2024 Sept. 30th

Università di Catania

Urban fabric and building types in Poggioreale: an introductory illustration

Caterina F. Carocci, Università di Catania

Valle del Belìce Earthquake, 1968

Seismic event

Seismic sequence

14 – 25 Jenuary 1968: 5 major shocks

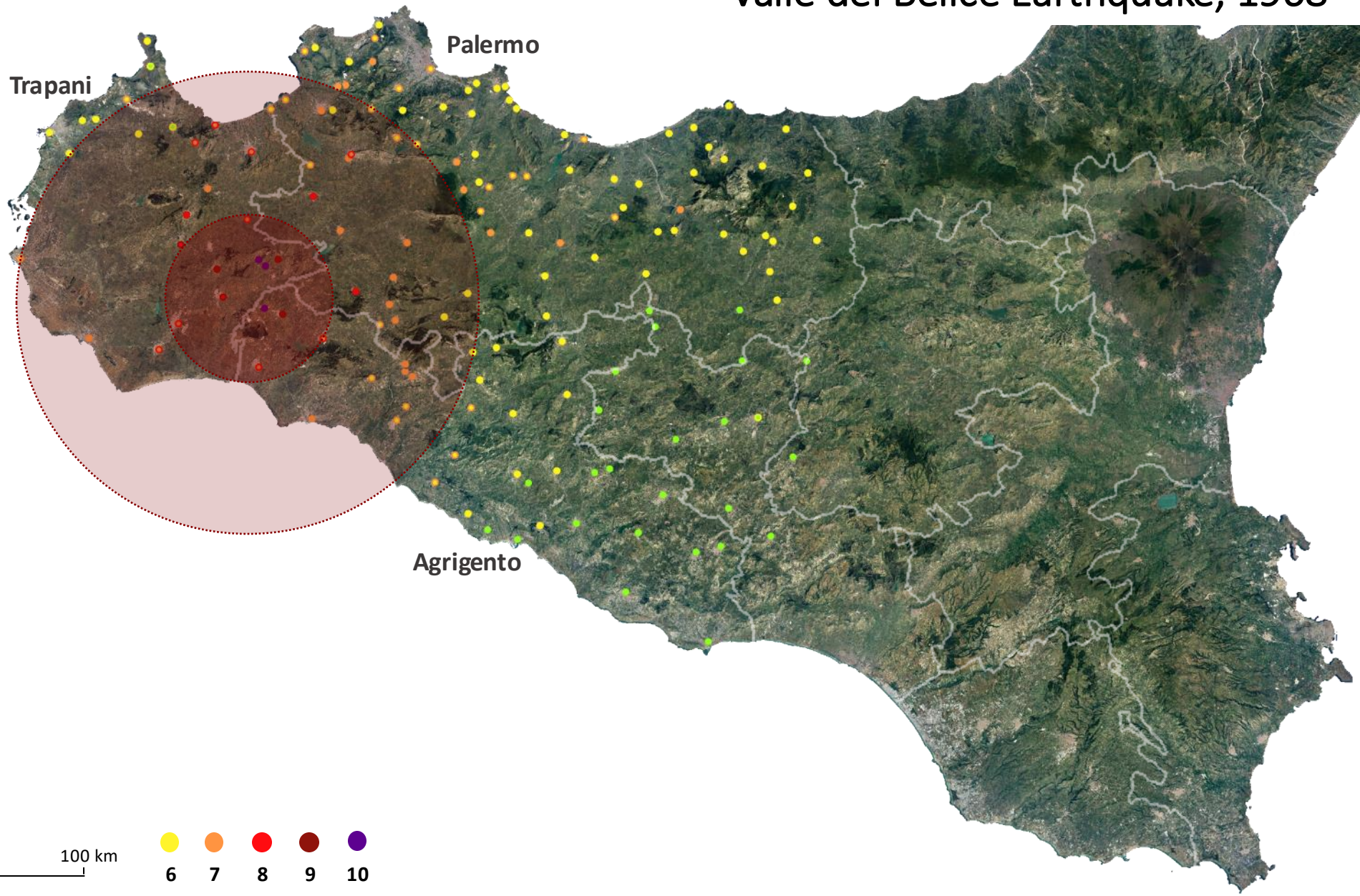
I_{max} = 10 EMS

Territorial area and population involved

Maximum effects' area (I_0 > 8 MCS)		1 100 km^2
		90 000
Area of resentment (I_0 > 6 MCS)		5 500 km^2
		1 300 000

Effects on population

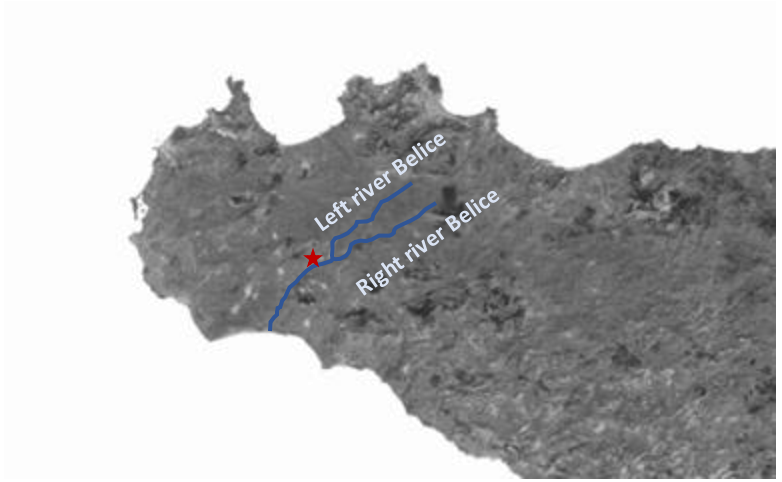
Deaths	231
Injured	5 000
Evacuees	70 000



Territorial features

Rocca Busambra (Corleone) 1600 over see level. Left river Belice spring

Piana degli Albanesi. Artificial lake close to right river Belice spring.



