



The Tragedy of Armero, Colombia:

Management of land rights in the aftermath of the Volcanic Eruption of the Nevado del Ruiz in 1985

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FIG Working Week 2016

CHRISTCHURCH, NEW ZEALAND 2-6 MAY 2016

Recovery

from disaster

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RESEARCH PROJECT

Master's Thesis

- Quebec City and Bogotá
- In collaboration with the Instituto geográfico Agustín Codazzi
- Funding provided by Dr. Nicholas Chrisman















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INTRODUCTION

Tragedy of Armero

- November 13th, 1985 = Eruption of the Nevado del Ruíz volcano
- Destruction of 90% of the urban area
- Death of 85% of the population = approximately 23 000 people

Reestablishment Process

- Management of Land Rights
- Relocation of Survivors
- Economic Compensation











HONDURAS NICARAGUA

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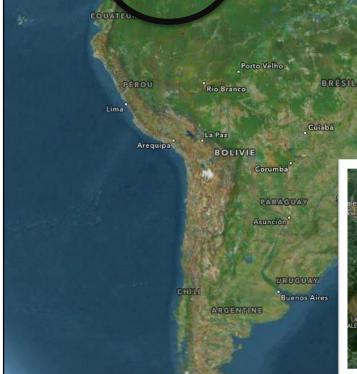
Brasilia

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GUYANA Paramaribo

Recovery





COLOMBIE

















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https://fr.wikipedia.org/wiki/Éruption_du_Nevad o_del_Ruiz_en_1985#/media/File:Armero_ruiz _lahar.gif



http://www.eltiempo.com/Multimedia/galeria_fotos/colombia6/GALERIAFOT OS-WEB-PLANTILLA_GALERIA_FOTOS-12375485.html















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1984



1985

Ortofotomosaico, escala 1:50.000. IGAC













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SITE HISTORY

- Third major volcanic eruption (documented)
- **Death toll (victims)**
 - 1595 = 500 to 1000
 - 1845 = 1000
 - $1985 = 25\,000$

	numbers of killed at th	r the period 1900 to 20 e country level:	13
Country	Date	No Killed	
Martinique, Volcanic eruption	8-May-1902		30,0
Colombia, Volcanic eruption	13-Nov-1985		21,8
Guatemala, Volcanic eruption	24-Oct-1902		6,0
Indonesia, Volcanic eruption	1909		5,5
Indonesia, Volcanic eruption	May-1919		5,0
Guatemala, Volcanic eruption	1929		5,0
Papua New Guinea, Volcanic eruption	15-Jan-1951		3,0
Cameroon, Volcanic eruption	24-Aug-1986		1,7
Indonesia, Volcanic eruption	3-Jan-1963		1,5
St Vincent and The Grenadines, Volcanic eruption	7-May-1902		1,5

EM-DAT. (2013). The Interrnational Disaster Database -

http://www.emdat.be/disaster_profiles/index.html











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CURRENT LAND USE - 2014

Agriculture

- Private land grabbing for pasture
- Fertile Soil = Volcanic Dust

Memorial

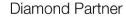
Public duty of remembrance





http://www.elespectador.com/noticias/actualidad/vivir/reco nstruyendo-lazos-de-armero-articulo-392140















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RESEARCH PROBLEM

Disaster Risk Reduction Approach

Prevention – Emergency – Recovery

Resettlement

- Relocation of People = neighbouring towns
- Survival of former land rights = on-site

Economical Support

- No financial compensation (= expropriation) excepted people relocation
- 82% relocated by their own means











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AT THE SAME TIME

- Colombian Government showing interest to create a Memorial Site.
 - Ley 1632 (28 May 2013)

Question:

- Is there always existing land rights?
- Who owns what?
- Who to compensate?



"POR MEDIO DE LA CUAL SE RINDE HONORES À LA DESAPARECIDA CIUDAD DE ARMERO (TOLIMA), Y A SUS VÍCTIMAS, Y SE DICTAN OTRAS DISPOSICIONES"

EL CONGRESO DE COLOMBIA

DECRETA:

CAPÍTULO I Objeto, ámbito y finalidad de la ley

ARTÍCULO 1º. Objeto. Esta ley tiene por objeto rescatar y afianzar la memoria y la identidad histórica y cultural de la desaparecida ciudad de Armero y la proyección de su legado al mundo.

ARTÍCULO 2º. Ámbito. El Estado colombiano rinde homenaje; establece un conjunto de medidas administrativas, económicas y sociales; hace reconocimientos individuales y colectivos en beneficio de todo un pueblo, de sus víctimas y de sus sobrevivientes.

ARTÍCULO 3º. Finalidad. Reivindicar la dignidad de una ciudad que fue sumida en el lodo y el olvido y favorecer el desarrollo integral y armónico de la economía del municipio de Armero. Guayabal, del departamento del Tolima promoviendo el turismo, la preservación del medio ambiente; el desarrollo industrial a través de estímulos para la creación de nuevas empresas y proyectos productivos y la capacitación de la mano de obra.

CARÍTULOU

ARTÍCULO 4°. Dignidad. Es el reconocimiento a la dignidad de un pueblo y a su gente, ya que permite a los armeritas ser identificados y reconocidos.

ARTÍCULO 5°. Promoción. Reconoce y visibiliza la situación de una realidad que ha sido silenciada por más de veinticinco (25) años; una tragedia que no se olvida y que aún de la constanción de la constanción

ARTÍCULO 6º. Productividad. Contribuye a consolidar la economía y genera sentido de pertenencia.

