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# The Fuzzy Boundaries between post-disaster Phases: L'Aquila, Italy

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## FIG Working Week 2016

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Recovery

from disaster

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Muchas gracias por su mensaje.

Soy de Cuenca Ecuador, a 380 km del epicentro (Muisne), nosotros sentimos el terremoto pero no paso de ser un susto, nos encontramos bien.

Las provincias afectadas son Manabí y Esmeraldas principalmente (en la costa), y en menor grado Guayas, Santo Domingo, Santa Elena y Pichincha. Existen daños puntuales en ciudades más alejadas.

**Hoy cumplimos las 72 horas para buscar a personas vivas, desde mañana entramos en el estado de recuperación.**

Ecuador necesita de mucha ayuda, ahora en temas de planificación para la reconstrucción de infraestructura de servicios básicos: agua, redes electricas y comunicaciones y en redes viales y alojamiento. Si existe la posibilidad de dar apoyo, las autoridades respectivas están coordinando estas actiuidades.

Gracias



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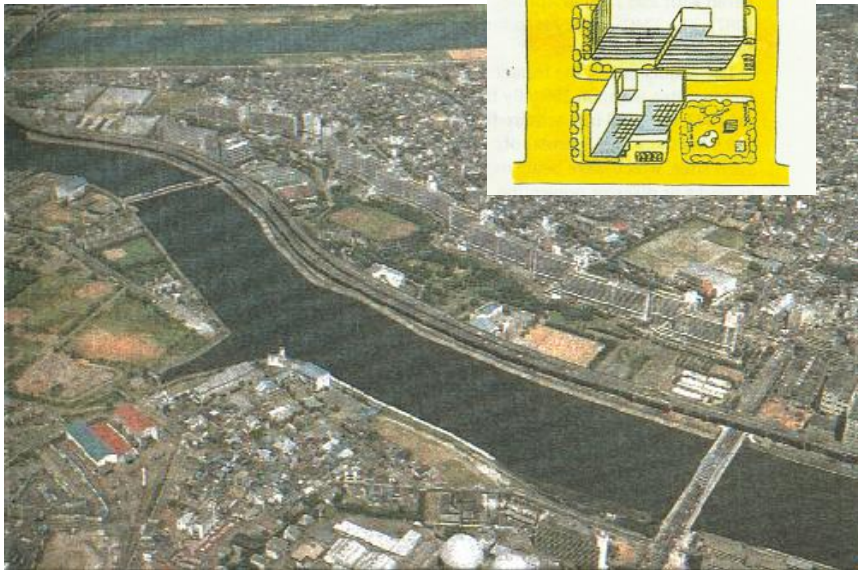
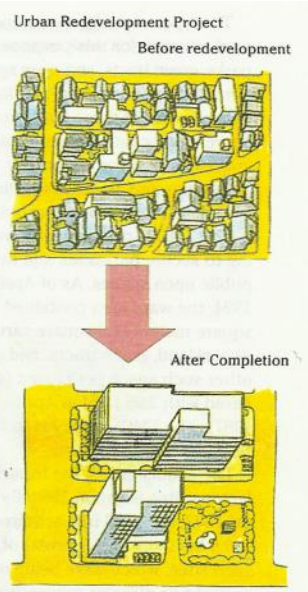
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Recovery

## DEVELOPMENT



Concept of disasterproof living zones. Fig. 14. Pag. 51



Shirahige East Area. Evacuation place with capacity of 100.000 residents. Equipped with relief equipment, emergency water tanks and stock of medical supplies. Pag. 51.



Seismic isolation in Bazzano, new settlement built around L'Aquila, 2012.



Quakecity. Christchurch - New Zealand. Photos: Diana Contreras





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Evidence of destruction in L'Aquila city centre (2009). Photos: Prof. Dr. David Alexander.



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## Monitoring schedule

TIMELINE		RS			GO		GIS	
N*	YEAR	MONTH	SENSOR	ANALYSIS	MONTH	TOOLS	MONTH	SOFTWARE/APPLICATIONS
0	2006	September	Quickbird	OBIA GIS				
	2009	April	Quickbird	OBIA GIS				
1	2010				April	GPS Analogue maps interviews	July to December	Arc GIS 9.3-10 Google Earth Google Maps
	2011	September	Quickbird	OBIA GIS				
3	2012				September	GPS Analogue maps	September to December	Arc GIS 10.1 Google Earth Google Maps
	2013						January to July	
5	2014 2015				April	GPS Analogue maps interviews	April to February	
7	2016**				July	GPS Analogue maps interviews	July to September	Arc GIS Google Earth Google Maps
10	2019**	April	Quickbird	OBIA GIS	April	GPS Analogue maps interviews		

Table 1. Monitoring schedule of the post-disaster recovery progress in L'Aquila (Italy).