The river Belice Valley (right) taken from San Giuseppe Jato. In the distance, Monte Elimo, on which old Poggioreale stands, can be seen

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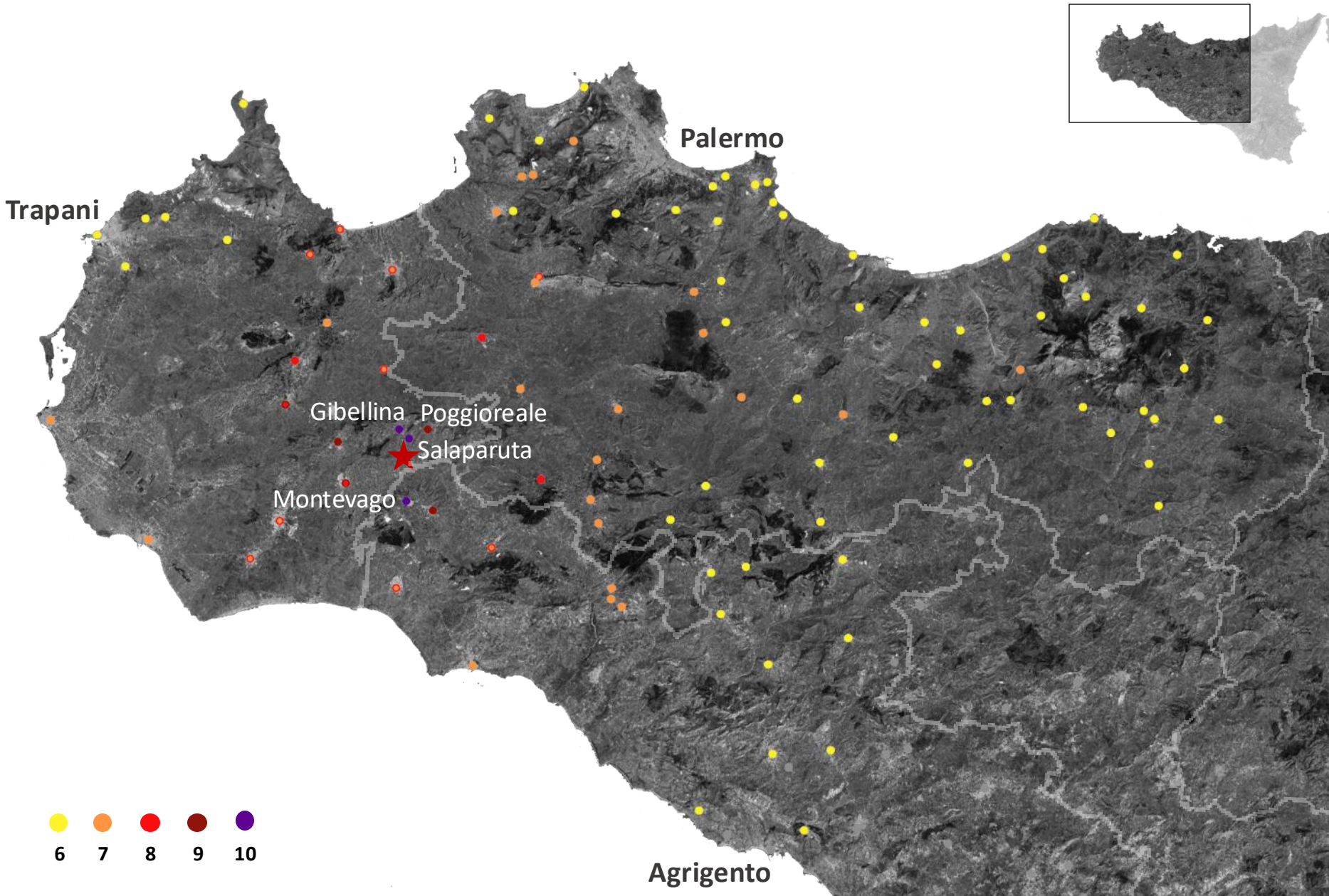

Damage to buildings

36 819 existing buildings

In the **14 most affected centres**
(D.P.R. 17 gennaio 1969)

Almost all buildings are
Masonry

- No damage: **17%**
- Minor damage: **27%**
- Severe damage: **24%**
- Total collapse: **32%**

4 towns **destroyed**

Montevago, Gibellina, Poggioreale e Salaparuta

10 **badly damaged towns**

Santa Margherita di Belice, Menfi, Sambuca, Partanna, Salemi, Santa Ninfa, Vita, Calatafimi, Camporeale e Contessa Entellina.

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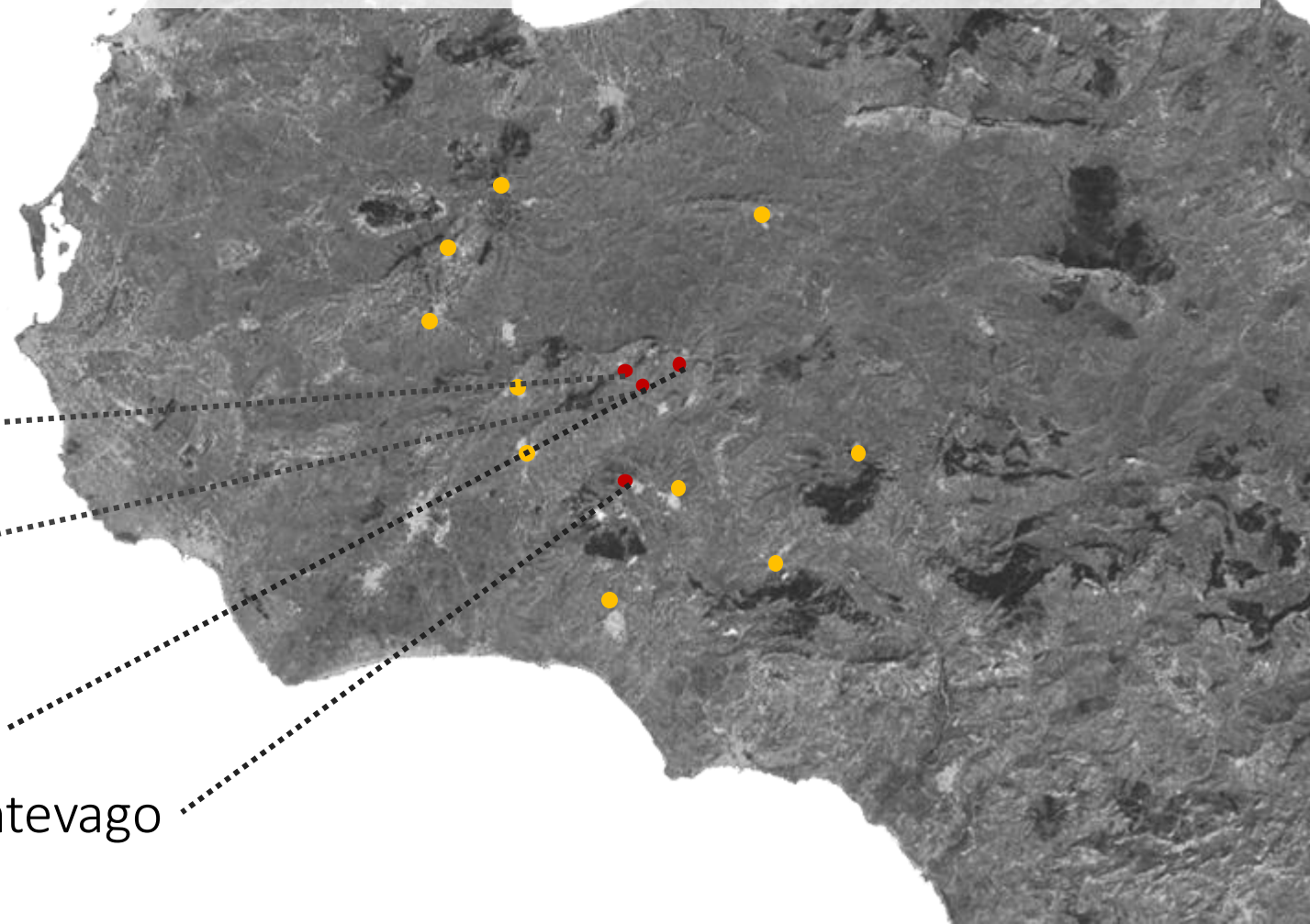
"The villages of Gibellina, Salaparuta, Poggioreale and Montevago have suffered total destruction and all that remains of them is a shapeless heap of rubble, twisted beams and crumbling walls. **Reconstruction on the site will be impossible: just clearing the rubble would entail useless, improbable work**"
[M. De Panfilis, L. Marcelli, Il periodo sismico della Sicilia occidentale, 1968]



