts of the region had been under continuous siege by government forces since 2013, resulting in severe shortages of food and medical supplies. People fleeing the attacks, and the deprivation caused by the siege, joined the millions of internally displaced people within Syria and the 4.6 million registered refugees abroad.

HUMANITY X

POLICE VIOLENCE IN USA

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March Against Police Violence

John J. Kim

November 25, 2015

Lamon Reccord stares down a police sergeant during a march against police racial violence.

Protests had taken place almost daily after the release of a police car dashcam video showing 17-year-old Laquan McDonald being fatally shot by a Chicago police officer. McDonald, who was armed with a knife, was shot 16 times by the officer, who said he feared for his life. The protest was one of a number that occurred throughout the year, following episodes elsewhere in the country where police were accused of using excessive force against black men, often involving fatal shootings.

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MH17 CRASH IN UKRAINE

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Crime Without Punishment

Jerome Sessini (De Standaard)

July 18, 2014

A bare patch in a wheat field marks where a victim fell to earth, when flight MH17 crashed.

Malaysia Airlines flight MH17, traveling from Amsterdam to Kuala Lumpur at a height of 33,000 feet (10,058 meters), crashed into the countryside in eastern Ukraine, in rebel-held territory near the Russian border, on 17 July. All 298 people on board were killed. Evidence began to emerge that MH17 had been brought down by a missile. According to experts, an SA-11 surface-to-air missile of the sort allegedly supplied to the rebels by Russia, was the only weapon capable of such a range, although some suggested a Ukrainian military plane had been involved. Ongoing fighting in the area, and the presence of militiamen at the site, restricted initial investigations into the crash.

HUMANITY X

EBOLA OUTBREAK

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Ebola in Sierra Leone

Pete Muller (National Geographic & Washington Post)

November 27, 2014

Family and community members pause for Islamic prayers over the body of a 27-year-old man.

The first cases of a new outbreak of the deadly Ebola virus in Sierra Leone were reported in May. There is no cure for Ebola, and the fatality rate can be as high as 90 percent.. Extreme care has to be taken to avoid infection while treating patients, and in burying victims. The healthcare system in Sierra Leone, one of the world's poorest countries, was not equipped to cope with the disease, and assistance from foreign NGOs became crucial. By the end of the year, 2,758 people had died of Ebola in Sierra Leone. The disease also ravaged neighboring Guinea and Liberia, with 7,880 deaths reported across the three countries overall in 2014.

HUMANITY X

Protest against gang rape in India

Altaf Qadri (AP)

May 31, 2014

An activist places a candle on a pavement during a candle lit vigil to protest against the gang rape of two teenage girls, in New Delhi, India

Rape is the fourth most common crime against women in India. According to the National Crime Records Bureau 2013 annual report, 24,923 rape cases were reported across India in 2012. Out of these, 24,470 were committed by someone known to the victim (98% of the cases). A majority of rape cases in India, as elsewhere in the world, are never reported. Several rape cases in India received widespread media attention and triggered protests since 2012.

SEXUAL VIOLENCE IN INDIA

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HUMANITY X

GANG VIOLENCE IN HONDURAS

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Gang-related Violence

Niclas Hammerstrom

April 4, 2015

A man lies dead after a gang shoot-out in San Pedro Sula. He was the fourth victim on the same street of an ambush by members of the 18th Street gang on their rivals MS13.

Honduras is at the top of the world's homicide list, with over 7,000 homicides a year in a population of eight million. Most of the violence is gang-related, in a country which is on a transit route for drugs, and where corruption is widespread and gangs wield great power.

HUMANITY X

TYPHOON IN THE PHILIPPINES

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Typhoon Haiyan

Chris McGrath (Getty Imagines)

November 17, 2013

The coastal city of Tacloban, on Leyte, lies in ruins.

Typhoon Haiyan ripped through the Vasayas region of central Philippines, on 8 November. It was the deadliest Philippine typhoon on record, claiming over 6,200 lives and displacing more than four million people. The eastern islands of Leyte and Samar were the worst affected, with storm surges, high winds and torrential rain causing catastrophic damage to homes and infrastructure. The extent of the destruction meant relief work was slow.

HUMANITY X

CONFLICT IN SUDAN

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The Forgotten Mountains of Sudan

Adriane Ohanesian

February 27, 2015

Adam Abdel (7) was badly burned when a bomb dropped by a government plane landed next to his family's home, in rebel-held territory in Darfur. Adam was blown out of the house by the force of the blast, and his clothes caught fire. Two weeks later, his burns were still healing. Treatment was hard to obtain, because the government continued to deny NGOs and relief workers access to rebel-held territory.

Unrest in Darfur ignited in 2003, after the government of President Omar al-Bashir cracked down on an insurgency. Since then, hundreds of thousands of people have been killed and millions displaced.

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