\*Number of years after the earthquake

\*\* Fieldwork planned.



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## Student hostel

L'Aquila - Italy



2009



2010

Photo: Prof. Dr. David Alexander.



2012



2014



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**Santa Maria del Suffragio Church**  
L'Aquila - Italy



Photo: Prof. Dr. David Alexander.



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## Government Palace L'Aquila - Italy



Photo: Prof. Dr. David Alexander.



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## Recovery

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### Housing

L'Aquila - Italy



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Recovery

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**Housing**  
L'Aquila - Italy



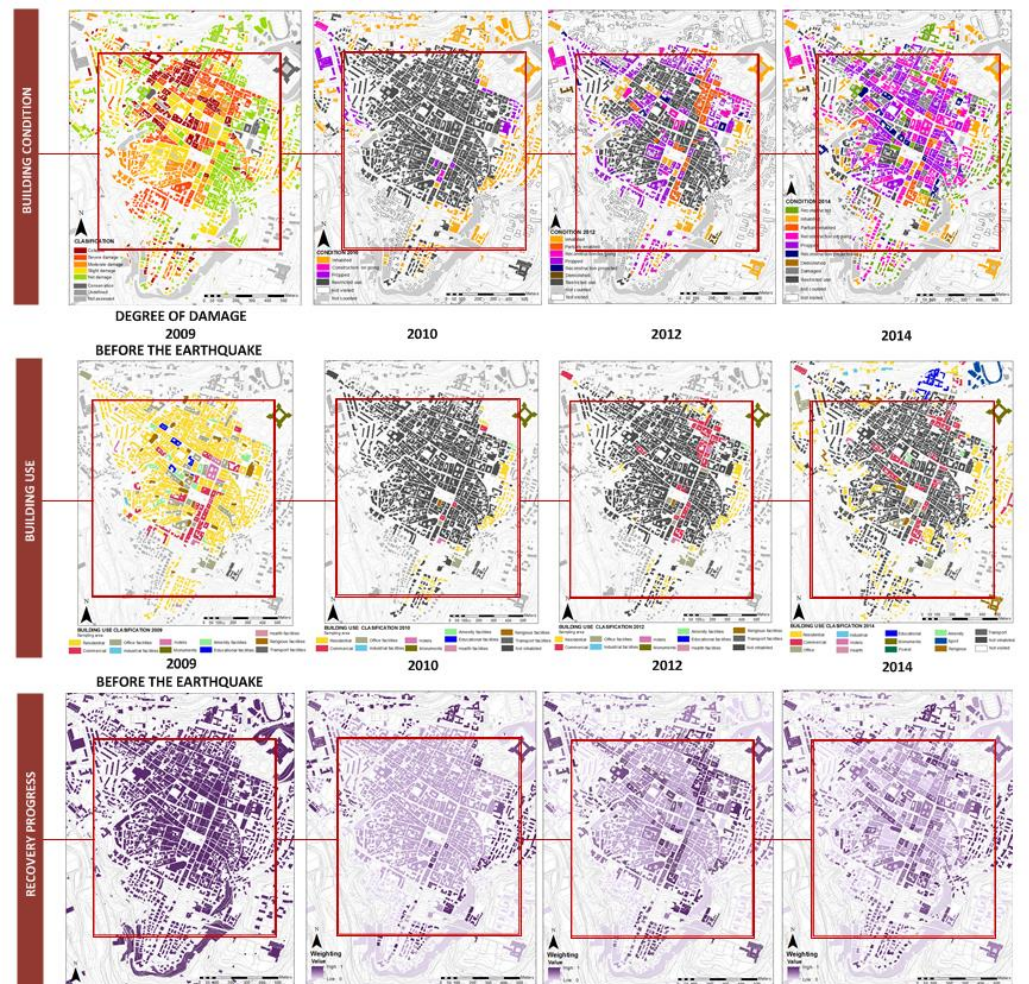
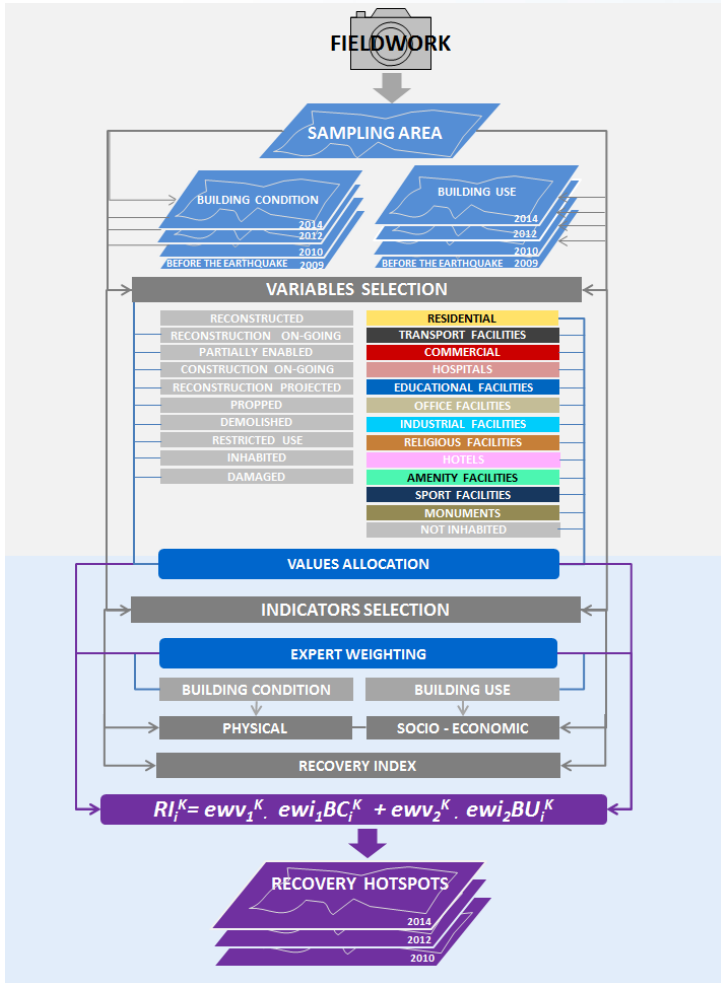