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Seismic damage of the 4 towns declared destroyed:

1. Gibellina; **2.** Montevago; **3.** Salaparuta; **4.** Poggioreale

Reconstruction process

→ Relocation practices forced the abandonment of the damaged towns

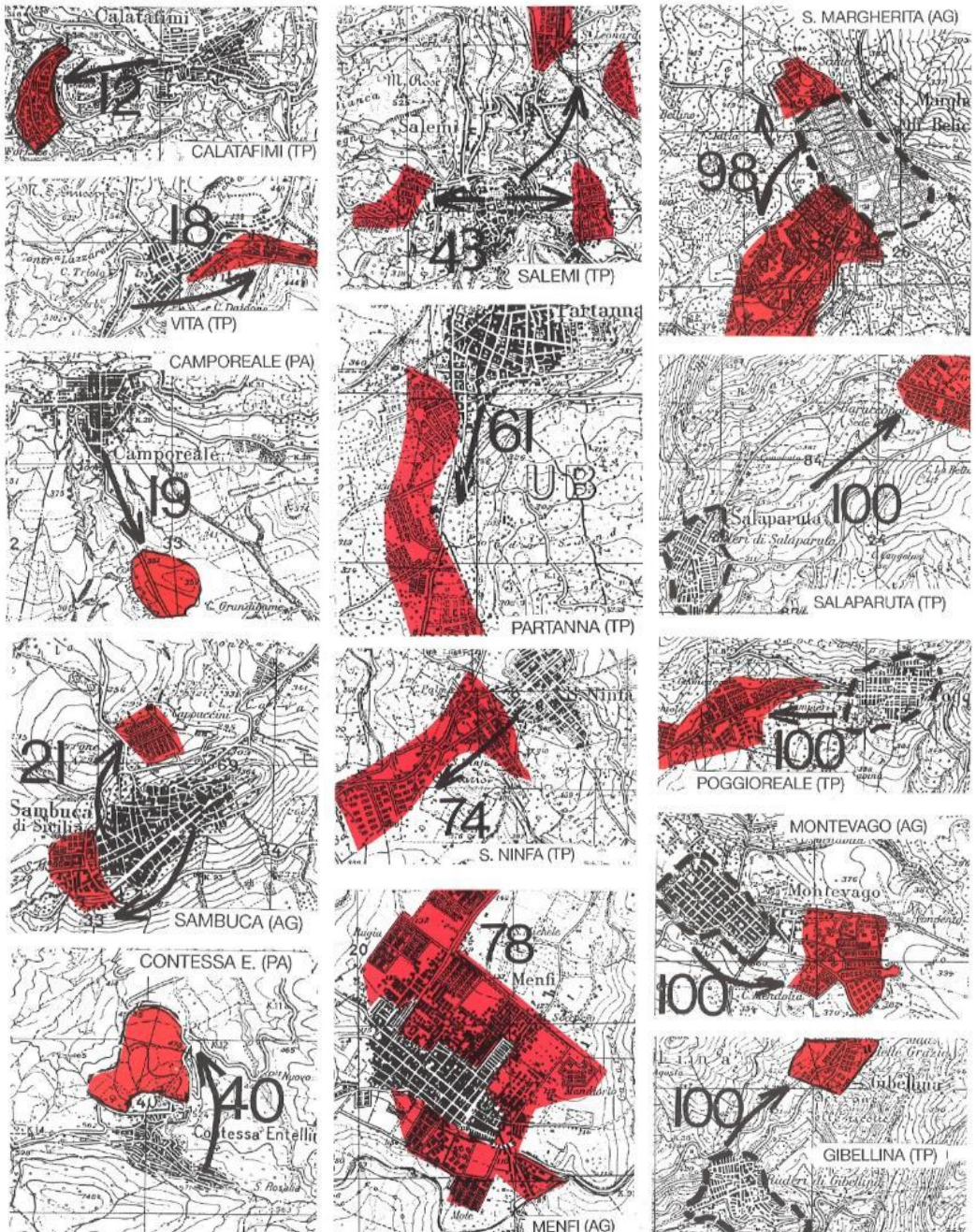
Preservation of damaged built heritage is not taken into account

Why?

A) State centralization of the Reconstruction process

B) Socio-economic backwardness and territorial context
Negative judgment on safety and hygienic conditions in the damaged towns.

C) Implementation of the same models adopted for previous post-disaster reconstructions.