415

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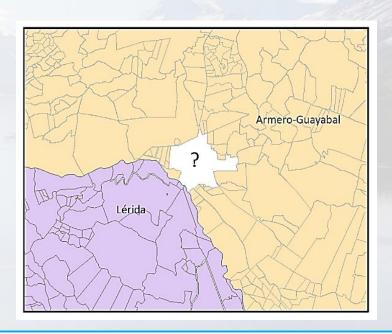
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METHODOLOGY

- Cadastre and Land Register Analysis
 - Cadastral Hole
- Land Data Sheet
 - 17 000 photographs





















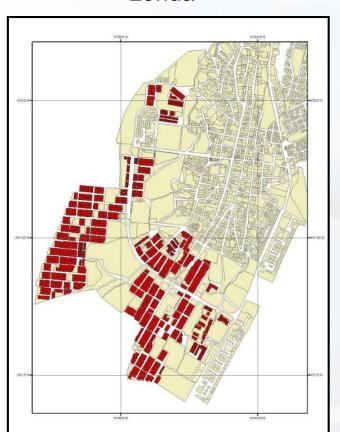
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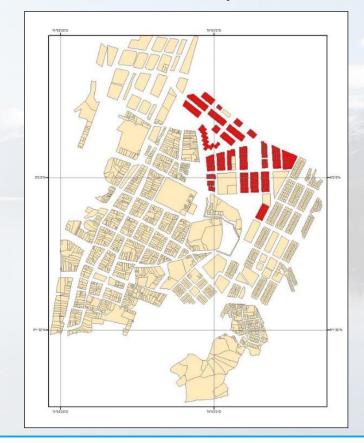
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RELOCATION - REHOUSING

Lérida



Armero - Guyabal













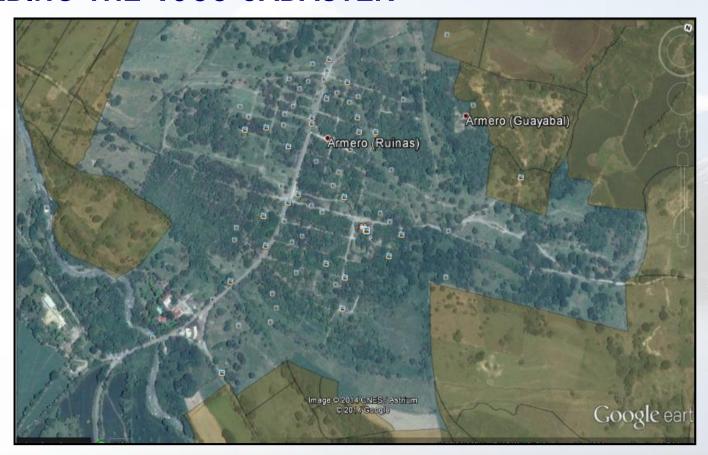


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REBUILDING THE 1985 CADASTER













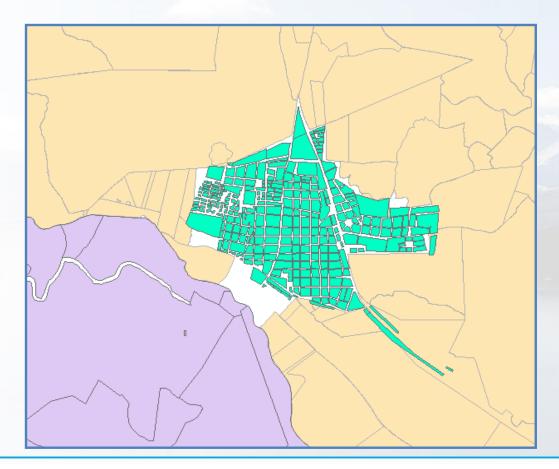


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REBUILDING THE 1985 CADASTER











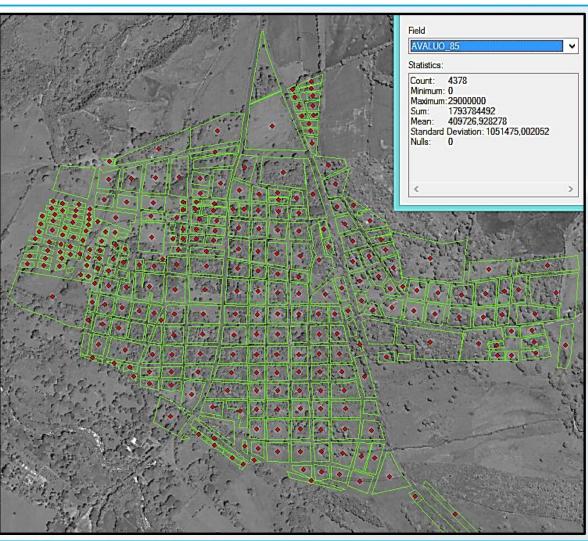






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WHAT HAVE WE LEARNED FROM THIS DISASTER?

Relocation

- Surviving people, but also land rights
- Land rights don't die They are passed upon inheritants.

Recovery

- Social issue, more than material matter
- Recreating society, not only displacing people











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CONCLUSION

Important Warning for Historical Analysis

- Be careful not to (over-)interpret this case study with today's knowledge in DRR
- Results embedded in a specific time-period and geographical context

Recovery

Social issues, with all citizen participation

Armero 1985

• The resettlement process was based in the rehousing of people but not in the reestablishment of rights.