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## RECOVERY INDICATORS

DIMENSION	POST-DISASTER PHASES	RELIEF	EARLY RECOVERY	RECOVERY	DEVELOPMENT
<b>PHYSICAL</b>	Phenomenon				
	Lifelines				
	Building condition				
	Infrastructure				
<b>SOCIAL</b>	Health				
	Welfare				
	Education				
<b>ECONOMICAL</b>	Building use				
<b>INSTITUTIONAL</b>	Humanitarian aid				
	Participation				
	Public buildings				
	Studies				
	Preparedness				
	Laws				
	Land rights				
	Insurance				
<b>CULTURAL</b>	Monuments				
	Conservation buildings				
<b>ECOLOGICAL</b>	Open spaces and parks				



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## L'Aquila – Italy (2014)

DIMENSION	POST-DISASTER PHASES	RELIEF	EARLY RECOVERY	RECOVERY	DEVELOPMENT
PHYSICAL	Phenomenon	0			
	Lifelines	0	1		
	Building condition	1	1	1	1
	Infrastructure	0	1	1	0
SOCIAL	Health	0	1		
	Education		1	0	0
ECONOMICAL	Building use		1	0	1
INSTITUTIONAL	Humanitarian aid	0			
	Participation	0	0	0	0
	Public buildings		0	0	0
	Studies				0
	Preparedness				0
	Laws				0
	Land rights				0
	Insurance				0
CULTURAL	Monuments			1	0
	Conservation buildings				
ECOLOGICAL	Open spaces and parks			1	0
<b>TOTAL</b>		1	6	4	2



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## CONCLUSIONS

- **L'Aquila** was still in an **early recovery** phase.
- Determining recovery phases according to **achievements measured by indicators.**
- **Every recovery case is different.**





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# KIA ORA

# THANK YOU

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# DANKJEWEL

# GRAZIE

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# ਤੁਹਾਨੂੰ

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