Abandonment and relocation practices of earthquake-damaged centers

Old town/new Town

The 4 towns declared **destroyed** were subjected to **total** relocation

- Abandonment of damaged towns (will become the «**Old towns**»
- **New towns** foundation

Old town/new town

	Salaparuta	Gibellina	Montevago	Poggioreale
The old towns				
Inhabitants before the earthquake	2 943	6 410	2 740	2 698
The new towns				
Inhabitants expected to live in the new towns	5 000	8 000	5 000	5 000
Current inhabitants	1 721	3 712	2 674	1 325

500 m

What remains today of abandoned centers?

Salaparuta

Gibellina

Montevago

What remains today of abandoned centers?

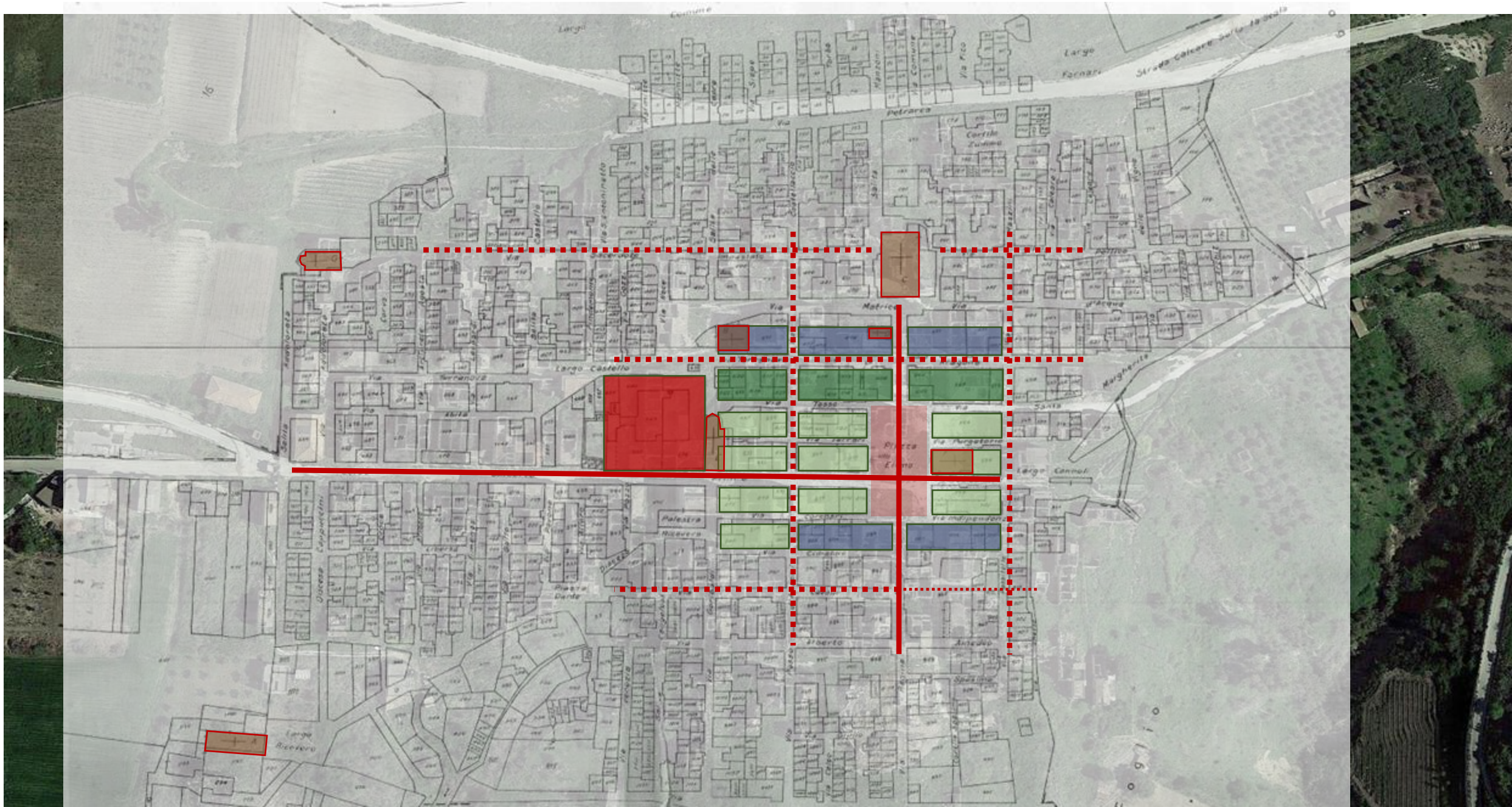
POGGIOREALE

Ortophoto of Old Poggioreale (Google Earth, 2022)

View of Old Poggioreale from the south-east. In the background, mount Elimo.

Ortophoto of Old Poggioreale (Google Earth, 2022)

Ortophoto of Old Poggioreale (Google Earth, 2022)


Largo Castello
Via Matrice
Via Tasso
Via Purgatorio
Piazza Elimo
Palazzo Municipale
Piazza Dante
Via Aperto
Largo Cannoli
Largo Ricciardo
Via Petrarca
Via Fico
Largo Fornaro
Via Margherita
Via Giardino
Via Cavalieri
Via Cimarosa
Via Castello
Via Serrandrea
Via Salita
Via Ciaccio
Via Sciarra
Via Ciaccio
Via Cappellini
Via Ciaccio
Via Cimarosa
Via Cavalieri
Via Giardino
Via Cavalieri
Via Cimarosa
Via Ciaccio
Via Cappellini
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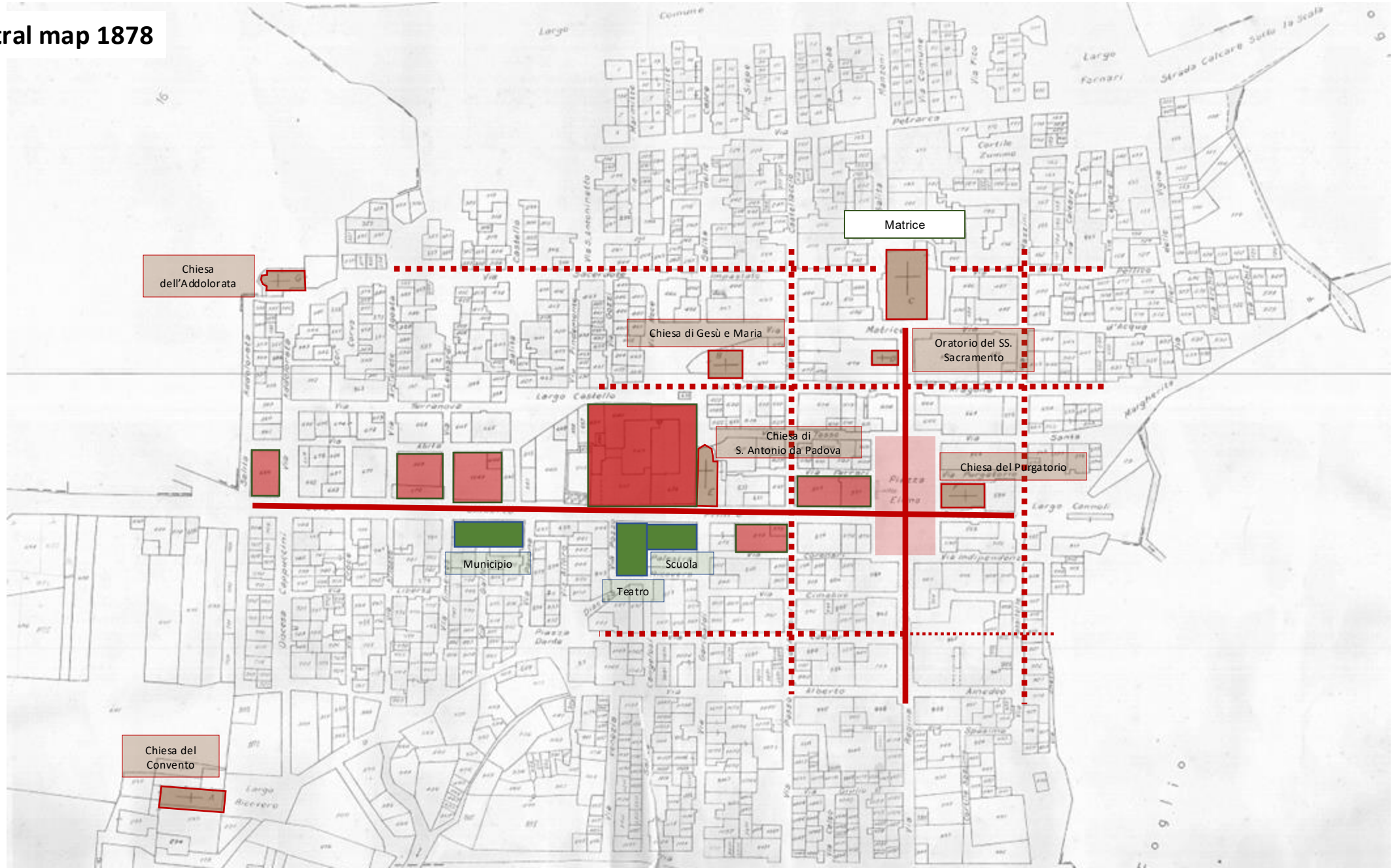
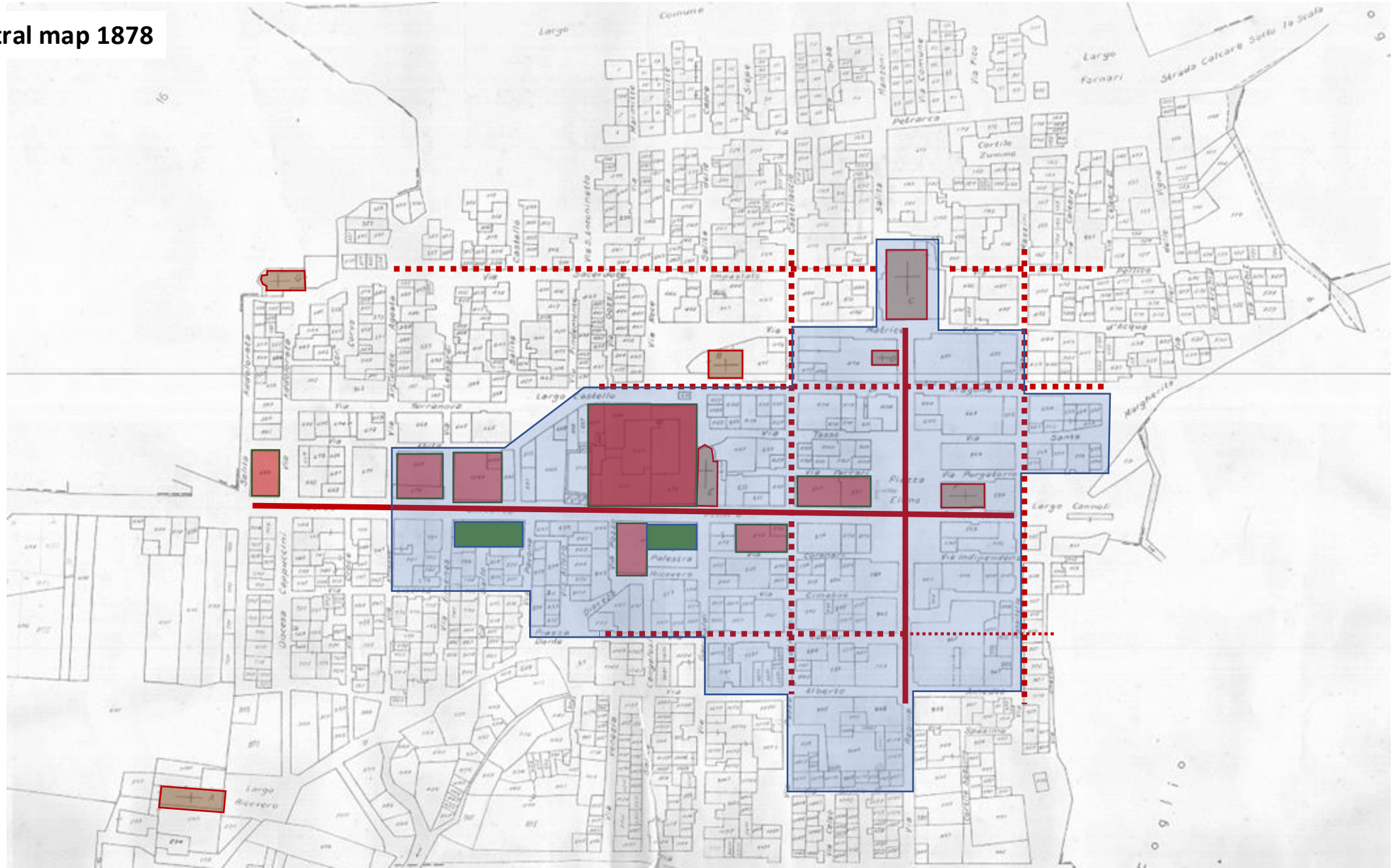
Via Castello
Via Serrandrea
Via Salita
Via Tasso
Via Purgatorio
Via Matrice
Via Petrarca
Via Fico
Via Margherita

Cadastral map 1878



Cadastral map 1878


Largo
Comune
Petrarca
Cortile Zumma
Via Pico
Largo Fornari
Strada Calcare Sotto la Scala
Castello
Jacerudo
Impastato
Via Rice
Fabrica
Largo Castello
Serranova
Tessa
Santa
Piazza Elima
Via Purgatorio
Largo Cannoli
Palestra
Ricovero
Cimatore
Via Indipendenza
Diocesi
Cappuccini
Piazza Dante
Alberto
Spezzino
Largo Ricovero
Margherita
Via Cesare
Via Cerda
Via Ferrara
Via Fiorenza
Via Pergola
Via Ferrari
Via Cerrito
Via Cerrito Nuovo
Via Cerrito Vecchio
Via Cerrito Nuovo
Via Cerrito Vecchio
Via Cerrito Nuovo
Via Cerrito Vecchio

Situation in the aftermath of the earthquake

Chiesa dell’addolorata

Municipio

Situation in the aftermath of the earthquake

Piazza Elimo e Chiesa del Purgatorio

Corso Umberto I

After the inhabitants relocation: the progressive decay

Corso Umberto in the aftermath of the earthquake

Corso Umberto in 2022, January

After the inhabitants relocation: the pro

The Matrice Church

Before 1968 earthquake

In the aftermath of the earthquake

After the inhabitants relocation: the progressive decay

The Matrice Church

Before 1968 earthquake

In the aftermath of the earthquake

In the early 2000s

January 2022

Poggioreale today

New interest in the ancient Poggioreale

2012 Charter of Values and Quality for the ruins of ancient Poggioreale
In the context of Municipality Regulation, the ten points of the Charter illustrate strategies and actions that should be implemented to spark economic development aimed at enhancing the ancient center through urban and architectural conservation, within a more general policy of landscape protection. However, the action reveals a primary purpose of functional reuse whose definition results from a rough reading of the urban fabric and its condition of conservation.

2016 «Modex Sicily 2016»
International educational exercises of ‘real-life’ post-disaster rescue simulations coordinated by the Italian National Fire Department.

2016 Landscape plan and indications for the ruins of the ancient Poggioreale, subjected to the highest level of protection.

2019 «Modex Sicily 2019»
Execution of provisional interventions to secure the internal road system that the international exercise «Modex Sicily 2019» could take place safely, all while enabling guided tours aimed at learning about the site and its historical and cultural heritage.

2021 Agreement between Municipal Administration, Regional Department of Civil Defense and the University of Catania
The **objective of the Municipal administration** is to encourage social, cultural, tourist activities and any initiative, including scientific ones, to promote the work of protection and enhancement of the ancient city.
The **objective of the Regional Department of Civil Protection** is to start a "civil protection exercise center" in the ancient city and any scientific initiative for studies in engineering matters involving seismic events.

2022 - Supporto tecnico-scientifico per la definizione degli interventi di messa in sicurezza del tessuto del centro antico di Poggioreale

Responsabile scientifico UNICT – prof. Caterina Carocci

gruppo di ricerca: prof. Nicola Impollonia, prof. Francesco Cannizzaro, prof. Cesare Tocci
Ph.D students: Alessia Di Martino, Renata Finocchiaro, Valentina Macca

Responsabile scientifico DPRC – arch. Antonino Terrana

Drone survey 2024

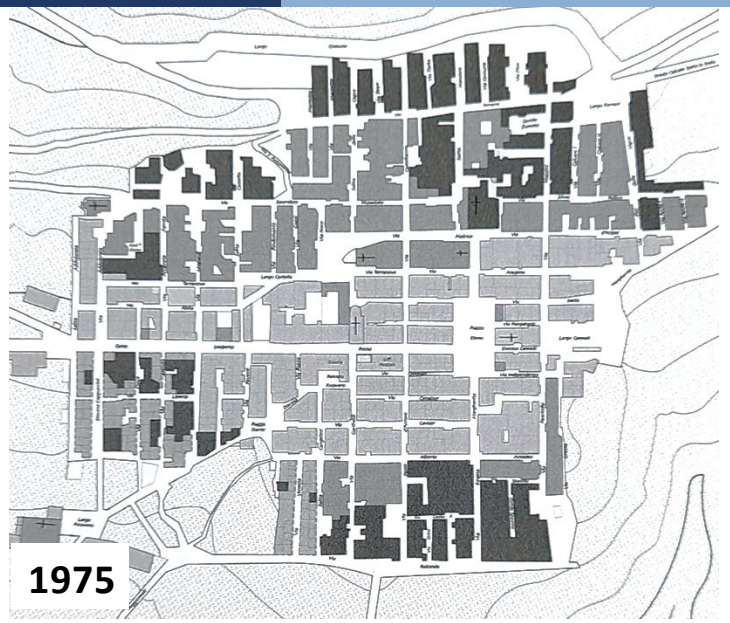
Aerial view in the aftermath of 1968 earthquake

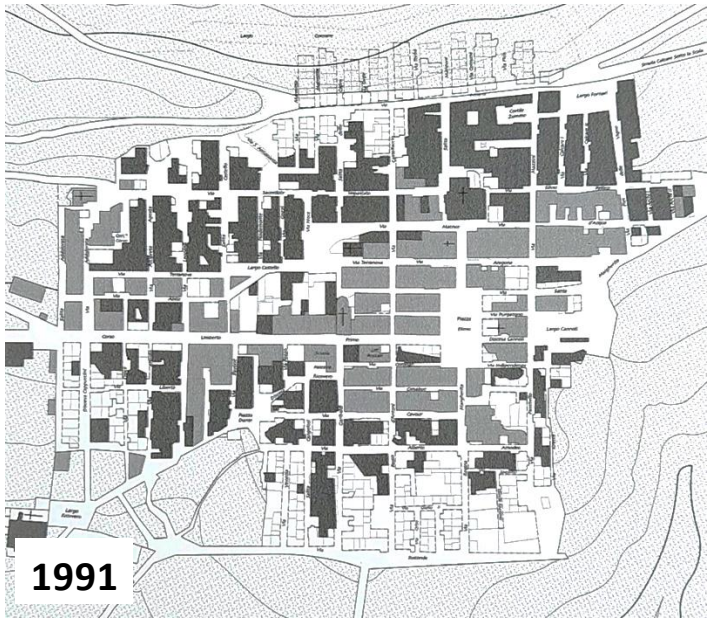
buildings no longer visible

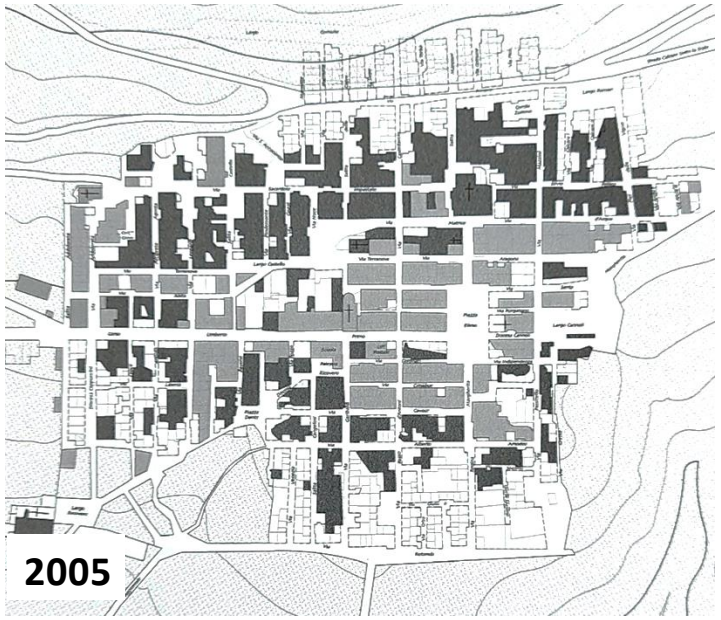
collapse

severe damage

minor damage





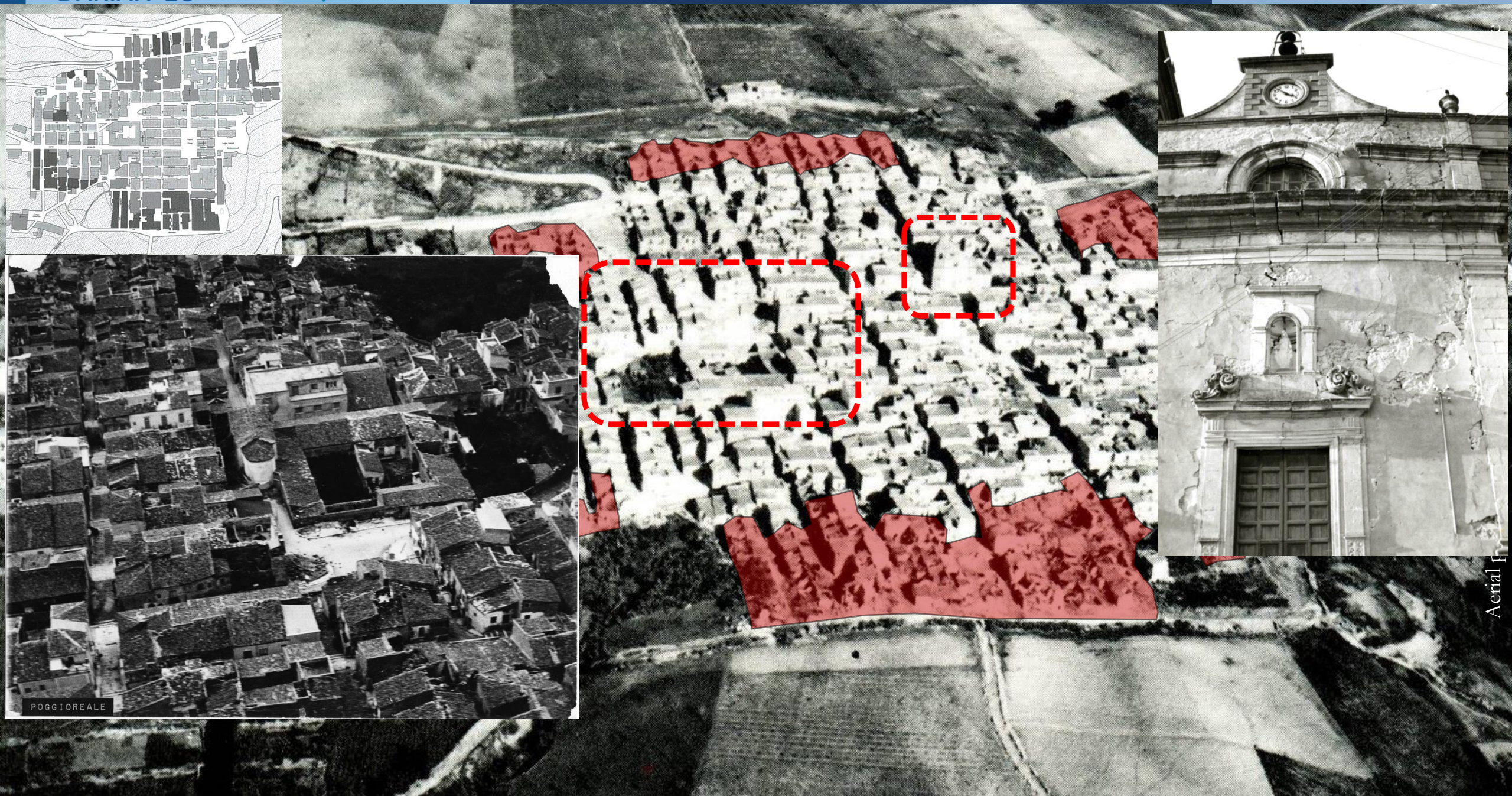


The evolution of the damage: from earthquake effects to long-term decay

R. Guglielmini, A.M. Lucchesi, Poggioreale anrica di Sicilia: uno spazio per l'arte oltre i confini del tempo, Tesi di dottorato in Recupero e fruizione dei contesti antichi. Università degli studi di Palermo, XVIII ciclo, 2006

The evolution of the damage: from earthquake effects to long-term decay

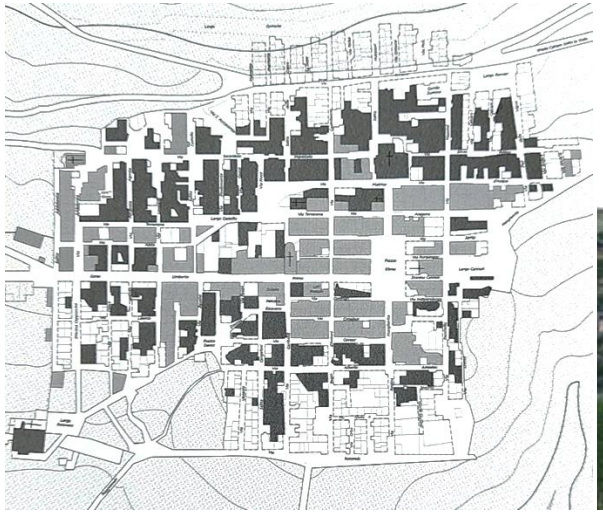
Aerial photo of Poggioreale in the aftermath of the 1968 Earthquake



Aerial f

Urban landscape in the aftermath of the earthquake

Present situation



Poggioreale today

Poggioreale today

Which conservation?

Identification of significant spaces for the community:
the oil mill, the Lyric Theatre, Jesus and Mary Church

Which conservation?

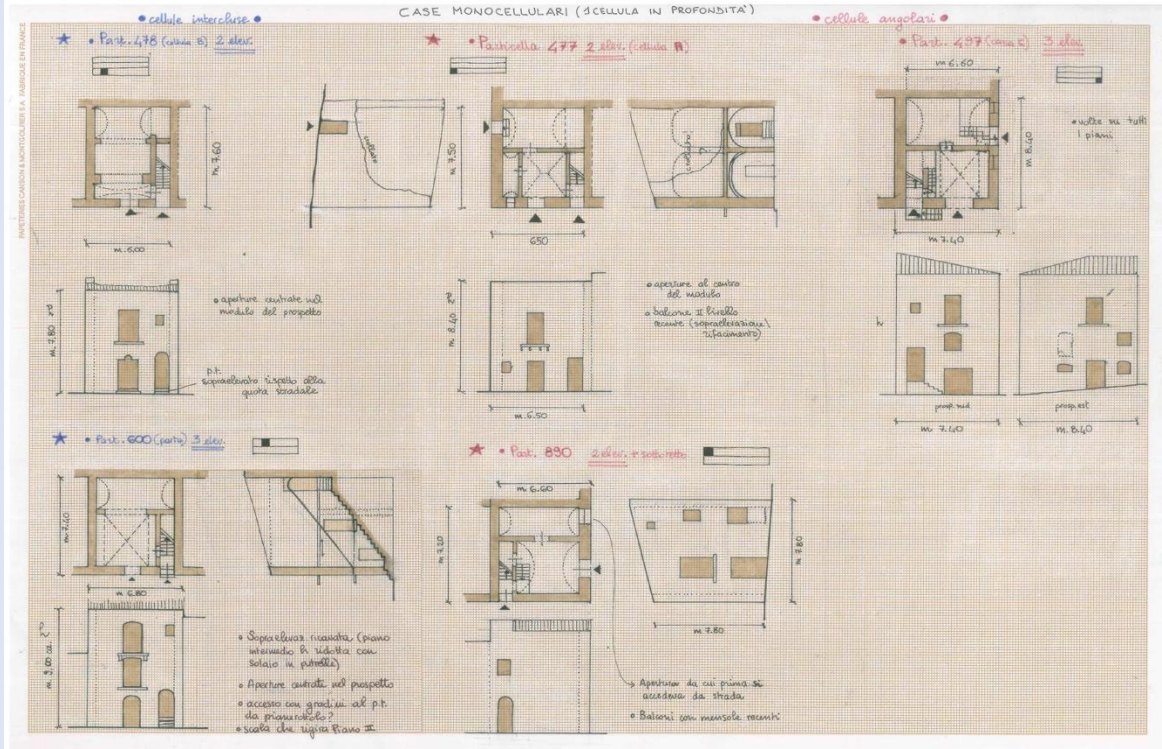
Identification of significant interior space:
the Post-office, a Palace staircase, and the School.

Which conservation?

Localization and documentation of significant spaces of the residential buildings

Which conservation?

Reconstructing city life and its spaces: family and work life



Which conservation?

Appoggi delle volte

Tipo A

Il collegamento della volta al muro consiste nella realizzazione di uno sgrottamento del muro (secondo le fonti, già realizzato), nel quale vanno ad incastrarsi le pietre più piccole dell'imposta della volta. Forse la tipologia più diffusa.

1
II_6

Nota: confrontare con foto a fianco tipo B: stessa volta. Da una parte presenta ammorsamento, da una parte incontra una grossa pietra nel paramento murario e lo sgrottamento del muro viene evitato.

2
BC_sx1

3
?

4
?

5
?

Tipologia 2

Alternanza di pietre sbozzate più grandi e pietre piccole. La differenza rispetto alla tipologia 1 sta nella minore regolarità dell'alternanza tra le pietre grandi e le pietre piccole e nella minore presenza di queste ultime. Presenza di orizzontamenti.

2a

Le pietre più grandi si presentano di forma più o meno parallelepipeda (come la tipologia 1).

1
B_4

Nota foto 1: visibile in questo isolato il rapporto con il cantonale presumibilmente originario. La maggiore altezza dei conci squadrati viene compensata dalla sovrapposizione di pietre più piccole.

2
IV_7

Nota foto 2: il muro in sezione (esterno) si presume della stessa fattura del muro in alto, ad esso ortogonale (verificare sul campo paramento esterno).

3
? capire

4
BE_dx1

Nota foto 4: analizzabile rapporto con cantonale coevo.

5
IV_2

Nota foto 5: particolarità del cantonale, in cui non sono presenti blocchi squadrati ma anche pietre di minore spessore (vedi foto DSC_0270-0287 in cartella).

A mine of information on the construction techniques since the foundation period

2024 Sept. 30th

The results of this reserch is due to my collegues:
prof. Nicola Impollonia, prof. Francesco Cannizzaro and prof. Cesare Tocci

and expecially to my young collegues, arch. Renata Finocchiaro and arch. Valentina Macca, that dedicated last years to study to Poggioreale.

Nothing would have been achieved without the support of arch. Antonino Terrana (Regional Civil Protection Department) and the Municipal administration of Poggioreale.

THANK YOU VERY MUCH FOR YOUR KIND ATTENTION